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THE ENCYCLOPÆDIA BRITANNICA

A DICTIONARY OF ARTS, SCIENCES, LITERATURE AND GENERAL INFORMATION

ELEVENTH EDITION

VOLUME III

AUSTRIA LOWER to BISECTRIX

[E-Text Edition of Volume III - Part 1 of 2, Slice 1 of 3 - AUSTRIA LOWER to BACON]

INITIALS USED IN VOLUME III. TO IDENTIFY INDIVIDUAL CONTRIBUTORS,[1] WITH THE HEADINGS OF THE ARTICLES IN THIS VOLUME SO SIGNED.

A. C. P.	ANNA C. PAUES, PH.D. Lecturer in Germanic Philology at Newnham College, Cambridge. Formerly Fellow of Newnham College. Author of *A Fourteenth Century Biblical Version*; &c.	**Bible, English.**
A. C. S.	ALGERNON CHARLES SWINBURNE. See biographical article: SWINBURNE, ALGERNON C.	**Beaumont and Fletcher.**
A. F. P.	ALBERT FREDERICK POLLARD, M.A., F.R.HIST.SOC. Professor of English History in the University of London. Fellow of All Souls' College, Oxford. Assistant Editor of the *Dictionary of National Biography*, 1893-1901. Lothian prizeman (Oxford), 1892; Arnold prizeman, 1898. Author of *England under the Protector Somerset*; *Henry VIII.*;	**Balnaves; Barnes, Robert; Bilney.**

	Life of Thomas Cranmer; &c.	
A. Go.*	Rev. Alexander Gordon, M.A. Lecturer on Church History in the University of Manchester.	**Beza.**
A. G. G.	Sir Alfred George Greenhill, M.A., F.R.S. Formerly Professor of Mathematics in the Ordnance College, Woolwich. Author of *Differential and Integral Calculus with Applications*; *Hydrostatics*; *Notes on Dynamics*; &c.	**Ballistics.**
A. Hl.	Arthur Hassall, M.A. Student and Tutor of Christ Church, Oxford. Author of *A Handbook of European History*; *The Balance of Power*; &c. Editor of the 3rd edition of T. H. Dyer's *History of Modern Europe*.	**Austria-Hungary: *History* (*in part*).**
A. H. N.	Albert Henry Newman, LL.D., D.D. Professor of Church History, Baylor University, Texas. Professor at McMaster University, Toronto, 1881-1901. Author of *The Baptist Churches in the United States*; *Manual of Church History*; *A Century of Baptist Achievement*.	**Baptists: *American*.**
A. H.-S.	Sir A. Houtum-Schindler, C.I.E. General in the Persian Army. Author of *Eastern Persian Irak*.	**Azerbāijān; Bakhtiari; Bander Abbāsi; Barfurush.**
A. H. S.	Rev. Archibald Henry Sayce, D.Litt., LL.D. See the biographical article: SAYCE, A. H.	**Babylon; Babylonia and Assyria; Belshazzar; Berossus.**
A. J. L.	Andrew Jackson Lamoureux. Librarian, College of Agriculture, Cornell University. Editor of the *Rio News* (Rio de Janeiro), 1879-1901.	**Bahia: *State*; Bahia: *City*.**
A. L.	Andrew Lang. See the biographical article: Lang, Andrew.	**Ballads.**
A. N.	Alfred Newton, F.R.S. See the biographical article: Newton, Alfred.	**Birds of Paradise.**
A. P. H.	Alfred Peter Hillier, M.D., M.P. President, South African Medical Congress, 1893. Author of *South African Studies*; &c. Served in Kaffir War, 1878-1879. Partner with Dr L. S. Jameson in medical practice in South Africa till 1896. Member of Reform Committee, Johannesburg, and Political Prisoner at Pretoria, 1895-1896. M.P. for Hitchin division of Herts, 1910.	**Basutoland: *History* (*in part*); Bechuanaland (*in part*).**
A. Sp.	Archibald Sharp. Consulting Engineer and Chartered Patent Agent.	**Bicycle.**
A. St H. G.	Alfred St Hill Gibbons. Major, East Yorkshire Regiment. Explorer in South Central Africa. Author of *Africa from South to North through Marotseland*.	**Barotse, Barotseland.**
A. W.*	Arthur Willey, F.R.S., D.Sc. Director of Colombo Museum, Ceylon.	**Balanoglossus.**
A. W. H.*	Arthur William Holland. Formerly Scholar of St John's College, Oxford. Bacon Scholar of Gray's Inn, 1900.	**Austria-Hungary: *History* (*in part*); Bavaria: *History* (*in part*).**
A. W. Po.	Alfred William Pollard, M.A. Assistant Keeper of Printed Books, British Museum. Fellow of King's College, London. Hon. Secretary Bibliographical Society. Editor of *Books about Books*; and *Bibliographica*. Joint-editor of the *Library*. Chief Editor of the "Globe" *Chaucer*.	**Bibliography and Bibliology.**
B. K.	Prince Bojidar Karageorgevitch (d. 1908). Artist, art critic, designer and goldsmith. Contributor to the Paris *Figaro*, the *Magazine of Art*, &c. Author of *Enchanted India*. Translator of the works of Tolstoi and Jokai, &c.	**Bashkirtseff.**
C.	The Earl of Crewe, K.G., F.S.A. See the biographical article: Crewe, 1st Earl of.	**Banville.**
C. A. C.	Charles Arthur Conant. Member of Commission on International Exchange of U.S., 1903. Treasurer, Morton Trust Co., New York, 1902-1906. Author of *History of Modern Banks of Issue*; *The Principles of Money and Banking*; &c.	**Banks and Banking: *American*.**

C. B.*	Charles Bémont, D. ès L., Litt.D. (Oxon.). See the biographical article: Bémont, C.	**Baluze; Béarn.**
C. F. A.	Charles Francis Atkinson. Formerly Scholar of Queen's College, Oxford. Captain, 1st City of London (Royal Fusiliers). Author of *The Wilderness and Cold Harbour*.	**Austrian Succession War: *Military*.**
C. F. B.	Charles Francis Bastable, M.A., LL.D. Regius Professor of Laws and Professor of Political Economy in the University of Dublin. Author of *Public Finance*; *Commerce of Nations*; *Theory of International Trade*; &c.	**Bimetallism.**
C. H. T.	Cuthbert Hamilton Turner, M.A. Fellow of Magdalen College, Oxford; Fellow of the British Academy. Speaker's Lecturer in Biblical Studies in the University of Oxford, 1906-1909. First Editor of the *Journal of Theological Studies*, 1899-1902. Author of "Chronology of the New Testament," and "Greek Patristic Commentaries on the Pauline Epistles" in Hastings' *Dictionary of the Bible*, &c.	**Bible: *New Testament Chronology*.**
C. H. W. J.	Rev. Claude Hermann Walter Johns, M.A., Litt.D. Master of St Catharine's College, Cambridge. Lecturer in Assyriology, Queens' College, Cambridge, and King's College, London. Author of *Assyrian Deeds and Documents of the 7th Century B.C.*; *The Oldest Code of Laws*; *Babylonian and Assyrian Laws*; *Contracts and Letters*; &c.	**Babylonian Law.**
C. J. L.	Sir Charles James Lyall, K.C.S.I., C.I.E., LL.D. (Edin.). Secretary, Judicial and Public Department, India Office. Fellow of King's College, London. Secretary to Government of India in Home Department, 1889-1894. Chief Commissioner, Central Provinces, India, 1895-1898. Author of *Translations of Ancient Arabic Poetry*; &c.	**Bihārī Lāl.**
C. Mi.	Chedomille Mijatovich. Senator of the Kingdom of Servia. Envoy Extraordinary and Minister Plenipotentiary of the King of Servia to the Court of St James's, 1895-1900, and 1902-1903.	**Belgrade.**
C. Pl.	Rev. Charles Plummer, M.A. Fellow and Chaplain of Corpus Christi College, Oxford. Ford's Lecturer, 1901. Author of *Life and Times of Alfred the Great*; &c.	**Bede.**
C. R. B.	Charles Raymond Beazley, M.A., D.Litt., F.R.G.S., F.R.Hist.S. Professor of Modern History in the University of Birmingham. Formerly Fellow of Merton College, Oxford, and University Lecturer in the History of Geography. Lothian prizeman (Oxford), 1889. Lowell Lecturer, Boston, 1908. Author of *Henry the Navigator*; *The Dawn of Modern Geography*; &c.	**Beatus; Behaim.**
C. W. W.	Sir Charles William Wilson, K.C.B., K.C.M.G., F.R.S. (1836-1907). Major-General, Royal Engineers. Secretary to the North American Boundary Commission, 1858-1862. British Commissioner on the Servian Boundary Commission. Director-General of the Ordnance Survey, 1886-1894. Director-General of Military Education, 1895-1898. Author of *From Korti to Khartoum*; *Life of Lord Clive*; &c.	**Beirut (*in part*)**
D. B. Ma.	Duncan Black Macdonald, D.D. Professor of Semitic Languages, Hartford Theological Seminary, U.S.A.	**Bairam**
D. C. B.	Demetrius Charles Boulger. Author of *England and Russia in Central Asia*; *History of China*; *Life of Gordon*; *India in the 19th Century*; *History of Belgium*; *Belgian Life in Town and Country*; &c.	**Belgium: *Geography and Statistics*.**
D. F. T.	Donald Francis Tovey. Balliol College, Oxford. Author of *Essays in Musical Analysis*—comprising *The Classical Concerto*, *The Goldberg Variations*, and analyses of many other classical works.	**Bach, J. S.; Beethoven.**
D. G. H.	David George Hogarth, M.A. Keeper of the Ashmolean Museum, Oxford. Fellow of	**Baalbek; Barca; Beirut**

	Magdalen College, Oxford. Fellow of the British Academy. Excavated at Paphos, 1888; Naukratis, 1899 and 1903; Ephesus, 1904-1905; Assiut, 1906-1907. Director, British School at Athens, 1897-1900; Director, Cretan Exploration Fund, 1899.	**(*in part*); Bengazi.**
D. H.	David Hannay. Formerly British Vice-Consul at Barcelona. Author of *Short History of Royal Navy, 1217-1688*; *Life of Emilio Castelar*; &c.	**Austrian Succession War: *Naval*; Avilés; Bainbridge, William; Barbary Pirates.**
D. Mn.	Rev. Dugald Macfadyen, M.A. Minister of South Grove Congregational Church, Highgate. Director of the London Missionary Society.	**Berry, Charles Albert.**
D. S. M.*	David Samuel Margoliouth, M.A., D.Litt. Laudian Professor of Arabic, Oxford; Fellow of New College. Author of *Arabic Papyri of the Bodleian Library*; *Mohammed and the Rise of Islam*; *Cairo, Jerusalem and Damascus*.	**Axum.**
D. S.-S.	David Seth-Smith, F.Z.S. Curator of Birds to the Zoological Society of London. Formerly President of the Avicultural Society. Author of *Parrakeets, a Practical Handbook to those Species kept in Captivity*.	**Aviary.**
E. B.	Edward Breck, Ph.D. Formerly Foreign Correspondent of the *New York Herald* and the *New York Times*. Author of *Wilderness Pets*.	**Base-Ball.**
E. Br.	Ernest Barker, M.A. Fellow and Lecturer of St John's College, Oxford. Formerly Fellow and Tutor of Merton College. Craven Scholar (Oxford), 1895.	**Baldwin I. to IV. of Jerusalem.**
E. Cl.	Edward Clodd. Vice-President of the Folk-Lore Society. Author of *Story of Primitive Man*; *Primer of Evolution*; *Tom Tit Tot*; *Animism*; *Pioneers of Evolution*.	**Baer.**
E. C. B.	Right Rev. Edward Cuthbert Butler, O.S.B., D.Litt. (Dubl.). Abbot of Downside Abbey, Bath.	**Basilian Monks; Benedict of Nursia; Benedictines; St Bernardin of Siena.**
E. F. S.	Edward Fairbrother Strange. Assistant-Keeper, Victoria and Albert Museum, South Kensington. Member of Council, Japan Society. Author of numerous works on art subjects; Joint-editor of Bell's "Cathedral" Series.	**Beardsley, Aubrey Vincent.**
E. G.	Edmund Gosse, LL.D. See the biographical article: Gosse, Edmund.	**Baggesen; Ballade; Barnfield; Beaumont, Sir John; Belgium: *Literature*; Biography.**
E. G. B.	Edward Granville Browne, M.A., M.R.C.S., M.R.A.S. Sir Thomas Adams's Professor of Arabic and Fellow of Pembroke College, Cambridge. Fellow of the British Academy. Author of *A Traveller's Narrative, written to Illustrate the Episode of the Báb*; *The New History of Mirzá Ali Muhammed the Báb*; *Literary History of Persia*; &c.	**Bábiism.**
E. H. M.	Ellis Hovell Minns, M.A. Lecturer and Assistant Librarian, and formerly Fellow of Pembroke College, Cambridge. University Lecturer in Palaeography.	**Bastarnae.**
Ed. M.	Eduard Meyer, D.Litt. (Oxon.), LL.D., Ph.D. Professor of Ancient History in the University of Berlin. Author of *Geschichte des Alterthums*; *Geschichte des alten Ägyptens*; *Die Israeliten und ihre Nachbarstamme*; &c.	**Bactria; Bagoas; Bahran; Balash; Behistun.**
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E. M. T.	Sir Edward Maunde Thompson, G.C.B., D.C.L., LL.D., Litt.D. Director and Principal Librarian, British Museum, 1888-1909. Fellow of the British Academy. Corresponding Member of the Institute of France and of the Royal	**Autographs.**

	Prussian Academy of Sciences. Author of *Handbook of Greek and Latin Palaeography*. Editor of the *Chronicon Angliae*, &c. Joint-editor of *Publications of the Palaeographical Society*.	
E. N. S.	E. N. Stockley. Captain, Royal Engineers. Instructor in Construction at the School of Military Engineering, Chatham. For some time in charge of the Barracks Design Branch of the War Office.	**Barracks.**
E. Pr.	Edgar Prestage. Special Lecturer in Portuguese Literature in the University of Manchester. Commendador, Portuguese Order of S. Thiago. Corresponding Member of Lisbon Royal Academy of Sciences and Lisbon Geographical Society.	**Azurara; Barros.**
E. Tn.	Rev. Ethelred Leonard Taunton (d. 1907). Author of *The English Black Monks of St Benedict*; *History of the Jesuits in England*.	**Baronius.**
E. V.	Rev. Edmund Venables, M.A., D.D. (1819-1895). Canon and Precentor of Lincoln. Author of *Episcopal Palaces of England*.	**Basilica (*in part*).**
F. C. B.	Francis Crawford Burkitt, M.A., D.D. Norrisian Professor of Divinity, Cambridge. Fellow of the British Academy. Part-editor of *The Four Gospels in Syriac transcribed from the Sinaitic Palimpsest*. Author of *The Gospel History and its Transmission*; *Early Eastern Christianity*; &c.	**Bible: *New Testament, Higher Criticism.***
F. C. C.	Frederick Cornwallis Conybeare, M.A., D.Th. (Giessen). Fellow of the British Academy. Formerly Fellow of University College, Oxford. Author of *The Ancient Armenian Texts of Aristotle*; *Myth, Magic and Morals*; &c.	**Baptism.**
F. G.	Frederick Greenwood. See the biographical article: Greenwood, Frederick.	**Beaconsfield, Earl of.**
F. G. M. B.	Frederick George Meeson Beck, M.A. Fellow and Lecturer of Clare College, Cambridge.	**Bernicia.**
F. Ll. G.	Francis Llewelyn Griffith, M.A., Ph.D., F.S.A. Reader in Egyptology, Oxford. Editor of the *Archaeological Survey* and *Archaeological Reports* of the Egypt Exploration Fund. Fellow of the Imperial German Archaeological Institute.	**Bes.**
F. L. L.	Lady Lugard. See the biographical article: Lugard, Sir F. J. D.	**Bauchi.**
F. P.	Frank Podmore, M.A. (d. 1910). Pembroke College, Oxford. Author of *Studies in Psychical Research*; *Modern Spiritualism*; &c.	**Automatic Writing.**
F. R. C.	Frank R. Cana. Author of *South Africa from the Great Trek to the Union*.	**Basutoland (*in part*); Bahr-el-Ghazal (*in part*); Bechuanaland (*in part*).**
F. R. M.	Francis Richard Maunsell, C.M.G. Lieut.-Col., Royal Artillery. Military Vice-Consul, Sivas, Trebizond, Van (Kurdistan), 1897-1898. Military Attaché, British Embassy, Constantinople, 1901-1905. Author of *Central Kurdistan*; &c.	**Baiburt; Bashkala.**
F. W. R.*	Frederick William Rudler, I.S.O., F.G.S. Curator and Librarian of the Museum of Practical Geology, London, 1879-1902. President of the Geologists' Association, 1887-1889.	**Aventurine; Beryl.**
G. A. B.	George A. Boulenger, F.R.S., D.Sc., Ph.D. In charge of the Collections of Reptiles and Fishes, Department of Zoology, British Museum. Vice-President of the Zoological Society of London.	**Axolotl; Batrachia.**
G. A. Gr.	George Abraham Grierson, C.I.E., Ph.D. D.Litt. (Dublin). Member of the Indian Civil Service, 1873-1903. In charge of Linguistic Survey of India, 1898-1902. Gold Medallist, Asiatic Society, 1909. Vice-President of the Royal Asiatic Society. Formerly Fellow of Calcutta University. Author of *The Languages of India*; &c.	**Bengali; Bihari.**
G. B. B.	Gerard Baldwin Brown, M.A. Professor of Fine Arts, University of Edinburgh. Formerly Fellow of Brasenose College, Oxford. Author of *From*	**Basilica (*in part*).**

	Schola to Cathedral; *The Fine Arts*; &c.	
G. B. G.*	George Buchanan Gray, M.A., D.D., D.Litt. (Oxon.) Professor of Hebrew and Old Testament Exegesis, Mansfield College, Oxford. Examiner in Hebrew, University of Wales. Author of *The Divine Discipline of Israel*; &c.	**Bible: *Old Testament, Textual Criticism*, and *Higher Criticism***
G. E.	Rev. George Edmundson, M.A., F.R.Hist.S. Formerly Fellow and Tutor of Brasenose College, Oxford. Ford's Lecturer, 1909. Hon. Member Dutch Historical Society, and Foreign Member, Netherlands Association of Literature.	**Belgium: *History*.**
G. F. Z.	G. F. Zimmer, A.M.Inst.C.E. Author of *Mechanical Handling of Material*.	**Biscuit.**
G. G. S.	George Gregory Smith, M.A. Professor of English Literature, Queen's University, Belfast. Author of *The Days of James IV.*; *The Transition Period*; *Specimens of Middle Scots*; &c.	**Barbour, John.**
G. H. C.	George Herbert Carpenter, B.Sc. Professor of Zoology in the Royal College of Science, Dublin. President of the Association of Economic Biologists. Member of the Royal Irish Academy. Author of *Insects: their Structure and Life*; &c.	**Bee.**
G. Sa.	George Edward Bateman Saintsbury, LL.D., D.Litt. See the biographical article: Saintsbury, G. E. B.	**Balzac, H. de.**
G. W. T.	Rev. Griffithes Wheeler Thatcher, M.A., B.D. Warden of Camden College, Sydney, N.S.W. Formerly Tutor in Hebrew and Old Testament History at Mansfield College, Oxford.	**Avempace; Averroes; Avicenna; Baidāwī; Balādhurī; Behā ud-Dīn; Behā ud-Din Zuhair; Bīrūnī.**
H. Br.	Henry Bradley, M.A., Ph.D. Joint-editor of the *New English Dictionary* (Oxford). Fellow of the British Academy. Author of *The Story of the Goths*; *The Making of English*; &c.	**Beowulf.**
H. Ch.	Hugh Chisholm, M.A. Formerly Scholar of Corpus Christi College, Oxford. Editor of the 11th edition of the *Encyclopaedia Britannica*. Co-editor of the 10th edition.	**Balfour, A. J.**
H. C. R.	Sir Henry Creswicke Rawlinson, Bart., K.C.B. See the biographical article: Rawlinson, Sir H. C.	**Bagdad: *City*.**
H. Fr.	Henri Frantz. Art Critic, *Gazette des Beaux Arts* (Paris).	**Barye; Bastien-Lepage; Baudry, P. J. A.**
H. F. G.	Hans Friedrich Gadow, F.R.S., Ph.D. Strickland Curator and Lecturer on Zoology in the University of Cambridge. Author of "Amphibia and Reptiles" in the *Cambridge Natural History*.	**Bird.**
H. H. H.*	Herbert Hensley Henson, M.A., D.D. Canon of Westminster Abbey and Rector of St Margaret's, Westminster. Proctor in Convocation since 1902. Formerly Fellow of All Souls' College, Oxford. Select Preacher (Oxford), 1895-1896; (Cambridge), 1901. Author of *Apostolic Christianity*; *Moral Discipline in the Christian Church*; *The National Church*; *Christ and the Nation*; &c.	**Bible, English: *Revised Version*.**
H. H. J.	Sir Harry Hamilton Johnston, D.Sc., G.C.M.G., K.C.B. See the biographical article: Johnston, Sir H. H.	**Bantu Languages.**
H. M. R.	Hugh Munro Ross. Formerly Exhibitioner of Lincoln College, Oxford. Editor of *The Times Engineering Supplement*. Author of *British Railways*.	**Bell: *House Bell.***
H. M. W.	H. Marshall Ward, M.A., F.R.S., D.Sc. (d. 1905). Formerly Professor of Botany, Cambridge. President of the British Mycological Society. Author of *Timber and some of its Diseases*; *The Oak*; *Sach's Lectures the Physiology of Plants*; *Grasses*; *Disease in Plants*; &c.	**Bacteriology (*in part*); Berkeley, Miles Joseph.**
H. N. D.	Henry Newton Dickson, M.A., D.Sc., F.R.G.S. Professor of Geography, University College, Reading. Author of *Elementary Meteorology*; *Papers on Oceanography*; &c.	**Baltic Sea.**
H. W. C. D.	Henry William Carless Davis, M.A. Fellow and Tutor of Balliol College, Oxford. Fellow of All Souls', Oxford, 1895-1902. Author of *Charlemagne*;	**Becket; Benedictus Abbas.**

England under the Normans and Angevins, 1066-1272.

H. W. S.	H. Wickham Steed. Correspondent of *The Times* at Rome (1897-1902) and Vienna.	**Austria-Hungary: *History* (*in part*); Bertani.**
I. A.	Israel Abrahams, M.A. Reader in Talmudic and Rabbinic Literature, University of Cambridge. President, Jewish Historical Society of England. Author of *A Short History of Jewish Literature*; *Jewish Life in the Middle Ages*; &c.	**Bahya.**
J. An.	Joseph Anderson, LL.D. Keeper of the National Museum of Antiquities, Edinburgh, and Assistant Secretary of the Society of Antiquaries of Scotland. Honorary Professor of Antiquities to the Royal Scottish Academy. Author of *Scotland in Early Christian and Pagan Times*.	**Barrow.**
J. A. H.	John Allen Howe, B.Sc. Curator and Librarian at the Museum of Practical Geology, London.	**Avonian; Bajocian; Barton Beds; Bathonian Series; Bed: *Geology*.**
J. B. B.	John Bagnell Bury, LL.D., Litt.D. See the biographical article: Bury, J. B.	**Baldwin I. and II.: *of Romania*; Basil I. and II.: *Emperors*; Belisarius.**
J. D. B.	James David Bourchier, M.A., F.R.G.S. King's College, Cambridge. Correspondent of *The Times* in South-Eastern Europe. Commander of the Orders of Prince Danilo of Montenegro and of the Saviour of Greece, and Officer of the Order of St Alexander of Bulgaria.	**Balkan Peninsula.**
J. F.-K.	James Fitzmaurice-Kelly, Litt.D., F.R.Hist.S. Gilmour Professor of Spanish Language and Literature, Liverpool University. Norman McColl Lecturer, Cambridge University. Fellow of the British Academy. Member of the Council of the Hispanic Society of America. Knight Commander of the Order of Alphonso XII. Author of *A History of Spanish Literature*.	**Ayala y Herrera; Bello.**
J. F. St.	John Frederick Stenning, M.A. Dean and Fellow of Wadham College, Oxford. University Lecturer in Aramaic. Lecturer in Divinity and Hebrew at Wadham College.	**Bible: *Old Testament: Texts and Versions.***
J. H. R.	John Horace Round, M.A., LL.D. (Edin.). Author of *Feudal England*; *Studies in Peerage and Family History*; *Peerage and Pedigree*; &c.	**Baron; Baronet; Battle Abbey Roll; Bayeux Tapestry; Beauchamp.**
J. Hl. R.	John Holland Rose, M.A., Litt.D. Christ's College, Cambridge. Lecturer on Modern History to the Cambridge University Local Lectures Syndicate. Author of *Life of Napoleon I.*; *Napoleonic Studies*; *The Development of the European Nations*; *The Life of Pitt*; &c.	**Barras; Beauharnais, Eugène de.**
J. M. M.	John Malcolm Mitchell. Sometime Scholar of Queen's College, Oxford. Lecturer in Classics, East London College (University of London). Joint editor of Grote's *History of Greece*.	**Bacon, Francis (*in part*); Berkeley, George (*in part*).**
J. P.-B.	James George Joseph Penderel-Brodhurst. Editor of the *Guardian* (London).	**Bed: *Furniture*; Bérain.**
J. G. Sc.	Sir James George Scott, K.C.I.E. Superintendent and Political Officer, Southern Shan States. Author of *Burma, a Handbook*; *The Upper Burma Gazetteer*, &c.	**Bhamo.**
J. P. E.	Jean Paul Hippolyte Emmanuel Adhémar Esmein. Professor of Law in the University of Paris. Officer of the Legion of Honour. Member of the Institute of France. Author of *Cours eléméntaire d'histoire du droit français*; &c.	**Bailiff: *Bailli*; Basoche.**
J. P. Pe.	Rev. John Punnett Peters, Ph.D., D.D. Canon Residentiary, Cathedral of New York. Formerly Professor of Hebrew, University of Pennsylvania. In charge of Expedition of University of Pennsylvania conducting excavations at Nippur, 1888-1895. Author of *Scriptures, Hebrew and Christian*; *Nippur, or Explorations and Adventures on the Euphrates*; &c.	**Bagdad: *Vilayet*; Bagdad: *City*; Basra.**

J. R. P.	Sir John Rahere Paget, Bart., K.C. Bencher of the Inner Temple. Formerly Gilbart Lecturer on Banking. Author of *The Law of Banking*; &c.	**Banks and Banking: *English Law*.**
J. Sm.*	John Smith, C.B. Formerly Inspector-General in Companies' Liquidation, 1890-1904, and Inspector-General in Bankruptcy.	**Bankruptcy.**
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J. T. Be.	John T. Bealby. Joint author of Stanford's *Europe*. Formerly Editor of the *Scottish Geographical Magazine*. Translator of Sven Hedin's *Through Asia, Central Asia and Tibet*, &c.	**Baikal; Bessarabia (*in part*)**
J. Vn.	Julien Vinson. Formerly Professor of Hindustani and Tamil at the École des Langues Orientales, Paris. Author of *Le Basque et les langues mexicaines*; &c.	**Basques (*in part*).**
J. V. B.	James Vernon Bartlet, M.A., D.D. (St Andrews). Professor of Church History, Mansfield College, Oxford. Author of *The Apostolic Age*; &c.	**Barnabas.**
J. W. He.	James Wycliffe Headlam, M.A. Staff Inspector of Secondary Schools under the Board of Education. Formerly Fellow of King's College, Cambridge. Professor of Greek and Ancient History at Queen's College, London. Author of *Bismarck and the Foundation of the German Empire*; &c.	**Austria-Hungary: *History*; Bamberger; Bebel; Benedetti; Beust.**
K. L.	Rev. Kirsopp Lake, M.A. Lincoln College, Oxford. Professor of Early Christian Literature and New Testament Exegesis in the University of Leiden. Author of *The Text of the New Testament*; *The Historical Evidence for the Resurrection of Jesus Christ*; &c.	**Bible: *New Testament: Texts and Versions* and *Textual Criticism*.**
K. S.	Kathleen Schlesinger. Author of *The Instruments of the Orchestra*.	**Bagpipe; Banjo; Barbiton; Barrel-organ; Bass Clarinet; Basset Horn; Bassoon; Batyphone.**
L. A.	Lyman Abbott, D.D. See the biographical article: Abbott, L.	**Beecher, Henry Ward.**
L. P.*	Louis Marie Olivier Duchesne. See the biographical article: Duchesne, L. M. O.	**Benedict (I.-X.)**
L. J. S.	Leonard James Spencer, M.A., F.G.S. Assistant, Department of Mineralogy, Natural History Museum, South Kensington. Formerly Scholar of Sidney Sussex College, Cambridge, and Harkness Scholar. Editor of the *Mineralogical Magazine*.	**Autunite; Axinite; Azurite; Barytes; Bauxite; Biotite.**
L. V.*	Luigi Villari. Italian Foreign Office (Emigration Dept.). Formerly Newspaper Correspondent in East of Europe. Author of *Italian Life in Town and Country*; &c.	**Azeglio; Bandiera, A. and E.; Bassi, Ugo; Bentivoglio, Giovanni.**
L. W. K.	Leonard William King, M.A., F.S.A. Assistant to the Keeper of Egyptian and Assyrian Antiquities, British Museum. Lecturer in Assyrian at King's College, London. Conducted Excavations at Kuyunjik (Nineveh) for British Museum. Author of *Assyrian Chrestomathy*; *Annals of the Kings of Assyria*; *Studies in Eastern History*; *Babylonian Magic and Sorcery*; &c.	**Babylonia and Assyria: *Chronology*.**
M. A. C.	Maurice A. Canney, M.A. Assistant Lecturer in Semitic Languages in the University of Manchester. Formerly Exhibitioner of St John's College, Oxford. Pusey and Ellerton Hebrew Scholar (Oxford), 1892; Kennicott Hebrew Scholar, 1895; Houghton Syriac Prize, 1896.	**Baur.**
M. Br.	Margaret Bryant.	**Beaumont and Fletcher: *Appendix*.**
M. D. Ch.	Sir Mackenzie Dalzell Chalmers, K.C.B., C.S.I., M.A. Trinity College, Oxford. Barrister-at-Law. Formerly	**Bill of Exchange.**

	Permanent Under-Secretary of State for Home Department. Author of *Digest of the Law of Bills of Exchange*; &c.	
M. G.	Moses Gaster, Ph.D. (Leipzig). Chief Rabbi of the Sephardic Communities of England. Vice-President, Zionist Congress, 1898, 1899, 1900. Ilchester Lecturer at Oxford on Slavonic and Byzantine Literature, 1886 and 1891. Author of *A New Hebrew Fragment of Ben-Sira*; *The Hebrew Version of the Secretum Secretorum of Aristotle*.	**Bassarab.**
M. H. C.	Montague Hughes Crackanthorpe, K.C., D.C.L. Honorary Fellow, St John's College, Oxford. Bencher of Lincoln's Inn. President of the Eugenics Education Society. Formerly Member of the General Council of the Bar and of the Council of Legal Education, and Standing Counsel to the University of Oxford.	**Bering Sea Arbitration.**
M. Ja.	Morris Jastrow, Ph.D. Professor of Semitic Languages, University of Pennsylvania. Author of *Religion of the Babylonians and Assyrians*; &c.	**Babylonia and Assyria: *Proper Names*; Babylonian and Assyrian Religion; Bel; Belit.**
M. P.*	Léon Jacques Maxime Prinet. Auxiliary of the Institute of France (Academy of Moral and Political Sciences), Author of *L'Industrie du sel en Franche-Comté.*	**Avaray; Bar-le-Duc; Batarnay; Bauffremont; Beauharnais; Beaujeu; Beauvillier; Bellegarde: *Family.***
N. B. W.	N. B. Wagle. Formerly Lecturer on Sanskrit at the Robert Money Institution, Bombay. Vice-President of the London Indian Society. Author of *Industrial Development of India*; &c.	**Bhau Daji.**
N. H. M.	Rev. Newton Herbert Marshall., M.A., Ph.D. (Halle). Minister of Heath Street Baptist Church, Hampstead, London. Author of *Gegenwartige Richtungen der Religionsphilosophie in England*; *Theology and Truth*.	**Baptists.**
N. M.	Norman McLean, M.A. Fellow, Lecturer and Librarian of Christ's College, Cambridge. University Lecturer in Aramaic. Examiner for the Oriental Languages Tripos and the Theological Tripos at Cambridge.	**Bardaisān; Bar-Hebraeus; Bar-Salībī.**
N. V.	Joseph Marie Noel Valois. Member of the Académie des Inscriptions et Belles-Lettres. Honorary Archivist at the Archives Nationales. Formerly President of the Société de l'Histoire de France and of the Société de l'École de Chartes.	**Basel, Council of; Benedict XIII. (*anti-pope*).**
N. W. T.	Northcote Whitbridge Thomas, M.A. Government Anthropologist to Southern Nigeria. Corresponding Member of the Société d'Anthropologie de Paris. Author of *Thought Transference*; *Kinship and Marriage in Australia*; &c.	**Automatism.**
O. Ba.	Oswald Barron, F.S.A. Editor of The *Ancestor*, 1902-1905.	**Beard; Berkeley (*Family*); Bill (*Weapon*).**
O. Br.	Oscar Briliant.	**Austria-Hungary: *Statistics*.**
O. Hr.	Otto Henker, Ph.D. On the Staff of the Carl Zeiss Factory, Jena, Germany.	**Binocular Instrument.**
P. A.	Paul Daniel Alphandéry. Professor of the History of Dogma, École Pratique des Hautes Études, Sorbonne, Paris. Author of *Les Idées morales chez les hétérodoxes latines au début du XIII*^{e} *siècle*.	**Auto-da-Fé.**
P. A. A.	Philip A. Ashworth, M.A., Doc.Juris. New College, Oxford. Barrister-at-Law. Translator of H. R. von Gneist's *History of the English Constitution*.	**Bavaria: *Statistics*; Berlin.**
P. A. K.	Prince Peter Alexeivitch Kropotkin. See the biographical article: Kropotkin, P. A.	**Baikal; Baku; Bessarabia (*in part*).**
P. C. M.	Peter Chalmers Mitchell, M.A., F.R.S., F.Z.S., D.Sc., LL.D. Secretary to the Zoological Society of London. University Demonstrator in Comparative Anatomy and Assistant to Linacre Professor at Oxford, 1888-1891. Examiner in Zoology to the University of London, 1903. Author of	**Biogenesis; Biology.**

	Outlines of Biology; &c.	
P. C. Y.	Philip Chesney Yorke, M.A. Magdalen College, Oxford.	**Balfour, Sir James.**
P. Gi.	Peter Giles, M.A., Litt.D., LL.D. Fellow and Classical Lecturer of Emmanuel College, Cambridge. University Reader in Comparative Philology. Formerly Secretary of the Cambridge Philological Society. Author of *Manual of Comparative Philology*; &c.	**B.**
P. S.	Philip Schidrowitz, Ph.D., F.C.S. Member of Council, Institute of Brewing; Member of Committee of Society of Chemical Industry. Author of numerous articles on the Chemistry and Technology of Brewing, Distilling, &c.	**Beer.**
R. A.*	Robert Anchel. Archivist of the Département de l'Eure.	**Billaud-Varenne.**
R. Ad.	Robert Adamson, M.A., LL.D. See the biographical article: Adamson, Robert.	**Bacon, Francis; Bacon, Roger; Beneke; Berkeley, Bishop.**
R. A. S. M.	Robert Alexander Stewart Macalister, M.A., F.S.A. St John's College, Cambridge. Director of Excavations for the Palestine Exploration Fund. Joint author of *Excavations in Palestine, 1898-1900.*	**Bashan; Bethlehem.**
R. C. J.	Sir Richard Claverhouse Jebb, LL.D., D.C.L., Litt.D. See the biographical article: Jebb, Sir Richard C.	**Bacchylides.**
R. Gn.	Sir Robert Giffen, F.R.S. See the biographical article: Giffen, Sir R.	**Bagehot; Balance Of Trade.**
R. H. C.	Rev. Robert Henry Charles, M.A., D.D., Litt.D. (Oxon.). Grinfield Lecturer and Lecturer in Biblical Studies, Oxford. Fellow of the British Academy. Formerly Senior Moderator of Trinity College, Dublin. Author and Editor of *Book of Enoch*; *Book of Jubilees*; *Apocalypse of Baruch*; *Assumption of Moses*; *Ascension of Isaiah*; *Testaments of XII. Patriarchs*; &c.	**Baruch.**
R. H. I. P.	Sir Robert Harry Inglis Palgrave, F.R.S. Director of Barclay & Co., Ltd., Bankers. Editor of the *Economist*, 1871-1883. Author of *Notes on Banking in Great Britain and Ireland, Sweden, Denmark and Hamburg*; &c. Editor of *Dictionary of Political Economy.*	**Banks and Banking: *General*.**
R. J. M.	Ronald John McNeill, M.A. Christ Church, Oxford. Barrister-at-Law. Formerly Editor of the *St James's Gazette* (London).	**Beresford, John.**
R. L.*	Richard Lydekker, F.R.S., F.G.S., F.Z.S. Trinity College, Cambridge. Member of the Staff of the Geological Survey of India, 1874-1882. Author of *Catalogues of Fossil Mammals, Reptiles and Birds in British Museum*; *The Deer of all Lands*; &c.	**Avahi; Aye-Aye; Babirusa; Baboon; Beaver.**
R. L. S.	Robert Louis Stevenson. See the biographical article: Stevenson, R. L. B.	**Béranger.**
R. M.*	Robert Muir, M.A., M.D., F.R.C.P. (Edin.). Professor of Pathology, University of Glasgow. Professor of Pathology at St Andrews, 1898-1899. Author of *Manual of Bacteriology*; &c.	**Bacteriology: *Pathological Aspects*.**
R. N. B.	Robert Nisbet Bain (d. 1909). Assistant Librarian, British Museum, 1883-1909. Author of *Scandinavia: the Political History of Denmark, Norway and Sweden, 1513-1900*; *The First Romanovs, 1613-1725*; *Slavonic Europe: the Political History of Poland and Russia from 1469 to 1796*; *Charles XII. and the Collapse of the Swedish Empire*; *Gustavus III. and his Contemporaries*; *The Pupils of Peter the Great*; &c.	**Bakócz; Balassa; Bánffy; Bar, Confederation of; Baross; Basil; Báthory; Batthyany; Bela III. and IV; Bern; Beöthy; Bernstorff; Bestuzhev-Ryumin; Bethlen; Bezborodko; Biren.**
S. A. C.	Stanley Arthur Cook, M.A. Editor for Palestine Exploration Fund. Lecturer and formerly Fellow, Gonville and Caius College. Author of *Glossary of Aramaic Inscriptions*; *The Laws of Moses and Code of Hammurabi*; *Critical Notes on Old Testament History*; &c.	**Baal; Benjamin.**
S. C.	Sidney Colvin, M.A., Litt.D. See the biographical article: Colvin, Sidney.	**Baldovinetti; Bellini.**
S. R. D.	Samuel Rolles Driver, D.D., Litt.D.	**Bible: *Old Testament:***

	See the biographical article: Driver, S. R.	***Canon* and *Chronology*.**
T. A. J.	Thomas Athol Joyce, M.A. Assistant in Department of Ethnography, British Museum. Hon. Sec., Royal Anthropological Institute.	**Bechuana.**
T. As.	Thomas Ashby, M.A., D.Litt. (Oxon.), F.S.A. Director of British School of Archaeology at Rome. Formerly Scholar of Christ Church, Oxford. Craven Fellow (Oxford). Corresponding Member of the Imperial German Archaeological Institute. Author of the *Classical Topography of the Roman Campagna*; &c.	**Auximum; Avella; Avellino; Avernus; Baiae; Bari; Barletta; Bassano; Belluno; Benevento; Bergamo; Bertinoro.**
T. A. I.	Thomas Allan Ingram, M.A., LL.D. Trinity College, Dublin.	**Bailiff; Bill (*law*); Bill of Sale.**
T. Ba.	Sir Thomas Barclay, M.P. Member of the Institute of International Law. Member of the Supreme Council of the Congo Free State. Officer of the Legion of Honour. Author of *Problems of International Practice and Diplomacy*; &c. M.P. for Blackburn, 1910.	**Belligerency.**
T. E. H.	Thomas Erskine Holland, K.C., D.C.L., LL.D. Fellow of the British Academy. Fellow of All Souls' College, Oxford. Formerly Professor of International Law in the University of Oxford. Bencher of Lincoln's Inn. Author of *Studies in International Law*; *The Elements of Jurisprudence*; *Alberici Gentilis de jure belli*; *The Laws of War on Land*; *Neutral Duties in a Maritime War*; &c.	**Bentham, Jeremy.**
T. G. C.	Thomas G. Carver, M.A., K.C. (d. 1906). Formerly Scholar of St John's College, Cambridge. 8th Wrangler, 1871. Author of *On the Law Relating to the Carriage of Goods by Sea*.	**Average.**
T. H. D.	Rev. Thomas Herbert Darlow, M.A. Literary Superintendent of the British and Foreign Bible Society. Sometime Scholar of Clare College, Cambridge. Author of *Historical Catalogue of Printed Editions of Holy Scriptures* (vol. i. with H. G. Moule); &c.	**Bible Societies.**
T. H. H.	Thomas Henry Huxley, F.R.S. See the biographical article: Huxley, Thomas H.	**Biology (*in part*).**
T. H. H.*	Sir Thomas Hungerford Holdich K.C.M.G., K.C.I.E., D.Sc., F.R.G.S. Colonel in the Royal Engineers. Superintendent, Frontier Surveys, India, 1892-1898. Gold Medallist, R.G.S. (London), 1887. H. M. Commissioner for the Persa-Beluch Boundary, 1896. Author of *The Indian Borderland*; *The Gates of India*; &c.	**Badakshan; Bahrein Islands; Bajour; Balkh; Baluchistan; Bamian; Bela; Bhutan.**
T. L. P.	Rev. Thomas Leslie Papillon, M.A. Hon. Canon of St Albans. Formerly Fellow, Dean and Tutor of New College, Oxford. Fellow of Merton College. Author of *Manual of Comparative Philology*; &c.	**Bell.**
T. O.	Thomas Okey. Examiner in Basket Work for the City of London Guilds and Institute.	**Basket.**
T. W. R. D.	T. W. Rhys Davids, M.A., LL.D., Ph.D. Professor of Comparative Religion in the University of Manchester. Formerly Professor of Pali and Buddhist Literature, University College, London. Fellow of the British Academy. Secretary and Librarian of the Royal Asiatic Society, 1885-1902. Author of *Early Buddhism*; *Buddhist India*; &c.	**Bharahat.**
V. H. B.	Vernon Herbert Blackman, M.A., D.Sc. Professor of Botany in the University of Leeds. Formerly Fellow of St John's College, Cambridge.	**Bacteriology: *Botany***
W. A. B. C.	Rev. William Augustus Brevoort Coolidge, M.A., F.R.G.S., Ph.D. Fellow of Magdalen College, Oxford. Professor of English History, St David's College Lampeter, 1880-1881. Author of *Guide to Switzerland*; *The Alps in Nature and in History*; &c. Editor of the *Alpine Journal*, 1880-1889.	**Baden: *Switzerland*; Barcelonnette; Basel; Basses-Alpes; Beaulieu; Bellinzona; Bern; Bienne.**
W. A. G.	Walter Armstrong Graham. His Siamese Majesty's Resident Commissioner for the Siamese Malay State of Kelantan. Commander, Order of the White Elephant. Member of the Burma Civil Service, 1889-1903. Author of *The French Roman Catholic*	**Bangkok.**

Mission in Siam; *Kelantan, a Handbook*; &c.

W. A. P.	Walter Alison Phillips, M.A. Formerly Exhibitioner of Merton College and Senior Scholar of St John's College, Oxford. Author of *Modern Europe*; *The War of Greek Independence*; &c.	**Austria-Hungary: *History* (*in part*); Babeuf; Balance of Power; Baron; Bates; Bavaria: *History*; Béguines; Berlin: *Congress and Treaty of*; Bernard, St.; Biretta.**
W. Bo.	Wilhelm Bousset, D.Th. Professor of New Testament Exegesis in the University of Gottingen. Author of *Das Wesen der Religion*; *The Antichrist Legend*; &c.	**Basilides.**
W. B. Ca.	W. Broughton Carr. Formerly Editor of the *British Bee Journal* and the *Bee-Keepers' Record*.	**Bee: *Bee-keeping*.**
W. C. P.	William Charles Popplewell, M.Sc., A.M.I.C.E. Lecturer in Engineering in Manchester School of Technology (University of Manchester). Author of *Compressed Air*; *Heat Engines*; &c.	**Bellows and Blowing Machines.**
W. E. D.	William Ernest Dalby, M.A., M.Inst.C.E., M.I.M.E. Professor of Civil and Mechanical Engineering at the City and Guilds of London Institute Central Technical College, South Kensington. Associate Member of the Institute of Naval Architects. Author of *The Balancing of Engines*; *Valves and Valve Gear Mechanisms*; &c.	**Bearings.**
W. E. G.	Sir William Edmund Garstin, G.C.M.G. Governing Director, Suez Canal Co. Formerly Inspector-General of Irrigation, Egypt. Adviser to the Ministry of Public Works in Egypt, 1904-1908.	**Bahr-el-Ghazal (*in part*).**
W. H. Be.	William Henry Bennett, M.A., D.D., D.Litt. (Cantab.). Professor of Old Testament Exegesis in New and Hackney Colleges, London. Formerly Fellow of St John's College, Cambridge. Lecturer in Hebrew at Firth College, Sheffield. Author of *Religion of the Post-Exilic Prophets*; &c.	**Balaam; Beelzebub.**
W. H. Ha.	William Henry Hadow, M.A., Mus.Doc. Principal, Armstrong College, Newcastle-on-Tyne. Formerly Fellow and Tutor of Worcester College, Oxford. Member of Council, Royal College of Music. Editor *Oxford History of Music*. Author of *Studies in Modern Music*; &c.	**Bach, K. P. E.**
W. J. H.*	William James Hughan. Past Senior Grand Deacon of Freemasons of England, 1874. Hon. Senior Warden of Grand Lodges of Egypt, Quebec and Iona, &c.	**Banker-Marks.**
W. L. D.	William Leslie Davidson, LL.D. Professor of Logic and Metaphysics, Aberdeen University. Author of *The Logic of Definition*; *Christian Ethics*; &c. Editor of Alexander Bain's *Autobiography*.	**Bain, Alexander.**
W. M. S.	William Milligan Sloane, Ph.D., LL.D. Professor of History, Columbia University, New York. Secretary to George Bancroft while American Ambassador in Berlin, 1872-1875. Author of *Life of Napoleon Bonaparte*.	**Bancroft, George.**
W. P. C.	William Prideaux Courtney. See the article: Courtney, L. H., Baron.	**Bath, William Pulteney, Marquess of.**
W. P. J.	William Price James. University College, Oxford. Barrister-at-Law. High Bailiff of County Courts, Cardiff. Author of *Romantic Professions*; &c.	**Barrie, J. M.**
W. P. R.	Hon. William Pember Reeves. Director of London School of Economics. Agent-General and High Commissioner for New Zealand, 1896-1909. Minister of Education, Labour and Justice, New Zealand, 1891-1896. Author of *The Long White Cloud, a History of New Zealand*; &c.	**Ballance, John.**
W. R. L.	W. R. Lethaby, F.S.A. Principal of the Central School of Arts and Crafts under the London County Council. Author of *Architecture, Mysticism and Myth*; &c.	**Baptistery.**

W. Sa.	WILLIAM SANDAY, D.D., LL.D., LITT.D. Lady Margaret Professor of Divinity, arid Canon of Christ Church, Oxford. Chaplain in Ordinary to His Majesty the King. Hon. Fellow of Exeter College, Oxford. Fellow of the British Academy. Author of *Inspiration* (Bampton Lecture, 1893); *Commentary on the Epistle to the Romans*; &c.	**Bible: *New Testament: Canon*.**
W. T. Ca.	WILLIAM THOMAS CALMAN, D.SC., F.Z.S. Assistant in charge of Crustacea, Natural History Museum, South Kensington. Author of "Crustacea" in Lankester's *Treatise on Zoology*.	**Barnacle.**
W. T. T.-D.	SIR WILLIAM TURNER THISELTON-DYER, F.R.S., K.C.M.G., C.I.E., D.SC. LL.D., PH.D., F.L.S. Hon. Student of Christ Church, Oxford. Director, Royal Botanic Gardens, Kew, 1885-1905. Botanical Adviser to Secretary of State for Colonies, 1902-1906. Joint-author of *Flora of Middlesex*. Editor of *Flora Capenses* and *Flora of Tropical Africa*.	**Bentham, George.**
W. W.	WILLIAM WALLACE, M.A. See the biographical article: WALLACE, WILLIAM (1844-1897).	**Averroes; Avicenna.**
W. We.	REV. WENTWORTH WEBSTER (d. 1906). Author of *Basque Legends*; &c.	**Basque Provinces; Basques.**
W. Wr.	WILLISTON WALKER, PH.D., D.D. Professor of Church History, Yale University. Author of *History of the Congregational Churches in the United States*; *The Reformation*; *John Calvin*; &c.	**Bacon, Leonard.**
W. R. S.	W. ROBERTSON SMITH, LL.D. See the biographical article: SMITH, WILLIAM ROBERTSON.	**Baal.**
W. W. R.*	WILLIAM WALKER ROCKWELL, LIC.THEOL. Assistant Professor of Church History, Union Theological Seminary, New York. Author of *Die Doppeleke des Landgrafen Philipp von Hessen*.	**Benedict XI., XII., XIII., XIV.**

PRINCIPAL UNSIGNED ARTICLES

Azo Compounds.
Azoimide.
Azores.
Baader, F. X.
Baber.
Baby-Farming.
Bachelor.
Backgammon.
Baden: *Grand Duchy*.
Badger.
Badminton.
Bagatelle.
Bahamas.
Balaklava.
Bale, John.
Baliol.
Ballet.
Ballot.
Balneotherapeutics.
Bamboo.
Ban.
Banana.
Bank-notes.
Barbados.
Barbarossa.
Barbed Wire.
Barcelona.
Barclay, Alexander.
Barère de Vieuzac.
Barium.
Barlaam and Josaphat.
Barley.
Barnes, William.
Barometer.
Barrister.
Barrow, Isaac.
Bastiat, F.
Bastille.
Baths.
Battery.
Baudelaire.
Bautzen.
Baxter, Richard.
Bayard, P. T.
Bazaine.
Bean.
Bear.
Bear-Baiting and Bull-Baiting.
Beaton.
Beaufort: *Family*.
Beaufort, Henry.
Beaumarchais.
Beaumont: *Family*.
Becher.
Beddoes, Thomas Lovell.
Bedford, Earls and Dukes of.
Bedfordshire.
Bedouins.
Beecher, Lyman.
Behar.
Beheading.
Béjart.
Belfast: *Ireland*
Belfort: *Town*.
Bell, Sir Charles.
Belladonna.
Bellarmine.
Bellary.
Belle-Isle, C. L. A. F., Duc de.
Benares.
Benedek.
Benediction.
Benefice.
Benevolence.
Bengal.
Bengel.
Benin.
Benjamin (Judah Philip).
Benson (Archbishop of Canterbury).
Bentley, Richard.
Benton.
Benzaldehyde.
Benzene.
Benzoic Acid.
Berar.
Berbers.
Berengarius.
Beresford, Lord Charles.
Beresford, Viscount.
Bergen.
Beri-Beri.
Berkshire.
Berlioz.
Bermondsey.
Bermudas.
Bernhardt, Sarah.
Bernouilli.
Berthelot.
Berwick (Duke of).
Berwickshire.
Berwick-upon-Tweed.
Beryllium.
Besançon.
Bessemer, Sir Henry.
Bet and Betting.
Betrothal.
Beyle.
Bézique.
Bhagalpur.
Bible Christians.
Bichromates and Chromates.
Bidder.
Bigamy.
Bijapur.
Bikanir.
Bilaspur.
Bilbao.
Billiards.
Binomial.
Birch.
Birkenhead.
Birmingham.
Birney, James G.
Biron, Armand de Gontaut.
Birth.
Biscay (Vizcaya).

[1] A complete list, showing all individual contributors, appears in the final volume.

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ENCYCLOPÆDIA BRITANNICA

ELEVENTH EDITION

VOLUME III

AUSTRIA, LOWER (Ger. *Niederösterreich* or *Österreich unter der Enns*, "Austria below the river Enns"), an archduchy and crownland of Austria, bounded E. by Hungary, N. by Bohemia and Moravia, W. by Bohemia and Upper Austria, and S. by Styria. It has an area of 7654 sq. m. and is divided into two parts by the Danube, which enters at its most westerly point, and leaves it at its eastern extremity, near Pressburg. North of this line is the low hilly country, known as the *Waldviertel*, which lies at the foot and forms the continuation of the Bohemian and Moravian plateau. Towards the W. it attains in the Weinsberger Wald, of which the highest point is the Peilstein, an altitude of 3478 ft., and descends towards the valley of the Danube through the Gföhler Wald (2368 ft.) and the Manhartsgebirge (1758 ft.). Its most south-easterly offshoots are formed by the Bisamberg (1180 ft.), near Vienna, just opposite the Kahlenberg. The southern division of the province is, in the main, mountainous and hilly, and is occupied by the Lower Austrian Alps and their offshoots. The principal groups are: the Voralpe (5802 ft.), the Dürrenstein (6156 ft.), the Ötscher (6205 ft.), the Raxalpe (6589 ft.) and the Schneeberg (6806 ft.), which is the highest summit in the whole province. To the E. of the famous ridge of Semmering are the groups of the Wechsel (5700 ft.) and the Leithagebirge (1674 ft.). The offshoots of the Alpine group are formed by the Wiener Wald, which attains an altitude of 2929 ft. in the Schöpfl and ends N.W. of Vienna in the Kahlenberg (1404 ft.) and Leopoldsberg (1380 ft.).

Lower Austria belongs to the watershed of the Danube, which with the exception of the Lainsitz, which is a tributary of the Moldau, receives all the other rivers of the province. Its principal affluents on the right are: the Enns, Ybbs, Erlauf, Pielach, Traisen, Wien, Schwechat, Fischa and Leitha; on the left the Isper, Krems, Kamp, Göllersau and the March. Besides the Danube, only the Enns and the March are navigable rivers. Amongst the small Alpine lakes, the Erlaufsee and the Lunzer See are worth mentioning. Of its mineral springs, the best known are the sulphur springs of Baden, the iodine springs of Deutsch-Altenburg, the iron springs of Pyrawarth, and the thermal springs of Vöslau. In general the climate, which varies with the configuration of the surface, is moderate and healthy, although subject to rapid changes of temperature. Although 43.4% of the total area is arable land, the soil is only of moderate fertility and does not satisfy the wants of this thickly-populated province. Woods occupy 34.2%, gardens and meadows 13.1% and pastures 3.2%. Vineyards occupy 2% of the total area and produce a good wine, specially those on the sunny slopes of the Wiener Wald. Cattle-rearing is not well developed, but game and fish are plentiful. Mining is only of slight importance, small quantities of coal and iron-ore being extracted in the Alpine foothill region; graphite is found near Mühldorf. From an industrial point of view, Lower Austria stands, together with Bohemia and Moravia, in the front rank amongst the Austrian provinces. The centre of its great industrial activity is the capital, Vienna (*q.v.*); but in the region of the Wiener Wald up to the Semmering, owing to its many waters, which can be transformed into motive power, many factories are spread. The principal industries are, the metallurgic and textile industries in all their branches, milling, brewing and chemicals; paper, leather and silk; cloth, *objets de luxe* and millinery; physical and musical instruments; sugar, tobacco factories and foodstuffs. The very extensive commerce of the province has also its centre in Vienna. The population of Lower Austria in 1900 was 3,100,493, which corresponds to 405 inhabitants per sq. m. It is, therefore, the most densely populated province of Austria. According

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to the language in common use, 95% of the population was German, 4.66% was Czech, and the remainder was composed of Poles, Slovaks, Ruthenians, Croatians and Italians. According to religion 92.47% of the inhabitants were Roman Catholics; 5.07% were Jews; 2.11% were Protestants and the remainder belonged to the Greek church. In the matter of education, Lower Austria is one of the most advanced provinces of Austria, and 99.8% of the children of school-going age attended school regularly in 1900. The local diet is composed of 78 members, of which the archbishop of Vienna, the bishop of St Pölten and the rector of the Vienna University are members *ex officio*. Lower Austria sends 64 members, to the Imperial Reichsrat at Vienna. For administrative purposes, the province is divided into 22 districts and three towns with autonomous municipalities: Vienna (1,662,269), the capital (since 1905 including Floridsdorf, 36,599), Wiener-Neustadt (28,438) and Waidhofen on the Ybbs (4447). Other principal towns are: Baden (12,447), Bruck on the Leitha (5134), Schwechat (8241), Korneuburg (8298), Stokerau (10,213), Krems (12,657), Mödling (15,304), Reichenau (7457), Neunkirchen (10,831), St Pölten (14,510) and Klosterneuburg (11,595).

The original archduchy, which included Upper Austria, is the nucleus of the Austrian empire, and the oldest possession of the house of Habsburg in its present dominions.

See F. Umlauft, *Das Erzherzogtum Österreich unter der Enns*, vol. i. of the collection *Die Lander*

Österreich-Ungarns in Wort und Bild (Vienna, 1881-1889, 15 vols.); *Die österreichisch-ungarische Monarchie in Wort und Bild*, vol. 4. (Vienna. 1886-1902, 24 vols.); M. Vansca, *Gesch. Nieder- u. Ober-Österreichs* (in Heeren's *Staatengesch.*, Gotha, 1905).

AUSTRIA, UPPER (Ger. *Oberösterreich* or *Österreich ob der Enns*, "Austria above the river Enns"), an archduchy and crown-land of Austria, bounded N. by Bohemia, W. by Bavaria, S. by Salzburg and Styria, and E. by Lower Austria. It has an area of 4631 sq. m. Upper Austria is divided by the Danube into two unequal parts. Its smaller northern part is a prolongation of the southern angle of the Bohemian forest and contains as culminating points the Plöcklstein (4510 ft.) and the Sternstein (3690 ft.). The southern part belongs to the region of the Eastern Alps, containing the Salzkammergut and Upper Austrian Alps, which are found principally in the district of Salzkammergut (*q.v.*). To the north of these mountains, stretching towards the Danube, is the Alpine foothill region, composed partly of terraces and partly of swelling undulations, of which the most important is the Hausruckwald. This is a wooded chain of mountains, with many branches, rich in brown coal and culminating in the Göblberg (2950 ft.). Upper Austria belongs to the watershed of the Danube, which flows through it from west to east, and receives here on the right the Inn with the Salzach, the Traun, the Enns with the Steyr and on its left the Great and Little Mühl rivers. The Schwarzenberg canal between the Great Mühl and the Moldau establishes a direct navigable route between the Danube and the Elbe. The climate of Upper Austria, which varies according to the altitude, is on the whole moderate; it is somewhat severe in the north, but is mild in Salzkammergut. The population of the duchy in 1900 was 809,918, which is equivalent to 174.8 inhabitants per sq. m. It has the greatest density of population of any of the Alpine provinces. The inhabitants are almost exclusively of German stock and Roman Catholics. For administrative purposes, Upper Austria is divided into two autonomous municipalities, Linz (58,778) the capital, and Steyr (17,592) and 12 districts. Other principal towns are Wels (12,187), Ischl (9646) and Gmunden (7126). The local diet, of which the bishop of Linz is a member *ex officio*, is composed of 50 members and the duchy sends 22 members to the Reichsrat at Vienna. The soil in the valleys and on the lower slopes of the hills is fertile, indeed 35.08% of the whole area is arable. Agriculture is well developed and relatively large quantities of the principal cereals are produced. Upper Austria has the largest proportion of meadows in all Austria, 18.54%, while 2.49% is lowland and Alpine pasturage. Of the remainder, woods occupy 34.02%, gardens 1.99% and 4.93% is unproductive. Cattle-breeding is also in a very advanced stage and together with the timber-trade forms a considerable resource of the province. The principal mineral wealth of Upper Austria is salt, of which it extracts nearly 50% of the total Austrian production. Other important products are lignite, gypsum and a variety of valuable stones and clays. There are about thirty mineral springs, the best known being the salt baths of Ischl and the iodine waters at Hall. The principal industries are the iron and metal manufactures, chiefly centred at Steyr. Next in importance are the machine, linen, cotton and paper manufactures, the milling, brewing and distilling industries and shipbuilding. The principal articles of export are salt, stone, timber, live-stock, woollen and iron wares and paper.

See Edlbacher, *Landeskunde von Oberösterreich* (Linz, 2nd ed., 1883); Vansca, *op. cit.* in the preceding article.

AUSTRIA-HUNGARY, or the AUSTRO-HUNGARIAN MONARCHY (Ger. *Österreichisch-ungarische Monarchie* or *Österreichisch-ungarisches Reich*), the official name of a country situated in central Europe, bounded E. by Russia and Rumania, S. by Rumania, Servia, Turkey and Montenegro, W. by the Adriatic Sea, Italy, Switzerland, Liechtenstein, and the German Empire, and N. by the German Empire and Russia. It occupies about the sixteenth part of the total area of Europe, with an area (1905) of 239,977 sq. m. The monarchy consists of two independent states: the kingdoms and lands represented in the council of the empire (*Reichsrat*), unofficially called Austria (*q.v.*) or Cisleithania; and the "lands of St Stephen's Crown," unofficially called Hungary (*q.v.*) or Transleithania. It received its actual name by the diploma of the emperor Francis Joseph I. of the 14th of November 1868, replacing the name of the Austrian Empire under which the dominions under his sceptre were formerly known. The Austro-Hungarian monarchy is very often called unofficially the Dual Monarchy. It had in 1901 a population of 45,405,267 inhabitants, comprising therefore within its borders, about one-eighth of the total population of Europe. By the Berlin Treaty of 1878 the principalities of Bosnia and Herzegovina with an area of 19,702 sq. m., and a population (1895) of 1,591,036 inhabitants, owning Turkey as suzerain, were placed under the administration of Austria-Hungary, and their annexation in 1908 was recognized by the Powers in 1909, so that they became part of the dominions of the monarchy.

Government.—The present constitution of the Austro-Hungarian monarchy (see AUSTRIA) is based on the Pragmatic Sanction of the emperor Charles VI., first promulgated on the 19th of April 1713, whereby the succession to the throne is settled in the dynasty of Habsburg-Lorraine, descending by right of primogeniture and lineal succession to male heirs, and, in case of their extinction, to the female line, and whereby the indissolubility and indivisibility of the monarchy are determined; is based, further, on the diploma of the emperor Francis Joseph I. of the 20th of October 1860, whereby the constitutional form of government is introduced; and, lastly, on the so-called *Ausgleich* or "Compromise," concluded on the 8th of February 1867, whereby the relations between Austria and Hungary were regulated.

The two separate states—Austria and Hungary—are completely independent of each other, and each has its own parliament and its own government. The unity of the monarchy is expressed in the common head of the state, who bears the title Emperor of Austria and Apostolic King of Hungary, and in the common administration of a series of affairs, which affect both halves of the

Dual Monarchy. These are: (1) foreign affairs, including diplomatic and consular representation abroad; (2) the army, including the navy, but excluding the annual voting of recruits, and the special army of each state; (3) finance in so far as it concerns joint expenditure.

For the administration of these common affairs there are three joint ministries: the ministry of foreign affairs and of the imperial and royal house, the ministry of war, and the ministry of finance. It must be noted that the authority of the joint ministers is restricted to common affairs, and that they are not allowed to direct or exercise any influence on affairs of government affecting separately one of the halves of the monarchy. The minister of foreign affairs conducts the international relations of the Dual Monarchy, and can conclude international treaties. But commercial treaties, and such state treaties as impose burdens on the state, or parts of the state, or involve a change of territory, require the parliamentary assent of both states. The minister of war is the head for the administration of all military affairs, except those of the Austrian *Landwehr* and of the Hungarian *Honveds*, which are committed to the ministries for national defence of the two respective states. But the supreme command of the army is vested in the monarch, who has the power to take all measures regarding the whole army. It follows, therefore, that the total armed power of the Dual Monarchy forms a whole under the supreme command of the sovereign. The minister of finance has charge of the finances of common affairs, prepares the joint budget, and administers the joint state debt. (Till 1909 the provinces of Bosnia and Herzegovina were also administered by the joint minister of finance, excepting matters exclusively dependent on the minister of war.) For the control of the common finances, there is appointed a joint supreme court of accounts, which audits the accounts of the joint ministries.

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Budget.—Side by side with the budget of each state of the Dual Monarchy, there is a common budget, which comprises the expenditure necessary for the common affairs, namely for the conduct of foreign affairs, for the army, and for the ministry of finance. The revenues of the joint budget consist of the revenues of the joint ministries, the net proceeds of the customs, and the quota, or the proportional contributions of the two states. This quota is fixed for a period of years, and generally coincides with the duration of the customs and commercial treaty. Until 1897 Austria contributed 70%, and Hungary 30% of the joint expenditure, remaining after-deduction of the common revenue. It was then decided that from 1897 to July 1907 the quota should be 66-46/49 for Austria, and 33-2/49 for Hungary. In 1907 Hungary's contribution was raised to 36.4%. Of the total charges 2% is first of all debited to Hungary on account of the incorporation with this state of the former military frontier.

The Budget estimates for the common administration were as follows in 1905:—

Revenue—	
Ministry of Foreign Affairs	£21,167
Ministry of War	305,907
Ministry of Finance	4,870
Board of Control	18
The Customs	4,780,000
Proportional contributions	15,650,448
Total	£20,762,410

Expenditure—	
Ministry of Foreign Affairs	£485,480
Ministry of War:—	
Army	12,679,160
Navy	2,306,100
Ministry of Finance	177,000
Board of Control	13,250
Extraordinary Military Expenditure	4,785,500
Extraordinary Military Expenditure in Bosnia	315,920
Total	£20,762,410

The following table gives in thousands sterling the joint budget for the years 1875-1905:—

Expenditure.

	1875.	1885.	1895.	1900.	1905.
Ministry of Foreign Affairs	396	368.7	333	433.4	493.8
Ministry of War (Army and Navy)	9005.4	10,085	12,539	13,887.5	18,087.7
Ministry of Finance	154.2	167.2	170.4	175	177.1
Supreme Court of Accounts	10.5	10.6	10.7	12.5	13.3
Total	9566.1	10,631.5	13,053.1	14,508.4	20,430.3

Revenue.

For the above Departments	432	258.2	260.7	260.3	331.9
Customs	997.4	402.2	4476	5202.3	4799.7
Proportional Contributions	8136.7	9971.1	8316.4	9045.8	15,650.4
Total	9566.1	10,631.5	13,053.1	14,508.4	20,430.3

Debt.—Besides the debts of each state of the Dual Monarchy, there is a general debt, which is borne jointly by Austria and Hungary. The following table gives in millions sterling the amount of the general debt for the years 1875-1905:—

1875.	1885.	1895.	1900.	1905.
232.41	231.02	229.67	226.81	224.31

Delegations.—The constitutional right of voting money applicable to the common affairs and of its political control is exercised by the Delegations, which consist each of sixty members, chosen for one year, one-third of them by the Austrian Herrenhaus (Upper House) and the Hungarian Table of Magnates (Upper House), and two-thirds of them by the Austrian and the Hungarian Houses of Representatives. The delegations are annually summoned by the monarch alternately to Vienna and to Budapest. Each delegation has its separate sittings, both alike public. Their decisions are reciprocally communicated in writing, and, in case of non-agreement, their deliberations are renewed. Should three such interchanges be made without agreement, a common plenary sitting is held of an equal number of both delegations; and these collectively, without discussion, decide the question by common vote. The common decisions of both houses require for their validity the sanction of the monarch. Each delegation has the right to formulate resolutions independently, and to call to account and arraign the common ministers. In the exercise of their office the members of both delegations are irresponsible, enjoying constitutional immunity.

Army.—The military system of the Austro-Hungarian monarchy is similar in both states, and rests since 1868 upon the principle of the universal and personal obligation of the citizen to bear arms. Its military force is composed of the common army (*K. und K.*); the special armies, namely the Austrian (*K.K.*) *Landwehr*, and the Hungarian *Honveds*, which are separate national institutions, and the *Landsturm* or levy-in-mass. As stated above, the common army stands under the administration of the joint minister of war, while the special armies are under the administration of the respective ministries of national defence. The yearly contingent of recruits for the army is fixed by the military bills voted by the Austrian and Hungarian parliaments, and is generally determined on the basis of the population, according to the last census returns. It amounted in 1905 to 103,100 men, of which Austria furnished 59,211 men, and Hungary 43,889. Besides 10,000 men are annually allotted to the Austrian Landwehr, and 12,500 to the Hungarian Honveds. The term of service is 2 years (3 years in the cavalry) with the colours, 7 or 8 in the reserve and 2 in the Landwehr; in the case of men not drafted to the active army the same total period of service is spent in various special reserves.

For the military and administrative service of the army the Dual Monarchy is divided into 16 military territorial districts (15 of which correspond to the 15 army corps) and 108 supplementary districts (105 for the army, and 3 for the navy). In 1902, since which year no material change was made in the formal organization of the army, there were 5 cavalry divisions and 31 infantry divisions, formed in 15 army corps, which are located as follows:—I. Cracow, II. Vienna, III. Graz, IV. Budapest, V. Pressburg, VI. Kaschau, VII. Temesvár, VIII. Prague, IX. Josefstadt, X. Przemysl, XI. Lemberg, XII. Herrmannstadt, XIII. Agram, XIV. Innsbruck, XV. Serajewo. In addition there is the military district of Zara. The usual strength of the corps is, 2 infantry divisions (4 brigades, 8 or 9 regiments, 32 or 36 battalions), 1 cavalry brigade (18 squadrons), and 1 artillery brigade (16-18 batteries or 128-144 field-guns), besides technical and departmental units and in some cases fortress artillery regiments. The infantry is organized into line regiments, Jäger and Tirolese regiments, the cavalry into dragoons, lancers, Uhlans and hussars, the artillery into regiments. The Austrian *Landwehr* (which retains the old designation *K.K.*, formerly applied to the Austrian regular army) is organized in 8 divisions of varying strength, the "Royal Hungarian" Landwehr or Honveds in 7 divisions, both Austrian and Hungarian Landwehr having in addition cavalry (Uhlans and hussars) and artillery. It is probable that a Landwehr or Honveds division will, in war, form part of each army corps except in the case of the Vienna corps, which has 3 divisions in peace. The remaining men of military age (up to 42) as usual form the *Landsturm*. It is to be noted that this Landsturm comprises many men who would elsewhere be classed as Landwehr.

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The strength of the Austro-Hungarian army on a peace footing was as follows in 1905:—

	Officers.	Men.	Horses.	Guns.
Infantry—				
Common Army	10,801	187,604	1,152	..
Austrian Landwehr	1,883	23,905	174	..
Hungarian Honveds	2,258	21,149	262	..
Cavalry—				
Common Army	1,890	45,486	40,740	..
Austrian Landwehr	170	1,861	1,282	..
Hungarian Honveds	390	4,170	3,510	..

Field Artillery	1,630	27,612	14,520	1,048
Fortress Artillery	408	7,722	131	..
Technical troops (Pioneers, and Railway and Telegraph Regiment)	588	9,935	19	..
Transport Service	461	4,312	3,097	..
Sanitary Service	85	3,062	..	..
Total	20,564	336,818	64,887	1,048
Belonging to the				
Common Army	15,863	285,733	59,659	1,048
Austrian Landwehr	2,053	25,766	1,456	..
Hungarian Honveds	2,648	25,319	3,772	..

The troops stationed in Bosnia and Herzegovina in 1905 (376 officers and 6372 men) are included in the total for the common army.

The peace strength of the active army in combatants is thus about 350,000 officers and men, inclusive of the two Landwehrs and of the Austrian "K.K." guards, the Hungarian crown guards, the gendarmerie, &c. The numbers of the Landsturm and the war strength of the whole armed forces are not published. It is estimated that the first line army in war would consist of 460,000 infantry, 49,000 cavalry, 78,000 artillery, 21,000 engineers, &c., beside train and non-combatant soldiers. The Landwehr and Honved would yield 219,000 infantry and 18,000 cavalry, and other reserves 223,000 men. These figures give an approximate total strength of 1,147,000, not inclusive of Landsturm.

Fortifications.—The principal fortifications in Austria-Hungary are: Cracow and Przemysl in Galicia; Komárom, the centre of the inland fortifications, Pétervárad, Ó-Arad and Temesvár in Hungary; Serajewo, Mostar and Bilek in Bosnia-Herzegovina. The Alpine frontiers, especially those in Tirol, have numerous fortifications, whose centre is formed by Trent and Franzensfeste; while all the military roads leading into Carinthia have been provided with strong defensive works, as at Malborgeth, Predil Pass, &c. The two capitals, Vienna and Budapest, are not fortified. On the Adriatic coast, the naval harbour of Pola is strongly fortified with sea and land defences; then come Trieste, and several places in Dalmatia, notably Zara and Cattaro.

Navy.—The Austro-Hungarian navy is mainly a coast defence force, and includes also a flotilla of monitors for the Danube. It is administered by the naval department of the ministry of war. It consisted in 1905 of 9 modern battleships, 3 armoured cruisers, 5 cruisers, 4 torpedo gunboats, 20 destroyers and 26 torpedo boats. There was in hand at the same time a naval programme to build 12 armourclads, 5 second-class cruisers, 6 third-class cruisers, and a number of torpedo boats. The headquarters of the fleet are at Pola, which is the principal naval arsenal and harbour of Austria; while another great naval station is Trieste.

Trade.—On the basis of the customs and commercial agreement between Austria and Hungary, concluded in 1867 and renewable every ten years, the following affairs, in addition to the common affairs of the monarchy, are in both states treated according to the same principles:—Commercial affairs, including customs legislation; legislation on the duties closely connected with industrial production—on beer, brandy, sugar and mineral oils; determination of legal tender and coinage, as also of the principles regulating the Austro-Hungarian Bank; ordinances in respect of such railways as affect the interests of both states. In conformity with the customs and commercial compact between the two states, renewed in 1899, the monarchy constitutes one identical customs and commercial territory, inclusive of Bosnia and Herzegovina and the principality of Liechtenstein.

The foreign trade of the Austro-Hungarian monarchy is shown in the following table:—

Year.	Imports.	Exports.
1900	£70,666,000	£80,916,000
1901	68,833,000	78,841,000
1902	71,666,000	79,708,000
1903	78,200,000	88,600,000
1904	85,200,000	86,200,000
1905	89,430,000	93,500,000

The following tables give the foreign trade of the Austro-Hungarian monarchy as regards raw material and manufactured goods:—

Imports.

Articles.	Value in Millions Sterling.				
	1900.	1901.	1902.	1903.	1904.
Raw material (including articles of food; raw material for agriculture and industry; and mining and smelting products.	41.5	40.5	41.8	45.9	51.9

Semi-manufactured goods	9.6	9.6	10.3	10.6	10.8
Manufactured goods	19.5	18.7	19.5	21.6	22.5

Exports.

Articles.	Value in Millions Sterling.				
	1900.	1901.	1902.	1903.	1904.
Raw material (as above)	34.1	34.1	35.9	39	35.3
Semi-manufactured goods	12.6	11.1	11.1	12.4	12.6
Manufactured goods.	34.2	33.3	32.8	37.2	38.3

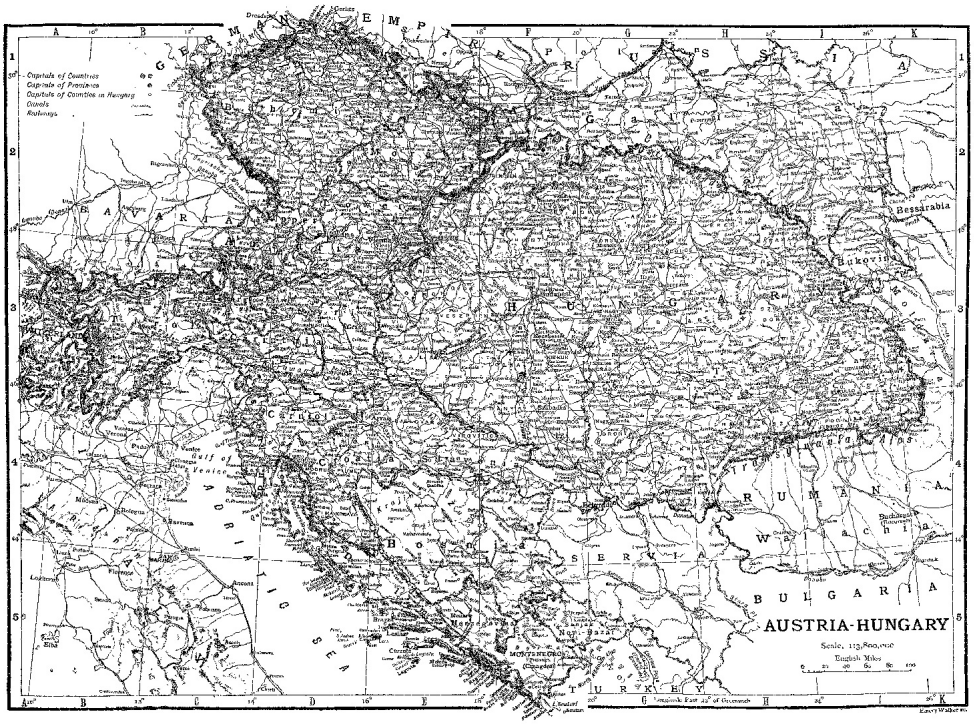
The most important place of derivation and of destination for the Austro-Hungarian trade is the German empire with about 40% of the imports, and about 60% of the exports. Next in importance comes Great Britain, afterwards India, Italy, the United States of America, Russia, France, Switzerland, Rumania, the Balkan states and South America in about the order named. The principal articles of import are cotton and cotton goods, wool and woollen goods, silk and silk goods, coffee, tobacco and metals. The principal articles of export are wood, sugar, cattle, glass and glassware, iron and ironware, eggs, cereals, millinery, fancy goods, earthenware and pottery, and leather goods.

The Austro-Hungarian Bank.—Common to the two states of the monarchy is the "Austro-Hungarian Bank," which possesses a legal exclusive right to the issue of bank-notes. It was founded in 1816, and had the title of the Austrian National Bank until 1878, when it received its actual name. In virtue of the new bank statute of the year 1899 the bank is a joint-stock company, with a stock of £8,780,000. The bank's notes of issue must be covered to the extent of two-fifths by legal specie (gold and current silver) in reserve; the rest of the paper circulation, according to bank usage. The state, under certain conditions, takes a portion of the clear profits of the bank. The management of the bank and the supervision exercised over it by the state are established on a footing of equality, both states having each the same influence. The accounts of the bank at the end of 1900 were as follows: capital, £8,750,000; reserve fund, £428,250; note circulation, £62,251,000; cash, £50,754,000. In 1907 the reserve fund was £548,041; note circulation, £84,501,000; cash, £60,036,625. The charter of the bank, which expired in 1897, was renewed until the end of 1910. In the Hungarian ministerial crisis of 1909 the question of the renewal of the charter played a conspicuous part, the more extreme members of the Independence party demanding the establishment of separate banks for Austria and Hungary with, at most, common superintendence (see *History*, below).

(O. Br.)

History

I. *The Whole Monarchy.*



The title "Emperor of Austria."

The empire of Austria, as the official designation of the territories ruled by the Habsburg monarchy, dates back only to 1804, when Francis II., the last of the Holy Roman emperors, proclaimed himself emperor of Austria as Francis I. His motive in doing so was to guard against the great house of

Habsburg being relegated to a position inferior to the *parvenus* Bonapartes, in the event of the final collapse of the Holy Roman Empire, or of the possible election of Napoleon as his own successor on the throne of Charlemagne. The title emperor of Austria, then, replaced that of "Imperator Romanorum semper Augustus" when the Holy Empire came to an end in 1806. From the first, however, it was no more than a title, which represented but ill the actual relation of the
[v.03 p.0005] Habsburg sovereigns to their several states. Magyars and Slavs never willingly recognized a style which ignored their national rights and implied the superiority of the German elements of the monarchy; to the Germans it was a poor substitute for a title which had represented the political unity of the German race under the Holy Empire. For long after the Vienna Congress of 1814-1815 the "Kaiser" as such exercised a powerful influence over the imaginations of the German people outside the Habsburg dominions; but this was because the title was still surrounded with its ancient halo and the essential change was not at once recognized. The outcome of the long struggle with Prussia, which in 1866 finally broke the spell, and the proclamation of the German empire in 1871 left the title of emperor of Austria stripped of everything but a purely territorial significance. It had, moreover, by the compact with Hungary of 1867, ceased even fully to represent the relation of the emperor to all his dominions; and the title which had been devised to cover the whole of the Habsburg monarchy sank into the official style of the sovereign of but a half; while even within the Austrian empire proper it is resented by those peoples which, like the Bohemians, wish to obtain the same recognition of their national independence as was conceded to Hungary. In placing the account of the origin and development of the Habsburg monarchy under this heading, it is merely for the sake of convenience.

Origin of the name Austria.

The first nucleus round which the present dominions of the house of Austria gradually accumulated was the mark which lay along the south bank of the Danube, east of the river Enns, founded about A.D. 800 as a defence for the Frankish kingdom against the Slavs. Although its total length from east to west was only about 60 m., it was associated in the popular mind with a large and almost unbroken tract of land in the east of Europe. This fact, together with the position of the mark with regard to Germany in general and to Bavaria in particular, accounts for the name *Österreich* (Austria), *i.e.* east empire or realm, a word first used in a charter of 996, where the phrase *in regione vulgari nomine Ostarrichi* occurs. The development of this small mark into the Austro-Hungarian monarchy was a slow and gradual process, and falls into two main divisions, which almost coincide with the periods during which the dynasties of Babenberg and Habsburg have respectively ruled the land. The energies of the house of Babenberg were chiefly spent in enlarging the area and strengthening the position of the mark itself, and when this was done the house of Habsburg set itself with remarkable perseverance and marvellous success to extend its rule over neighbouring territories. The many vicissitudes which have attended this development have not, however, altered the European position of Austria, which has remained the same for over a thousand years. Standing sentinel over the valley of the middle Danube, and barring the advance of the Slavs on Germany, Austria, whether mark, duchy or empire, has always been the meeting-place of the Teuton and the Slav. It is this fact which gives it a unique interest and importance in the history of Europe, and which unites the ideas of the Germans to-day with those of Charlemagne and Otto the Great.

Early inhabitants.

The southern part of the country now called Austria was inhabited before the opening of the Christian era by the Taurisci, a Celtic tribe, who were subsequently called the Norici, and who were conquered by the Romans about 14 B.C. Their land was afterwards included in the provinces of Pannonia and Noricum, and under Roman rule, Vindobona, the modern Vienna, became a place of some importance. The part of the country north of the Danube was peopled by the Marcomanni and the Quadi, and both of these tribes were frequently at war with the Romans, especially during the reign of the emperor Marcus Aurelius, who died at Vindobona in A.D. 180 when campaigning against them. Christianity and civilization obtained entrance into the land, but the increasing weakness of the Roman empire opened the country to the inroads of the barbarians, and during the period of the great migrations it was ravaged in quick succession by a number of these tribes, prominent among whom were the Huns. The lands on both banks of the river shared the same fate, due probably to the fact to which Gibbon has drawn attention, that at this period the Danube was frequently frozen over. About 590 the district was settled by the Slovenes, or Corutanes, a Slavonic people, who formed part of the kingdom of Samo, and were afterwards included in the extensive kingdom of the Avars. The Franks claimed some authority over this people, and probably some of the princes of the Slovenes had recognized this claim, but it could not be regarded as serious while the Avars were in possession of the land. In 791 Charlemagne, after he had established his authority over the *Bajuvarii* or Bavarians, crossed the river Enns, and moved against the Avars. This attack was followed by campaigns on the part of his lieutenants, and in 805 the Avars were finally subdued, and their land incorporated with the Frankish empire. This

Establishment of the East Mark.

step brought the later Austria definitely under the rule of the Franks, and during the struggle Charlemagne erected a mark, called the East Mark, to defend the eastern border of his empire. A series of margraves ruled this small district from 799 to 907, but as the Frankish empire grew weaker, the mark suffered more and more from the ravages of its eastern neighbours. During the 9th century the Frankish supremacy vanished, and the mark was overrun by the Moravians, and then by the Magyars, or Hungarians, who destroyed the few remaining traces of Frankish influence.

The house of Babenberg.

A new era dawned after Otto the Great was elected German king in 936, and it is Otto rather than Charlemagne who must be regarded as the real founder of Austria. In August 955 he gained a great victory over the

Magyars on the Lechfeld, freed Bavaria from their presence, and refounded the East Mark for the defence of his kingdom. In 976 his son, the emperor Otto II., entrusted the government of this mark, soon to be known as Austria, to Leopold, a member of the family of Babenberg (*q.v.*), and its administration was conducted with vigour and success. Leopold and his descendants ruled Austria until the extinction of the family in 1246, and by their skill and foresight raised the mark to an important place among the German states. Their first care was to push its eastern frontier down the Danube valley, by colonizing the lands on either side of the river, and the success of this work may be seen in the removal of their capital from Pöchlarn to Melk, then to Tulln, and finally about 1140 to Vienna. The country as far as the Leitha was subsequently incorporated with Austria, and in the other direction the district between the Enns and the Inn was added to the mark in 1156, an important date in Austrian history. Anxious to restore peace to Germany in this year, the new king, Frederick I., raised Austria to the rank of a duchy, and conferred upon it exceptional privileges. The investiture was bestowed not only upon Duke Henry but upon his second wife, Theodora; in case of a failure of male heirs the duchy was to descend to females; and if the duke had no children he could nominate his successor. Controlling all the jurisdiction of the land, the duke's only duties towards the Empire were to appear at any diet held in Bavaria, and to send a contingent to the imperial army for any campaigns in the countries bordering upon Austria. In 1186 Duke Leopold I. made a treaty with Ottakar IV., duke of Styria, an arrangement which brought Styria and upper Austria to the Babenbergs in 1192, and in 1229 Duke Leopold II. purchased some lands from the bishop of Freising, and took the title of lord of Carniola. When the house of Babenberg became extinct in 1246, Austria, stretching from Passau almost to Pressburg, had the frontiers which it retains to-day, and this increase of territory had been accompanied by a corresponding increase in wealth and general prosperity. The chief reason for this prosperity was the growth of trade along the Danube, which stimulated the foundation, or the growth, of towns, and brought considerable riches to the ruler. Under the later Babenbergs Vienna was regarded as one of the most important of German cities, and it was computed that the duke was as rich as the archbishop of Cologne, or the margrave of Brandenburg, and was surpassed in this respect by only one German prince, the king of Bohemia. The interests of the Austrian margraves and dukes were not confined to the acquisition of wealth either in land or chattels. Vienna became a centre of culture and learning, and many religious houses were founded and endowed. The acme of the early prosperity of Austria was reached under Duke Leopold II., surnamed the Glorious, who reigned from 1194 to 1230. He gave a code of municipal law to Vienna, and rights to other towns, welcomed the Minnesingers to his brilliant court, and left to his subjects an enduring memory of valour and wisdom. Leopold and his predecessors were enabled, owing to the special position of Austria, to act practically as independent rulers. Cherishing the privilege of 1156, they made treaties with foreign kings, and arranged marriages with the great families of Europe. With full control of jurisdiction and of commerce, no great bishopric nor imperial city impeded the course of their authority, and the emperor interfered only to settle boundary disputes.

Duchy of Austria created, 1156.

Duke Leopold II.

The main lines of Austrian policy under the Babenbergs were warfare with the Hungarians and other eastern neighbours, and a general attitude of loyalty towards the emperors. The story of the Hungarian wars is a monotonous record of forays, of assistance given at times to the Babenbergs by the forces of the Empire, and ending in the gradual eastward advance of Austria. The traditional loyalty to the emperors, which was cemented by several marriages between the imperial house and the Babenbergs, was, however, departed from by the margrave Leopold II., and by Duke Frederick II. During the investiture struggle Leopold deserted the emperor Henry IV., who deprived him of Austria and conferred it upon Vratislav II., duke of the Bohemians. Unable to maintain his position, Vratislav was soon driven out, and in 1083 Leopold again obtained possession of the mark, and was soon reconciled with Henry. Very similar was the result of the conflict between the emperor Frederick II. and Duke Frederick II. Ignoring the the privilege of 1156, the emperor claimed certain rights in Austria, and summoned the duke to his Italian diets. Frederick, who was called the Quarrelsome, had irritated both his neighbours and his subjects, and complaints of his exactions and confiscations reached the ears of the emperor. After the duke had three times refused to appear before the princes, Frederick placed him under the ban, declared the duchies of Austria and Styria to be vacant, and, aided by the king of Bohemia, the duke of Bavaria and other princes, invaded the country in 1236. He met with very slight opposition, declared the duchies to be immediately dependent upon the Empire, made Vienna an imperial city, and imposed other changes upon the constitution of Austria. After his departure, however, the duke returned, and in 1239 was in possession of his former power, while the changes made by the emperor were ignored. Continuing his career of violence and oppression, Duke Frederick was killed in battle by the Hungarians in June 1246, when the family of Babenberg became extinct.

Duke Frederick II., the Quarrelsome.

End of the House of Babenberg.

The duchies of Austria and Styria were now claimed by the emperor Frederick II. as vacant fiefs of the Empire, and their government was entrusted to Otto II., duke of Bavaria. Frederick, however, who was in Italy, harassed and afflicted, could do little to assert the imperial authority, and his enemy, Pope Innocent IV., bestowed the two duchies upon Hermann VI., margrave of Baden, whose wife, Gertrude, was a niece of the last of the Babenbergs. Hermann was invested by the German king, William, count of Holland, but he was unable to establish his position, and law and

Dispute as to the Austrian succession.

order were quickly disappearing from the duchies. The deaths of Hermann and of the emperor in 1250, however, paved the way for a settlement. Weary of struggle and disorder, and despairing of any help from the central authority, the estates of Austria met at Trübensee in 1251, and chose Ottakar, son of Wenceslaus I., king of Bohemia, as their duke. This step was favoured by the pope, and Ottakar, eagerly accepting the offer, strengthened his position by marrying Margaret, a sister of Duke Frederick II., and in return for his investiture promised his assistance to William of Holland. Styria appears at this time to have shared the fortunes of Austria, but it was claimed by Bela IV., king of Hungary, who conquered the land, and made a treaty with Ottakar in 1254 which confirmed him in its possession. The Hungarian rule was soon resented by the Styrians, and Ottakar, who had become king of Bohemia in 1253, took advantage of this resentment, and interfered in the affairs of the duchy. A war with Hungary was the result, but on this occasion victory rested with Ottakar, and by a treaty made with Bela, in March 1261, he was recognized as duke of Styria. In 1269 Ottakar inherited the duchy of Carinthia on the death of Duke Ulrich III., and, his power having now become very great, he began to aspire to the German throne. He did something to improve the condition of the duchies by restoring order, introducing German colonists into the eastern districts, and seeking to benefit the inhabitants of the towns.

Ottakar of Bohemia, duke.

In 1273 Rudolph, count of Habsburg, became German king, and his attention soon turned to Ottakar, whose power menaced the occupant of the German throne. Finding some support in Austria, Rudolph questioned the title of the Bohemian king to the three duchies, and sought to recover the imperial lands which had been in the possession of the emperor Frederick II. Ottakar was summoned twice before the diet, the imperial court declared against him, and in July 1275 he was placed under the ban. War was the result, and in November 1276 Ottakar submitted to Rudolph, and renounced the duchies of Austria, Styria and Carinthia. For some time the three duchies were administered by Rudolph in his capacity as head of the Empire, of which they formed part. Not content with this tie, however, which was personal to himself alone, the king planned to make them hereditary possessions of his family, and to transfer the headquarters of the Habsburgs from the Rhine to the Danube. Some opposition was offered to this scheme; but the perseverance of the king overcame all difficulties, and one of the most important events in European history took place on the 27th of December 1282, when Rudolph invested his sons, Rudolph and Albert, with the duchies of Austria and Styria. He retained Carinthia in his own hands until 1286, when, in return for valuable services, he bestowed it upon Meinhard IV., count of Tirol. The younger Rudolph took no part in the government of Austria and Styria, which was undertaken by Albert, until his election as German king in 1298. Albert appears to have been rather an arbitrary ruler. In 1288 he suppressed a rising of the people of Vienna, and he made the fullest use of the ducal power in asserting his real or supposed rights. At this time the principle of primogeniture was unknown in the house of Habsburg, and for many years the duchies were ruled in common by two, or even three, members of the family. After Albert became German king, his two elder sons, Rudolph and Frederick, were successively associated with him in the government, and after his death in 1308, his four younger sons shared at one time or another in the administration of Austria and Styria. In 1314 Albert's son, Frederick, was chosen German king in opposition to Louis IV., duke of Upper Bavaria, afterwards the emperor Louis IV., and Austria was weakened by the efforts of the Habsburgs to sustain Frederick in his contest with Louis, and also by the struggle carried on between another brother, Leopold, and the Swiss. A series of deaths among the Habsburgs during the first half of the 14th century left Duke Albert II. and his four sons as the only representatives of the family. Albert ruled the duchies alone from 1344 to 1356, and after this date his sons began to take part in the government. The most noteworthy of these was Duke Rudolph IV., a son-in-law of the emperor Charles IV., who showed his interest in learning by founding the university of Vienna in 1365. Rudolph's chief aim was to make Austria into an independent state, and he forged a series of privileges the purport of which was to free the duchy from all its duties towards the Empire. A sharp contest with the emperor followed this proceeding, and the Austrian duke, annoyed that Austria was not raised to the dignity of an electorate by the Golden Bull of 1356, did not shrink from a contest with Charles. In 1361, however, he abandoned his pretensions, but claimed the title of archduke (*q.v.*) and in 1364 declared that the possessions of the Habsburgs were indivisible. Meanwhile the acquisition of neighbouring territories had been steadily pressed on. In 1335 the duchy of Carinthia, and a part of Carniola, were inherited by Dukes Albert II. and Otto, and in 1363 Rudolph IV. obtained the county of Tirol. In 1364 Carniola was made into an hereditary duchy; in 1374 part of Istria came under the rule of the Habsburgs; in 1382 Trieste submitted voluntarily to Austria, and at various times during the century, other smaller districts were added to the lands of the Habsburgs.

Rudolph of Habsburg.

The Habsburgs established in Austria, 1282.

Duke Rudolph IV.

[v.03 p.0007]

Rudolph IV. died childless in 1365, and in 1379 his two remaining brothers, Leopold III. and Albert III., made a division of their lands, by which Albert retained Austria proper and Carniola, and Leopold got Styria, Carinthia and Tirol. Leopold was killed in 1386 at the battle of Sempach, and Albert became guardian for his four nephews, who subsequently ruled their lands in common. The senior line which ruled in Austria was represented after the death of Duke Albert III. in 1395 by his son, Duke Albert IV., and then by his grandson, Duke Albert V., who became German king as Albert II. in 1438. Albert married Elizabeth, daughter of Sigismund, king of Hungary and Bohemia, and on the death of his father-in-law assumed these two crowns. He died in 1439, and just after his death a son was born to him, who was called Ladislaus Posthumus, and succeeded to the duchy of Austria

Minority of Ladislaus.

and to the kingdoms of Hungary and Bohemia. William and Leopold, the two eldest sons of Duke Leopold III., and, with their younger brothers Ernest and Frederick, the joint rulers of Styria, Carinthia and Tirol, died early in the 15th century, and in 1406 Ernest and Frederick made a division of their lands. Ernest became duke of Styria and Carinthia, and Frederick, count of Tirol. Ernest was succeeded in 1424 by his sons, Frederick and Albert, and Frederick in 1439 by his son, Sigismund, and these three princes were reigning when King Albert II. died in 1439. Frederick, who succeeded Albert as German king, and was soon crowned emperor as Frederick III., acted as guardian for Sigismund of Tirol, who was a minor, and also became regent of Austria in consequence of the infancy of Ladislaus. His rule was a period of struggle and disorder, owing partly to the feebleness of his own character, partly to the wish of his brother, Albert, to share his dignities. The Tirolese soon grew weary of his government, and, in 1446, Sigismund was declared of age. The estates of Austria were equally discontented and headed an open revolt, the object of which was to remove Ladislaus from Frederick's charge and deprive the latter of the regency. The leading spirit in this movement was Ulrich Eiczing (Eitzing or von Eiczinger, d. before 1463), a low-born adventurer, ennobled by Albert II., in whose service he had accumulated vast wealth and power. In 1451 he organized an armed league, and in December, with the aid of the populace, made himself master of Vienna, whither he had summoned the estates. In March 1452 he was joined by Count Ulrich of Cilli, while the Hungarians and the powerful party of the great house of Rosenberg in Bohemia attached themselves to the league. Frederick, who had hurried back from Italy, was besieged in August in the Vienna Neustadt, and was forced to deliver Ladislaus to Count Ulrich, whose influence had meanwhile eclipsed that of Eiczing. Ladislaus now ruled nominally himself, under the tutelage of Count Ulrich. The country was, however, distracted by quarrels between the party of the high aristocracy, which recognized the count of Cilli as its chief, and that of the lesser nobles, citizens and populace, who followed Eiczing. In September 1453 the latter, by a successful *émeute*, succeeded in ousting Count Ulrich, and remained in power till February 1455, when the count once more entered Vienna in triumph. Ulrich of Cilli was killed before Belgrade in November 1456; a year later Ladislaus himself died (November 1457). Meanwhile Styria and Carinthia were equally unfortunate under the rule of Frederick and Albert; and the death of Ladislaus led to still further complications. Austria, which had been solemnly created an archduchy by the emperor Frederick in 1453, was claimed by the three remaining Habsburg princes, and lower Austria was secured by Frederick, while Albert obtained upper Austria. Both princes were unpopular, and in 1462 Frederick was attacked by the inhabitants of Vienna, and was forced to surrender lower Austria to Albert, whose spendthrift habits soon made his rule disliked. A further struggle between the brothers was prevented by Albert's death in 1463, when the estates did homage to Frederick. The emperor was soon again at issue with the Austrian nobles, and was attacked by Matthias Corvinus, king of Hungary, who drove him from Vienna in 1485. Although hampered by the inroads of the Turks, Matthias pressed on, and by 1487 was firmly in possession of Austria, Styria and Carinthia, which seemed quite lost to the Habsburgs.

Regency of the emperor Frederick III.

Popular revolt under Ulrich Eiczing and Count Ulrich of Cilli.

Austria created an archduchy.

Hungarian conquest of Austria.

The decline in the fortunes of the family, however, was to be arrested by Frederick's son, Maximilian, afterwards the emperor Maximilian I., who was the second founder of the greatness of the house of Habsburg. Like his ancestor, Rudolph, he had to conquer the lands over which his descendants were destined to rule, and by arranging a treaty of succession to the kingdoms of Hungary and Bohemia, he pointed the way to power and empire in eastern Europe. Soon after his election as king of the Romans in 1486, Maximilian attacked the Hungarians, and in 1490 he had driven them from Austria, and recovered his hereditary lands. In the same year he made an arrangement with his kinsman, Sigismund of Tirol, by which he brought this county under his rule, and when the emperor Frederick died in 1493, Maximilian united the whole of the Austrian lands under his sway. Continuing his acquisitions of territory, he inherited the possessions of the counts of Görz in 1500, added some districts to Tirol by intervening in a succession war in Bavaria, and acquired Gradisca in 1512 as the result of a struggle with Venice. He did much for the better government of the Austrian duchies. Bodies were established for executive, financial and judicial purposes, the Austrian lands constituted one of the imperial circles which were established in 1512, and in 1518 representatives of the various diets (*Landtage*) met at Innsbruck, a proceeding which marks the beginning of an organic unity in the Austrian lands. In these ways Maximilian proved himself a capable and energetic ruler, although his plans for making Austria into a kingdom, or an electorate, were abortive.

The emperor Maximilian I.

At the close of the middle ages the area of Austria had increased to nearly 50,000 sq. m., but its internal condition does not appear to have improved in proportion to this increase in size. The rulers of Austria lacked the prestige which attached to the electoral office, and, although five of them had held the position of German king, the four who preceded Maximilian had added little or nothing to the power and dignity of this position. The ecclesiastical organization of Austria was imperfect, so long as there was no archbishopric within its borders, and its clergy owed allegiance to foreign prelates. The work of unification which was so successfully accomplished by Maximilian was aided by two events, the progress of the Turks in south-eastern Europe, and the loss of most of the Habsburg possessions on the Rhine. The first tended to draw the separate states together for purposes of defence, and the second turned the attention of the Habsburgs to the possibilities of

Austria at the close of the middle ages.

expansion in eastern Europe.

(A. W. H.*)

Austria under Charles V. and Ferdinand.

At the time of the death of the emperor Maximilian in 1519 the Habsburg dominions in eastern Germany included the duchies of Upper and Lower Austria, Styria, Carinthia, Carniola and the county of Tirol. Maximilian was succeeded as archduke of Austria as well as emperor by his grandson Charles of Spain, known in history as the emperor Charles V. To his brother
[v.03 p.0008] Ferdinand Charles resigned all his Austrian lands, including his claims on Bohemia and Hungary. Austria and Spain were thus divided, and, in spite of the efforts of the archduke Charles in the Spanish Succession War, were never again united, for at the battle of Mohács, on the 28th of August 1526, Suleiman the Magnificent defeated and killed Louis, king of Bohemia and of Hungary, whose sister Anne had married Ferdinand. By this victory the Turks conquered and retained, till the peace of Karlowitz in 1699, the greater part of Hungary. During most of his life Ferdinand was engaged in combating the Turks and in attempting to secure Hungary. In John Zápolya, who was supported by Suleiman, Ferdinand found an active rival. The Turks besieged Vienna in 1530 and made several invasions of Hungary and Austria. At length Ferdinand agreed to pay Suleiman an annual tribute for the small portion—about 12,228 sq. m.—of Hungary which he held. During Charles V.'s struggles with the German Protestants, Ferdinand preserved a neutral attitude, which contributed to gain Germany a short period of internal peace. Though Ferdinand himself did not take a leading part in German religious or foreign politics, the period was one of intense interest to Austria. Throughout the years from 1519 to 1648 there are, said Stubbs, two distinct ideas in progress which "may be regarded as giving a unity to the whole period.... The Reformation is one, the claims of the House of Austria is the other." Austria did not benefit from the reign of Charles V. The emperor was too much absorbed in the affairs of the rest of his vast dominions, notably those of the Empire, rent in two by religious differences and the secular ambitions for which those were the excuse, to give any effective attention to its needs. The peace of Augsburg, 1555, which recognized a dualism within the Empire in religion as in politics, marked the failure of his plan of union (see Charles V.; Germany; Maurice of Saxony); and meanwhile he had been able to accomplish nothing to rescue Hungary from the Turkish yoke. It was left for his brother Ferdinand, a ruler of consummate wisdom (1556-1564) "to establish the modern Habsburg-Austrian empire with its exclusive territorial interests, its administrative experiments, its intricacies of religion and of race."

Mohács and its results.

Charles V. and Austria.

The policy of Ferdinand and Maximillian II.

Before his death Ferdinand divided the inheritance of the German Habsburgs between his three sons. Austria proper was left to his eldest son Maximilian, Tirol to the archduke Ferdinand; and Styria with Carinthia and Carniola to the archduke Charles. Under the emperor Maximilian II. (1564-1576), who was also king of Bohemia and Hungary, a liberal policy preserved peace, but he was unable to free his government from its humiliating position of a tributary to the Turk, and he could do nothing to found religious liberty within his dominions on a permanent basis. The whole of Austria and nearly the whole of Styria were mainly Lutheran; in Bohemia, Silesia and Moravia, various forms of Christian belief struggled for mastery; and Catholicism was almost confined to the mountains of Tirol. The accession of Rudolph II.[1] (1576-1612), a fanatical Spanish Catholic, changed the situation entirely. Under him the Jesuits were encouraged to press on the counter-Reformation. In the early part of his reign there was hardly any government at all. In Bohemia a state of semi-independence existed, while Hungary preferred the Turk to the emperor. In both kingdoms Rudolph had failed to assert his sovereign power except in fitful attempts to extirpate heresy. With anarchy prevalent within the Austrian dominions some action became necessary. Accordingly in 1606 the archdukes made a compact agreeing to acknowledge the archduke Matthias as head of the family. This arrangement proved far from successful. Matthias, who was emperor from 1612 to 1619, proved unable to restore order, and when he died Bohemia was practically independent. His successor Ferdinand II. (1619-1637) was strong of will; and resolved to win back Germany to the Catholic faith. As archduke of Styria he had crushed out Protestantism in that duchy, and having been elected king of Bohemia in 1618 was resolved to establish there the rule of the Jesuits. His attempt to do so led to the outbreak of the Thirty Years' War (see Bohemia; Thirty Years' War). Till 1630 the fortunes of Austria brightened under the active rule of Ferdinand, who was assisted by Maximilian of Bavaria and the Catholic League, and by Wallenstein. The Palatinate was conquered, the Danish king was overthrown, and it seemed that Austria would establish its predominance over the whole of Germany, and that the Baltic would become an Austrian lake. The fortunes of Austria never seemed brighter than in 1628 when Wallenstein began the siege of Stralsund. His failure, followed by the arrival of Gustavus Adolphus in Germany in 1630, proved the death blow of Austrian hopes. In 1632 Gustavus Adolphus was killed, in 1634 Wallenstein was assassinated, and in 1635 France entered into the war. The Thirty Years' War now ceased to be a religious struggle between Catholicism and Protestantism; it resolved itself into a return to the old political strife between France and the Habsburgs. Till 1648 the Bourbon and Habsburg powers continued the war, and at the peace of Westphalia Austria suffered severe losses. Ferdinand III. (1637-

The reign of Rudolph II.

The family compact, 1606.

The Thirty Years' War.

The Swedish and French intervention.

The peace of Westphalia, 1648.

1657) was forced to yield Alsace to France, to grant territorial supremacy, including the right of making alliances, to the states of the Empire, and to acknowledge the concurrent jurisdiction of the imperial chamber and the Aulic council. The disintegration of the Holy Roman Empire was now practically accomplished, and though the possession of the imperial dignity continued to give the rulers of Austria prestige, the Habsburgs henceforward devoted themselves to their Austrian interests rather than to those of the Empire.

Leopold I.

In 1657 Leopold I., who had already ruled the Austrian dominions for two years, succeeded his father Ferdinand and was crowned emperor in the following year. His long reign of 48 years was of great importance for Austria, as determining both the internal character and the external policy of the monarchy. The long struggle with France to which the ambitions of Louis XIV. gave rise, and which culminated in the War of Spanish Succession, belongs less to the history of Austria proper than to that of Germany and of Europe. Of more importance to Austria itself was the war with Sweden (1657-60) which resulted in the peace of Oliva, by which the independence of Poland was secured and the frontier of Hungary safeguarded, and the campaigns against the Turks (1662-64 and 1683-99), by which the Ottoman power was driven from Hungary, and the Austrian attitude towards Turkey and the Slav peoples of the Balkans determined for a century to come. The first war, due to Ottoman aggression in Transylvania, ended with Montecuculi's victory over the grand vizier at St Gothard on the Raab on the 1st of August 1664. The general political situation prevented Leopold from taking full advantage of this, and the peace of Vasvár (August 10) left the Turks in possession of Nagyvarad (Grosswardein) and the fortress of Érsekujvár (Neuhäusel), Transylvania being recognized as an independent principality. The next Turkish war was the direct outcome of Leopold's policy in Hungary, where the persecution of the Protestants and the suppression of the constitution in 1658, led to a widespread conspiracy. This was mercilessly suppressed; and though after a period of arbitrary government (1672-1679), the palatinate and the constitution, with certain concessions to the Protestants, were restored, the discontent continued. In 1683, invited by Hungarian malcontents and spurred on by Louis XIV., the Turks burst into Hungary, overran the country and appeared before the walls of Vienna. The victory of the 12th of September, gained over the Turks by John Sobieski (see John III. Sobieski, King of Poland) not only saved the Austrian capital, but was the first of a series of successes which drove the Turks permanently beyond the Danube, and established the power of Austria in the East. The victories of Charles of Lorraine at Párkány (1683) and Esztergom (Gran) (1685) were followed by the capture of Budapest (1686) and the defeat of the Ottomans at Mohács (1688). In 1688 the elector took Belgrade; in 1691 Louis William I. of Baden won the battle of Slankamen, and on the 11th of September 1697 Prince Eugene gained the crowning victory of Zenta. This was followed, on the 26th of January 1699, by the peace of Karlowitz, by which Slavonia, Transylvania and all Hungary, except the banat of Temesvár, were ceded to the Austrian crown. Leopold had wisely decided to initiate a conciliatory policy in Hungary. At the diet of Pressburg (1687-1688) the Hungarian crown had been made hereditary in the house of Habsburg, and the crown prince Joseph had been crowned hereditary king of Hungary (*q.v.*). In 1697 Transylvania was united to the Hungarian monarchy. A further fact of great prospective importance was the immigration, after an abortive rising against the Turks, of some 30,000 Slav and Albanian families into Slavonia and southern Hungary, where they were granted by the emperor Leopold a certain autonomy and the recognition of the Orthodox religion.

Wars with Turkey.

[v.03 p.0009]

By the conquest of Hungary and Transylvania Leopold completed the edifice of the Austrian monarchy, of which the foundations had been laid by Ferdinand I. in 1526. He had also done much for its internal consolidation. By the death of the archduke Sigismund in 1665 he not only gained Tirol, but a considerable sum of money, which he used to buy back the Silesian principalities of Oppeln and Ratibor, pledged by Ferdinand III. to the Poles. In the administration of his dominions, too, Leopold succeeded in strengthening the authority of the central government. The old estates, indeed, survived; but the emperor kept the effective power in his own hands, and to his reign are traceable the first beginnings of that system of centralized bureaucracy which was established under Maria Theresa and survived, for better or for worse, till the revolution of 1848. It was under Leopold, also, that the Austrian standing army was established in spite of much opposition; the regiments raised in 1672 were never disbanded. For the intellectual life of the country Leopold did much. In spite of his intolerant attitude towards religious dissent, he proved himself an enlightened patron of learning. He helped in the establishment of the universities of Innsbruck and Olmütz; and under his auspices, after the defeat of the Turks in 1683, Vienna began to develop from a mere frontier fortress into one of the most brilliant capitals of Europe. (See Leopold I.)

War of Spanish Succession.

Leopold died in 1705 during the war of Spanish Succession (1702-13), which he left as an evil inheritance to his sons Joseph I. (d. 1711) and Charles VI. The result of the war was a further aggrandizement of the house of Austria; but not to the extent that had been hoped. Apart from the fact that British and Austrian troops had been unable to deprive Philip V. of his throne, it was from the point of view of Europe at large by no means desirable that Charles VI. should succeed in reviving the empire of Charles V. By the treaty of Utrecht, accordingly, Spain was left to the House of Bourbon, while that of Austria received the Spanish Netherlands, Sardinia and Naples.

Austria from 1715 to 1740.

The treaty of Karlowitz, and the settlement of 1713-1714, marked a new starting-point in the history of Austria. The efforts of Turkey to regain her ascendancy in eastern Europe at the expense of the Habsburgs had ended in

failure, and henceforward Turkish efforts were confined to resisting the steady development of Austria in the direction of Constantinople. The treaties of Utrecht, Rastadt and Baden had also re-established and strengthened the position of the Austrian monarchy in western Europe. The days of French invasions of Germany had for the time ceased, and revenge for the attacks made by Louis XIV. was found in the establishment of Austrian supremacy in Italy and in the substitution of Austrian for Spanish domination in the Netherlands.

The situation, though apparently favourable, was full of difficulty, and only a statesman of uncommon dexterity could have guided Austria with success through the ensuing years. Composed of a congeries of nationalities which included Czechs, Magyars, Ruthenes, Rumanians, Germans, Italians, Flemings and other races, and with territories separated by many miles, the Habsburg dominions required from their ruler patience, tolerance, administrative skill and a full knowledge of the currents of European diplomacy. Charles VI. possessed none of these qualities; and when he died in 1740, the weakness of the scattered Habsburg empire rendered it an object of the cupidity of the continental powers. Yet, though the War of Spanish Succession had proved a heavy drain on the resources of the hereditary dominions of the Austrian crown, Charles VI. had done much to compensate for this by the successes of his arms in eastern Europe. In 1716, in alliance with Venice, he declared war on the Turks; Eugene's victory at Peterwardein involved the conquest of the banat of Temesvár, and was followed in 1717 by the capture of Belgrade. By the treaty signed at Passarowitz on the 21st of July 1718, the banat, which rounded off Hungary and Belgrade, with the northern districts of Servia, were annexed to the Habsburg monarchy.

Important as these gains were, the treaty none the less once more illustrated the perpetual sacrifice of the true interests of the hereditary dominions of the house of Habsburg to its European entanglements. Had the war continued, Austria would undoubtedly have extended her conquests down the Danube. But Charles was anxious about Italy, then in danger from Spain, which under Alberoni's guidance had occupied Sardinia and Sicily. On the 2nd of August 1718, accordingly, Charles joined the Triple Alliance, henceforth the Quadruple Alliance. The coercion of Spain resulted in a peace by which Charles obtained Sicily in exchange for Sardinia. The shifting of the balance of power that followed belongs to the history of Europe (*q.v.*); for Austria the only important outcome was that in 1731 Charles found himself isolated.

The Pragmatic Sanction.

Being without a son, he was now anxious to secure the throne for his daughter Maria Theresa, in accordance with the Pragmatic Sanction of the 19th of April 1713, in which he had pronounced the indivisibility of the monarchy, and had settled the succession on his daughter, in default of a male heir. It now became his object to secure the adhesion of the powers to this instrument. In 1731 Great Britain and Holland agreed to respect it, in return for the cession of Parma, Piacenza and Guastalla to Don Carlos; but the hostility of the Bourbon powers continued, resulting in 1733 in the War of Polish Succession, the outcome of which was the acquisition of Lorraine by France, and of Naples, Sicily and the Tuscan ports by Don Carlos, while the power of the Habsburg monarchy in northern Italy was strengthened by the acquisition of Parma, Piacenza and Guastalla. At the same time Spain and Sardinia adhered to the Pragmatic Sanction. Francis, the dispossessed duke of Lorraine, was to be compensated with Tuscany. On the 12th of February 1736 he was married to the archduchess Maria Theresa, and on the 11th of May following he signed the formal act ceding Lorraine to France.

Treaty of Belgrade, 1739.

The last years of Charles VI. were embittered by the disastrous outcome of the war with Turkey (1738-1739), on which he had felt compelled to embark in accordance with the terms of a treaty of alliance with Russia signed in 1726. After a campaign of varying fortunes the Turks beat the imperial troops at Krotzka on the 23rd of July 1739 and laid siege to Belgrade, where on the 1st of September a treaty was signed, which, with the exception of the banat, surrendered everything that Austria had gained by the treaty of Passarowitz. On the 20th of October 1740, Charles died, leaving his dominions in no condition to resist the attacks of the powers, which, in spite of having adhered to the Pragmatic Sanction, now sought to profit from their weakness. Yet for their internal development Charles had done much. His religious attitude was moderate and tolerant, and he did his best to promote the enlightenment of his subjects. He was zealous, too, for the promotion of trade and industry, and, besides the East India Company which he established at Ostend, he encouraged the development of Trieste and Fiume as sea-ports and centres of trade with the Levant.

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Maria Theresa.

The accession of Maria Theresa to the throne of the Habsburgs marks an important epoch in the history of Austria. For a while, indeed, it seemed that the monarchy was on the point of dissolution. To the diplomacy of the 18th century the breach of a solemn compact was but lightly regarded; and Charles VI. had neglected the advice of Prince Eugene to leave an effective army of 200,000 men as a more solid guarantee of the Pragmatic Sanction than the signatures of the powers. As it was, the Austrian forces, disorganized in the long confusion of the Turkish wars, were in no condition to withstand Frederick the Great, when in 1740, at the head of the splendid army bequeathed to him by his father, he invaded Silesia (see Austrian Succession, War of). The Prussian victory at Mollwitz (April 10, 1741) brought into the field against Austria all the powers which were ambitious of expansion at her expense: France, Bavaria, Spain, Saxony and Sardinia. Nor was the peril wholly external. Apart from the perennial discontents of Magyars and Slavs, the confusion and corruption of the administration, and the misery caused by the ruin of the finances, had made the Habsburg dynasty unpopular even in its German states, and in Vienna itself a large section of public opinion was loudly in favour of the claims of Charles of Bavaria. Yet the war, if it revealed

the weakness of the Austrian monarchy, revealed also unexpected sources of strength. Not the least of these was the character of Maria Theresa herself, who to the fascination of a young and beautiful woman added a very masculine resolution and judgment. In response to her personal appeal, and also to her wise and timely concessions, the Hungarians had rallied to her support, and for the first time in history awoke not only to a feeling of enthusiastic loyalty to a Habsburg monarch, but also to the realization that their true interests were bound up with those of Austria (see HUNGARY: *History*). Although, then, as the result of the war, Silesia was by the treaty of Dresden transferred from Austria to Prussia, while in Italy by the treaty of Aix-la-Chapelle in 1748 cessions were made at the expense of the house of Habsburg to the Spanish Don Philip and to Sardinia, the Austrian monarchy as a whole had displayed a vitality that had astonished the world, and was in some respects stronger than at the beginning of the struggle, notably in the great improvement in the army and in the possession of generals schooled by the experience of active service.

The period from 1747 to 1756, the year of the outbreak of the Seven Years' War, was occupied in preparations for carrying into effect the determination of Maria Theresa to recover the lost provinces. To give any chance of success, it was recognized that a twofold change of system was necessary: in internal and in external affairs. To strengthen the state internally a complete revolution of its administration was begun under the auspices of Count F. W. Haugwitz (1700-1765); the motley system which had survived from the middle ages was gradually replaced by an administrative machinery uniformly organized and centralized; and the army especially, hitherto patched together from the quotas raised and maintained by the various diets and provincial estates, was withdrawn from their interference. These reforms were practically confined to the central provinces of the monarchy; for in Hungary, as well as in the outlying territories of Lombardy and the Netherlands, it was recognized that the conservative temper of the peoples made any revolutionary change in the traditional system inadvisable.

Austrian-French alliance, and Seven Years' War.

Meanwhile, in foreign affairs, it had become clear that for Austria the enemy to be dreaded was no longer France, but Prussia, and Kaunitz prepared the way for a diplomatic revolution, which took effect when, on the 1st of May 1756, Austria and France concluded the first treaty of Versailles. The long rivalry between Bourbons and Habsburgs was thus ended, and France and Austria remained in alliance or at peace until the outbreak of the French Revolution. So far as Austria was concerned, the Seven Years' War (*q.v.*) in which France and Austria were ranged against Prussia and Great Britain, was an attempt on the part of Maria Theresa to recover Silesia. It failed; and the peace of Hubertsburg, signed on the 15th of February 1763, left Germany divided between Austria and Prussia, whose rivalry for the hegemony was to last until the victory of Königgrätz (1866) definitely decided the issue in favour of the Hohenzollern monarchy.

Austria and Bavaria.

The loss of Silesia led Austria to look for "compensation" elsewhere. The most obvious direction in which this could be sought was in Bavaria, ruled by the decadent house of Wittelsbach, the secular rival of the house of Habsburg in southern Germany. The question of the annexation of Bavaria by conquest or exchange had occupied the minds of Austrian statesmen throughout the century: it would not only have removed a perpetual menace to the peace of Austria, but would have given to the Habsburg monarchy an overwhelming strength in South Germany. The matter came to an issue in 1777, on the death of the elector Maximilian III. The heir was the elector palatine Charles Theodore, but Joseph II., who had been elected emperor in 1765, in succession to his father, and appointed co-regent with his mother—claimed the inheritance, and prepared to assert his claims by force. The result was the so-called War of Bavarian Succession. As a matter of fact, however, though the armies under Frederick and Joseph were face to face in the field, the affair was settled without actual fighting; Maria Theresa, fearing the chances of another struggle with Prussia, overruled her son at the last moment, and by the treaty of Teschen agreed to be content with the cession of the Quarter of the Inn (Innviertel) and some other districts.

Russia, Austria and the Ottoman Empire.

Meanwhile the ambition of Catherine of Russia, and the war with Turkey by which the empire of the tsars was advanced to the Black Sea and threatened to establish itself south of the Danube, were productive of consequences of enormous importance to Austria in the East. Russian control of the Danube was a far more serious menace to Austria than the neighbourhood of the decadent Ottoman power; and for a while the policy of Austria towards the Porte underwent a change that foreshadowed her attitude towards the Eastern Question in the 19th century. In spite of the reluctance of Maria Theresa, Kaunitz, in July 1771, concluded a defensive alliance with the Porte. He would have exchanged this for an active co-operation with Turkey, could Frederick the Great have been persuaded to promise at least neutrality in the event of a Russo-Austrian War. But Frederick was unwilling to break with Russia, with whom he was negotiating the partition of Poland; Austria in these circumstances dared not take the offensive; and Maria Theresa was compelled to purchase the modification of the extreme claims of Russia in Turkey by agreeing to, and sharing in, the spoliation of Poland. Her own share of the spoils was the acquisition, by the first treaty of partition (August 5, 1772), of Galicia and Lodomeria. Turkey was left in the lurch; and Austrian troops even occupied portions of Moldavia, in order to secure the communication between the new Polish provinces and Transylvania. At Constantinople, too, Austria once more supported Russian policy, and was rewarded, in 1777, by the acquisition of Bukovina from Turkey. In Italy the influence of the House of Austria had been strengthened by the marriage of the archduke Ferdinand with the

Partition of Poland.

heiress of the d'Estes of Modena, and the establishment of the archduke Leopold in the grand-duchy of Tuscany.

Internal reforms under Maria Theresa.

In internal affairs Maria Theresa may be regarded as the practical founder of the unified Austrian state. The new system of centralization has already been referred to. It only remains to add that, in carrying out this system, Maria Theresa was too wise to fall into the errors afterwards made by her son and successor. She was no doctrinaire, and consistently acted on the principle once laid down by Machiavelli, that while changing the substance, the prince should be careful to preserve the form of old institutions. Alongside the new bureaucracy, the old estates survived in somnolent inactivity, and even in Hungary, though the ancient constitution was left untouched, the diet was only summoned four times during the reign, and reforms were carried out, without protest, by
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The social, religious and educational reforms of Maria Theresa also mark her reign as the true epoch of transition from medieval to modern conditions in Austria. In religious matters the empress, though a devout Catholic and herself devoted to the Holy See, was carried away by the prevailing reaction, in which her ministers shared, against the pretensions of the papacy. The anti-papal tendency, known as Febronianism (*q.v.*), had made immense headway, not only among the laity but among the clergy in the Austrian dominions. By a new law, papal bulls could not be published without the consent of the crown, and the direct intercourse of the bishops with Rome was forbidden; the privileges of the religious orders were curtailed; and the education of the clergy was brought under state control. It was, however, only with reluctance that Maria Theresa agreed to carry out the papal bull suppressing the Society of Jesus; and, while declaring herself against persecution, she could never be persuaded to accept the views of Kaunitz and Joseph in favour of toleration. Parallel with the assertion of the rights of the state as against the church, was the revolution effected in the educational system of the monarchy. This, too, was taken from the control of the church; the universities were remodelled and modernized by the introduction of new faculties, the study of ecclesiastical law being transferred from that of theology to that of jurisprudence, and the elaborate system of elementary and secondary education was established, which survived with slight modification till 1869.

Joseph II. and "Josephinism."

The death of Maria Theresa in 1780 left Joseph II. free to attempt the drastic revolution from above, which had been restrained by the wise statesmanship of his mother. He was himself a strange incarnation at once of doctrinaire liberalism and the old Habsburg autocracy. Of the essential conditions of his empire he was constitutionally unable to form a conception. He was a disciple, not of Machiavelli, but of Rousseau; and his scattered dominions, divided by innumerable divergences of racial and class prejudice, and encumbered with traditional institutions to which the people clung with passionate conservatism, he regarded as so much vacant territory on which to build up his ideal state. He was, in fact, a Revolutionist who happened also to be an emperor. "Reason" and "enlightenment" were his watchwords; opposition to his wise measures he regarded as obscurantist and unreasonable, and unreason, if it proved stubborn, as a vice to be corrected with whips. In this spirit he at once set to work to reconstruct the state, on lines that strangely anticipated the principles of the Constituent Assembly of 1789. He refused to be crowned or to take the oath of the local constitutions, and divided the whole monarchy into thirteen departments, to be governed under a uniform system. In ecclesiastical matters his policy was also that of "reform from above," the complete subordination of the clergy to the state, and the severance of all effective ties with Rome. This treatment of the "Fakirs and Ulemas" (as he called them in his letters), who formed the most powerful element in the monarchy, would alone have ensured the failure of his plans, but failure was made certain by the introduction of the conscription, which turned even the peasants, whom he had done much to emancipate, against him. The threatened revolt of Hungary, and the actual revolt of Tirol and of the Netherlands (see Belgium: *History*) together with the disasters of the war with Turkey, forced him, before he died, to the formal reversal of the whole policy of reform.

In his foreign policy Joseph II. had been scarcely less unhappy. In 1784 he had resumed his plan of acquiring Bavaria for Austria by negotiating with the elector Charles Theodore its exchange for the Netherlands, which were to be erected for his benefit into a "Kingdom of Burgundy." The elector was not unwilling, but the scheme was wrecked by the opposition of the heir to the Bavarian throne, the duke of Zweibrücken, in response to whose appeal Frederick the Great formed, on the 23rd of July 1785, a confederation of German princes (*Fürstenbund*) for the purpose of opposing the threatened preponderance of Austria. Prussia was thus for the first time formally recognized as the protector of the German states against Austrian ambition, and had at the same time become the centre of an anti-Austrian alliance, which embraced Sweden, Poland and the maritime powers. In these circumstances the war with Turkey, on which Joseph embarked, in alliance with Russia, in 1788, would hardly have been justified by the most brilliant success. The first campaign, however, which he conducted in person was a dismal failure; the Turks followed the Austrian army, disorganized by disease, across the Danube, and though the transference of the command to the veteran marshal Loudon somewhat retrieved the initial disasters, his successes were more than counterbalanced by the alliance, concluded on the 31st of January 1790, between Prussia and Turkey. Three weeks later, on the 20th of February 1790, Joseph died broken-hearted.

Leopold II.

The situation needed all the statesmanship of the new ruler, Leopold II. This was less obvious in his domestic than in his foreign policy, though perhaps equally present. As grand-duke of Tuscany Leopold had won the reputation of an enlightened and liberal ruler; but meanwhile "Josephinism" had not been justified by its results, and the progress of the Revolution in France was beginning to scare even enlightened princes into reaction. Leopold, then, reverted to the traditional Habsburg methods; the old supremacy of the Church, regarded as the one effective bond of empire, was restored; and the *Einheitsstaat* was once more resolved into its elements, with the old machinery of diets and estates, and the old abuses. It was the beginning of that policy of "stability" associated later with Metternich, which was to last till the cataclysm of 1848. For the time, the policy was justified by its results. The spirit of revolutionary France had not yet touched the heart of the Habsburg empire, and national rivalries were expressed, not so much in expansive ambitions, as in a somnolent clinging to traditional privileges. Leopold, therefore, who made his début on the European stage as the executor of the ban of the Empire against the insurgent Liégeois, was free to pose as the champion of order against the Revolution, without needing to fear the resentment of his subjects. He played this role with consummate skill in the negotiations that led up to the treaty of Reichenbach (August 15, 1790), which ended the quarrel with Prussia and paved the way to the armistice of Giurgevo with Turkey (September 10). Leopold was now free to deal with the Low Countries, which were reduced to order before the end of the year. On the 4th of August 1791, was signed at Sistova the definitive peace with Turkey, which practically established the *status quo*.

Austria and the French Revolution.

On the 6th of October 1700, Leopold had been crowned Roman emperor at Frankfort, and it was as emperor, not as Habsburg, that he first found himself in direct antagonism to the France of the Revolution. The fact that Leopold's sister, Marie Antoinette, was the wife of Louis XVI. had done little to cement the Franco-Austrian alliance, which since 1763 had been practically non-existent; nor was it now the mainspring of his attitude towards revolutionary France. But by the decree of the 4th of August, which in the general abolition of feudal rights involved the possessions of many German princes *enclavés* in Alsace and Lorraine, the Constituent Assembly had made the first move in the war against the established European system. Leopold protested as sovereign of Germany; and the protest was soon enlarged into one made in the name of Europe. The circular letter of Count Kaunitz, dated the 6th of July 1791, calling on the sovereigns to unite against the Revolution, was at once the beginning of the Concert of Europe, and in a sense the last manifesto of the Holy Roman Empire as "the centre of political unity." But the common policy proclaimed in the famous declaration of Pillnitz (August 27), was soon wrecked upon the particular interests of
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the powers. Both Austria and Prussia were much occupied with the Polish question, and to have plunged into a crusade against France would have been to have left Poland, where the new constitution had been proclaimed on the 3rd of May, to the mercy of Russia. Towards the further development of events in France, therefore, Leopold assumed at first a studiously moderate attitude; but his refusal to respond to the demand of the French government for the dispersal of the corps of *émigrés* assembled under the protection of the German princes on the frontier of France, and the insistence on the rights of princes dispossessed in Alsace and Lorraine, precipitated the crisis. On the 25th of January 1792 the French Assembly adopted the decree declaring that, in the event of no satisfactory reply having been received from the emperor by the 1st of March, war should be declared. On the 7th of February Austria and Prussia signed at Berlin an offensive and defensive treaty of alliance. Thus was ushered in the series of stupendous events which were to change the face of Europe and profoundly to affect the destinies of Austria. Leopold himself did not live to see the beginning of the struggle; he died on the 1st of March 1792, the day fixed by the Legislative Assembly as that on which the question of peace or war was to be decided.

Effects of the Revolutionary Wars.

The events of the period that followed, in which Austria necessarily played a conspicuous part, are dealt with elsewhere (see Europe, French Revolutionary Wars, Napoleon, Napoleonic Campaigns). Here it will only be necessary to mention those which form permanent landmarks in the progressive conformation of the Austrian monarchy. Such was the second partition of Poland (January 23, 1793), which eliminated the "buffer state" on which Austrian statesmanship had hitherto laid such importance, and brought the Austrian and Russian frontiers into contact. Such, too, was the treaty of Campo Formio (October 17, 1797) which ended the first revolutionary war. By this treaty the loss of the Belgian provinces was confirmed, and though Austria gained Venice, the establishment of French preponderance in the rest of Italy made a breach in the tradition of Habsburg supremacy in the peninsula, which was to have its full effect only in the struggles of the next century. The rise of Napoleon, and his masterful interference in Germany, produced a complete and permanent revolution in the relations of Austria to the German states. The campaigns which issued in the treaty of Lunéville (February 9, 1801) practically sealed the fate of the old Empire. Even were the venerable name to survive, it was felt that it would pass, by the election of the princes now tributary to France, from the house of Habsburg to that of Bonaparte.

The "Empire of Austria."

Francis II. determined to forestall the possible indignity of the subordination of his family to an upstart dynasty. On the 14th of May 1804, Napoleon was proclaimed emperor of the French; on the 11th of August Francis II. assumed the style of Francis I., hereditary emperor of Austria. Two years later, when the defeat of Austerlitz had led to the treaty of Pressburg (January 1st, 1806) by which Austria lost Venice and Tirol, and Napoleon's Confederation of the Rhine had broken the unity of Germany, Francis

End of the Holy Roman Empire.

formally abdicated the title and functions of Holy Roman emperor (August 6, 1806).

Austria had to undergo further losses and humiliations, notably by the treaty of Vienna (1809), before the outcome of Napoleon's Russian campaign in 1812 gave her the opportunity for recuperation and revenge. The skilful diplomacy of Metternich, who was now at the head of the Austrian government, enabled Austria to take full advantage of the situation created by the disaster to Napoleon's arms. His object was to recover Austria's lost possessions and if possible to add to them, a policy which did not necessarily involve the complete overthrow of the French emperor. Austria, therefore, refused to join the alliance between Russia and Prussia signed on the 17th of March 1813, but pressed on her armaments so as to be ready in any event. Her opportunity came after the defeats of the Allies at Lützen and Bautzen and the conclusion of an armistice at Pleswitz. Between 200,000 and 300,000 Austrian troops were massed in Bohemia; and Austria took up the rôle of mediator, prepared to throw the weight of her support into the scale of whichever side should prove most amenable to her claims. The news of the battle of Vittoria, following on the reluctance of Napoleon to listen to demands involving the overthrow of the whole of his political system in Central Europe, decided Austria in favour of the Allies. By this fateful decision Napoleon's fall was assured. By the treaty of Trachenberg (July 12, 1813) the Grand Alliance was completed; on the 16th, 17th and 18th of October the battle of Leipzig was fought; and the victorious advance into France was begun, which issued, on the 11th of April 1814, in Napoleon's abdication. (See Napoleon, Napoleonic Campaigns, Europe.)

Congress of Vienna.

It was a recognition of the decisive part played by Austria in these great events that Vienna was chosen as the scene of the great international congress summoned (September 1814) for the purpose of re-establishing the balance of power in Europe, which Napoleon's conquests had upset. An account of the congress is given elsewhere (see Vienna, Congress of). The result for Austria was a triumphant vindication of Metternich's diplomacy. He had, it is true, been unable to prevent the retention of the grand-duchy of Warsaw by Alexander of Russia; but with the aid of Great Britain and France (secret treaty of January 3, 1815) he had frustrated the efforts of Prussia to absorb the whole of Saxony, Bavaria was forced to disgorge the territories gained for her by Napoleon at Austria's expense, Illyria and Dalmatia were regained, and Lombardy was added to Venetia to constitute a kingdom under the Habsburg crown; while in the whole Italian peninsula French was replaced by Austrian influence. In Germany the settlement was even more fateful for Austria's future. The Holy Empire, in spite of the protests of the Holy See, was not restored, Austria preferring the loose confederation of sovereign states (*Staatenbund*) actually constituted under her presidency. Such a body, Metternich held, "powerful for defence, powerless for offence," would form a guarantee of the peace of central Europe—and of the preponderance of Austria; and in its councils Austrian diplomacy, backed by the weight of the Habsburg power beyond the borders of Germany, would exercise a greater influence than any possible prestige derived from a venerable title that had become a by-word for the union of unlimited pretensions with practical impotence. Moreover, to the refusal to revive the Empire—which shattered so many patriotic hopes in Germany—Austria added another decision yet more fateful. By relinquishing her claim to the Belgian provinces and other outlying territories in western Germany, and by acquiescing in the establishment of Prussia in the Rhine provinces, she abdicated to Prussia her position as the bulwark of Germany against France, and hastened the process of her own gravitation towards the Slavonic East to which the final impetus was given in 1866.

Internal affairs of Austria under Francis II. and Metternich.

In order to understand the foreign policy of Austria, inseparably associated with the name of Metternich, during the period from the close of the congress of Vienna to the outbreak of the revolutions of 1848, it is necessary to know something of the internal conditions of the monarchy before and during this time. In 1792 Leopold II. had been succeeded by his son Francis II. His popular designation of "our good Kaiser Franz" this monarch owed to a certain simplicity of address and *bonhomie* which pleased the Viennese, certainly not to his serious qualities as a ruler. He shared to the full the autocratic temper of the Habsburgs, their narrow-mindedness and their religious and intellectual obscurantism; and the qualities which would have made him a kindly, if somewhat tyrannical, father of a family, and an excellent head clerk, were hardly those required by the conditions of the Austrian monarchy during a singularly critical period of its history.

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The personal character of the emperor, moreover, gained a special importance owing to the modifications that were made in the administrative system of the empire. This had been originally organized in a series of departments: Aulic chanceries for Austria, for Hungary and Transylvania, a general Aulic chamber for finance, domains, mines, trade, post, &c., an Aulic council of war, a general directory of accounts, and a chancery of the household, court and state. The heads of all these departments had the rank of secretaries of state and met in council under the royal presidency. In course of time, however, this body became too unwieldy for an effective cabinet, and Maria Theresa established the council of state. During the early years of the reign of Francis, the emperor kept himself in touch with the various departments by means of a cabinet minister; but he had a passion for detail, and after 1805 he himself undertook the function of keeping the administration together. At the same time he had no personal contact with ministers, who might communicate with him only in writing, and for months together never met for the discussion of business. The council of state was, moreover, itself soon enlarged and subdivided; and in course of time the emperor alone represented any synthesis of the various departments of the administration. The jurisdiction of the heads of departments, moreover, was strictly defined, and all that lay outside this was reserved for the imperial decision. Whatever was covered by

established precedent could be settled by the department at once; but matters falling outside such precedent, however insignificant, had to be referred to the throne.[2] A system so inelastic, and so deadening to all initiative, could have but one result. Gradually the officials, high and low, subjected to an elaborate system of checks, refused to take any responsibility whatever; and the minutest administrative questions were handed up, through all the stages of the bureaucratic hierarchy, to be shelved and forgotten in the imperial cabinet. For Francis could not possibly himself deal with all the questions of detail arising in his vast empire, even had he desired to do so. In fact, his attitude towards all troublesome problems was summed up in his favourite phrase, "Let us sleep upon it": questions unanswered would answer themselves.

The result was the gradual atrophy of the whole administrative machine. The Austrian government was not consciously tyrannical, even in Italy; and Francis himself, though determined to be absolute, intended also to be paternal. Nor would the cruelties inflicted on the bolder spirits who dared to preach reform, which made the Austrian government a by-word among the nations, alone have excited the passionate spirit of revolt which carried all before it in 1848. The cause of this is to be sought rather in the daily friction of a system which had ceased to be efficient and only succeeded in irritating the public opinion it was powerless to curb.

Metternich himself was fully conscious of the evil. He recognized that the fault of the government lay in the fact that it did not govern, and he deplored that his own function, in a decadent age, was but "to prop up mouldering institutions." He was not constitutionally averse from change; and he was too clear-sighted not to see that, sooner or later, change was inevitable. But his interest was in the fascinating game of diplomacy; he was ambitious of playing the leading part on the great stage of international politics; and he was too consummate a courtier to risk the loss of the imperial favour by any insistence on unpalatable reforms, which, after all, would perhaps only reveal the necessity for the complete revolution which he feared.

The alternative was to use the whole force of the government to keep things as they were. The disintegrating force of the ever-simmering racial rivalries could be kept in check by the army; Hungarian regiments garrisoned Italy, Italian regiments guarded Galicia, Poles occupied Austria, and Austrians Hungary. The peril from the infiltration of "revolutionary" ideas from without was met by the erection round the Austrian dominions of a Chinese wall of tariffs and censors, which had, however, no more success than is usual with such expedients.[3] The peril from the independent growth of Liberalism within was guarded against by a rigid supervision of the press and the re-establishment of clerical control over education. Music alone flourished, free from government interference; but, curiously enough, the movements, in Bohemia, Croatia and elsewhere, for the revival of the national literatures and languages—which were to issue in the most difficult problem facing the Austrian government at the opening of the 20th century—were encouraged in exalted circles, as tending to divert attention from political to purely scientific interests. Meanwhile the old system of provincial diets and estates was continued or revived (in 1816 in Tirol and Vorarlberg, 1817 in Galicia, 1818 in Carniola, 1828 in the circle of Salzburg), but they were in no sense representative, clergy and nobles alone being eligible, with a few delegates from the towns, and they had practically no functions beyond registering the imperial decrees, relative to recruiting or taxation, and dealing with matters of local police.[4] Even the ancient right of petition was seldom exercised, and then only to meet with the imperial disfavour. And this stagnation of the administration was accompanied, as might have been expected, by economic stagnation. Agriculture languished, hampered, as in France before the Revolution, by the feudal privileges of a noble caste which no longer gave any equivalent service to the state; trade was strangled by the system of high tariffs at the frontier and internal *octrois*; and finally public credit was shaken to its foundations by lavish issues of paper money and the neglect to publish the budget.

Metternich's policy of stability.

The maintenance within the empire of a system so artificial and so unsound, involved in foreign affairs the policy of preventing the success of any movements by which it might be threatened. The triumph of Liberal principles or of national aspirations in Germany, or elsewhere in Europe, might easily, as the events of 1848 proved, shatter the whole rotten structure of the Habsburg monarchy, which survived only owing to the apathy of the populations it oppressed. This, then, is the explanation of the system of "stability" which Metternich succeeded in imposing for thirty years upon Europe. If he persuaded Frederick William III. that the grant of a popular constitution would be fatal to the Prussian monarchy, this was through no love of Prussia; the Carlsbad Decrees and the Vienna Final Act were designed to keep Germany quiet, lest the sleep of Austria should be disturbed; the lofty claims of the Troppau Protocol were but to cover an Austrian aggression directed to purely Austrian ends: and in the Eastern Question, the moral support given to the "legitimate" authority of the sultan over the "rebel" Greeks was dictated solely by the interest of Austria in maintaining the integrity of Turkey. (See EUROPE: *History*; GERMANY: *History*; ALEXANDER I. of Russia; METTERNICH, &c.)

Judged by the standard of its own aims Metternich's diplomacy was, on the whole, completely successful. For fifteen years after the congress of Vienna, in spite of frequent alarms, the peace of Europe was not seriously disturbed; and even in 1830, the revolution at Paris found no echo in the great body of the Austrian dominions. The isolated revolts in Italy were easily suppressed; and the insurrection of Poland, though it provoked the lively sympathy of the Magyars and Czechs, led to no actual movement in the Habsburg states. For a moment, indeed, Metternich had meditated taking advantage of the popular feeling to throw the weight of Austria into the scale in favour of the Poles, and thus, by re-establishing a Polish kingdom under Austrian

influence, to restore the barrier between the two empires which the partition of Poland had destroyed. But cautious counsels prevailed, and by the victory of the Russian arms the *status quo* was restored (see Poland).

Ferdinand I. 1835-1848.

The years that followed were not wanting in signs of the coming storm. On the 2nd of March 1835 Francis I. died, and was succeeded by his son Ferdinand I. The new emperor was personally amiable, but so enfeebled by epilepsy as to be incapable of ruling; a veiled regency had to be constituted to carry on the government, and the vices of the administration were further accentuated by weakness and divided counsels at the centre. Under these circumstances popular discontent made rapid headway. The earliest symptoms of political agitation were in Hungary, where the diet began to show signs of vigorous life, and the growing Slav separatist movements, especially in the south of the kingdom, were rousing the old spirit of Magyar ascendancy (see Hungary: *History*). For everywhere the Slav populations were growing restive under the German-Magyar domination. In Bohemia the Czech literary movement had developed into an organized resistance to the established order, which was attacked under the disguise of a criticism of the English administration in Ireland. "Repeal" became the watchword of Bohemian, as of Irish, nationalists (see Bohemia). Among the southern Slavs the "Illyrian" movement, voiced from 1836 onward in the *Illyrian National Gazette* of Ljudevit Gaj, was directed in the first instance to a somewhat shadowy Pan-Slav union, which, on the interference of the Austrian government in 1844, was exchanged for the more definite object of a revival of "the Triune Kingdom" (Croatia, Slavonia, Dalmatia) independent of the Hungarian crown (see Croatia, &c.). In the German provinces also, in spite of Metternich's censors and police, the national movements in Germany had gained an entrance, and, as the revolution of 1848 in Vienna was to show, the most advanced revolutionary views were making headway.

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Galician Rising, 1846.

The most important of all the symptoms of the approaching cataclysm was, however, the growing unrest among the peasants. As had been proved in France in 1789, and was again to be shown in Russia in 1906, the success of any political revolution depended ultimately upon the attitude of the peasant class. In this lies the main significance of the rising in Galicia in 1846. This was in its origin a Polish nationalist movement, hatched in the little independent republic of Cracow. As such it had little importance; though, owing to the incompetence of the Austrian commander, the Poles gained some initial successes. More fateful was the attitude of the Orthodox Ruthenian peasantry, who were divided from their Catholic Polish over-lords by centuries of religious and feudal oppression. The Poles had sought, by lavish promises, to draw them into their ranks; their reply was to rise in support of the Austrian government. In the fight at Gdow (February 26th), where Benedek laid the foundations of the military reputation that was to end so tragically at Königgrätz, flail and scythe wrought more havoc in the rebel ranks than the Austrian musketry. Since, in spite of this object-lesson, the Polish nobles still continued their offers, the peasants consulted the local Austrian authorities as to what course they should take; and the local authorities, unaccustomed to arriving at any decision without consulting Vienna, practically gave them *carte blanche* to do as they liked. A hideous *jacquerie* followed for three or four days; during which cartloads of dead were carried into Tarnow, where the peasants received a reward for every "rebel" brought in.

This affair was not only a scandal for which the Austrian government, through its agents, was responsible; but it placed the authorities at Vienna in a serious dilemma. For the Ruthenians, elated by their victory, refused to return to work, and demanded the abolition of all feudal obligations as the reward of their loyalty. To refuse this claim would have meant the indefinite prolongation of the crisis; to concede it would have been to invite the peasantry of the whole empire to put forth similar demands on pain of a general rising. On the 13th of April 1846 an imperial decree abolished some of the more burdensome feudal obligations; but this concession was greeted with so fierce an outcry, as an authoritative endorsement of the atrocities, that it was again revoked, and Count Franz von Stadion was sent to restore order in Galicia. The result was, that the peasants saw that though their wrongs were admitted, their sole hope of redress lay in a change of government, and added the dead weight of their resentment to the forces making for revolution. It was the union of the agrarian with the nationalist movements that made the downfall of the Austrian system inevitable.

Revolutions of 1848.

The material for the conflagration in Austria was thus all prepared when in February 1848 the fall of Louis Philippe fanned into a blaze the smouldering fires of revolution throughout Europe. On the 3rd of March, Kossuth, in the diet at Pressburg, delivered the famous speech which was the declaration of war of Hungarian Liberalism against the Austrian system. "From the charnel-house of the Vienna cabinet," he exclaimed, "a pestilential air breathes on us, which dulls our nerves and paralyses the flight of our spirit." Hungary liberated was to become the centre of freedom for all the races under the Austrian crown, and the outcome was to be a new "fraternization of the Austrian peoples." In the enthusiasm of the moment the crucial question of the position to be occupied by the conflicting nationalities in this "fraternal union" was overlooked. Germanism had so far served as the basis of the Austrian system, not as a national ideal, but because "it formed a sort of unnational mediating, and common element among the contradictory and clamorous racial tendencies." But with the growth of the idea of German unity, Germanism had established a new ideal, of which the centre lay beyond the boundaries of the Austrian monarchy, and which was bound to be antagonistic to the aspirations of other races. The new doctrine of the fraternization of the Austrian races would inevitably soon come into conflict with the traditional German ascendancy

strengthened by the new sentiment of a united Germany. It was on this rock that, both in Austria and in Germany, the revolution suffered shipwreck.

Meanwhile events progressed rapidly. On the 11th of March a meeting of "young Czechs" at Prague drew up a petition embodying nationalist and liberal demands; and on the same day the diet of Lower Austria petitioned the crown to summon a meeting of the delegates of the diets to set the Austrian finances in order. To this last proposal the government, next day, gave its consent. But in the actual temper of the Viennese the slightest concession was dangerous. The hall of the diet was invaded by a mob of students and workmen, Kossuth's speech was read and its proposals adopted as the popular programme, and the members of the diet were forced to lead a tumultuous procession to the Hofburg, to force the assent of the government to a petition based on the catch-words of the Revolution. The authorities, taken by surprise, were forced to temporize and agreed to lay the petition before the emperor. Meanwhile round the hall of the diet a riot had broken out; the soldiers intervened and blood was shed. The middle classes now joined the rebels; and the riots had become a revolution. Threatened by the violence of the mob, Metternich, on the evening of the 13th of March, escaped from the Hofburg and passed into exile in England.

Fall of Metternich, March 13, 1848.

The fall of Metternich was the signal for the outburst of the storm, not in Austria only, but throughout central Europe. In Hungary, on the 31st of March, the government was forced to consent to a new constitution which virtually erected Hungary into an independent state. On the 8th of April a separate constitution was promised to Bohemia; and if the petition of the Croats for a similar concession was rejected, this was due to the armed mob of Vienna, which was in close alliance with Kossuth and the Magyars. The impotence of the Austrian government in this crisis was due to the necessity of keeping the bulk of the Austrian forces in Italy, where the news of Metternich's fall had also led to a concerted rising against the Habsburg rule (see ITALY). Upon the fortunes of war in the peninsula depended the ultimate issue of the revolutions so far as Austria was concerned.

The army and the prestige of the imperial tradition were, in fact, the two sheet-anchors that enabled the Habsburg monarchy to weather the storm. For the time the latter was the only one available; but it proved invaluable, especially in Germany, in preventing any settlement, until Radetzky's victory of Novara had set free the army, and thus once more enabled Austria to back her policy by force. The Austrian government, in no position to refuse, had consented to send delegates from its German provinces to the parliament of united Germany, which met at
[v.03 p.0015] Frankfort on the 18th of May 1848. The question at once arose of the place of the Austrian monarchy in united Germany. Were only its German provinces to be included? Or was it to be incorporated whole? As to the first, the Austrian government would not listen to the suggestion of a settlement which would have split the monarchy in half and subjected it to a double allegiance. As to the second, German patriots could not stomach the inclusion in Germany of a vast non-German population. The dilemma was from the first so obvious that the parliament would have done well to have recognized at once that the only possible solution was that arrived at, after the withdrawal of the Austrian delegates, by the exclusion of Austria altogether and the offer of the crown of Germany to Frederick William of Prussia. But the shadow of the Holy Empire, immemorially associated with the house of Habsburg, still darkened the counsels of German statesmen. The Austrian archduke John had been appointed regent, pending the election of an emperor; and the political leaders could neither break loose from the tradition of Austrian hegemony, nor reconcile themselves with the idea of a mutilated Germany, till it was too late, and Austria was once more in a position to re-establish the system devised by her diplomacy at the congress of Vienna. (See GERMANY: *History.*)

This fatal procrastination was perhaps not without excuse, in view of the critical situation of the Austrian monarchy during 1848. For months after the fall of Metternich Austria was practically without a central government. Vienna itself, where on the 14th of March the establishment of a National Guard was authorized by the emperor, was ruled by a committee of students and citizens, who arrogated to themselves a voice in imperial affairs, and imposed their will on the distracted ministry. On the 15th of March the government proposed to summon a central committee of local diets; but this was far from satisfying public opinion, and on the 25th of April a constitution was proclaimed, including the whole monarchy with the exception of Hungary and Lombardo-Venetia. This was, however, met by vigorous protests from Czechs and Poles, while its provisions for a partly nominated senate, and the indirect election of deputies, excited the wrath of radical Vienna. Committees of students and national guards were formed; on the 13th of May a Central Committee was established; and on the 15th a fresh insurrection broke out, as a result of which the government once more yielded, recognizing the Central Committee, admitting the right of the National Guard to take an active part in politics, and promising the convocation of a National Convention on the basis of a single chamber elected by universal suffrage. On the 17th the emperor left Vienna for Innsbruck "for the benefit of his health," and thence, on the 20th, issued a proclamation in which he cast himself on the loyalty of his faithful provinces, and, while confirming the concessions of March, ignored those of the 15th of May. The flight of the emperor had led to a revulsion of feeling in Vienna; but the issue of the proclamation and the attempt of the government to disperse the students by closing the university, led to a fresh outbreak on the 26th. Once more the ministry conceded all the demands of the insurgents, and even went so far as to hand over the public treasury and the responsibility of keeping order to a newly constituted Committee of Public Safety.

The tide was now, however, on the turn. The Jacobinism of the Vienna democracy was not really representative of any widespread opinion even in the German parts of Austria, while its loud-voiced Germanism excited the lively opposition of the other races. Each of these had taken advantage of the March troubles to press its claims, and everywhere the government had shown the same yielding spirit. In Bohemia, where the attempt to hold elections for the Frankfort parliament had broken down on the opposition of the Czechs and the conservative German aristocracy, a separate constitution had been proclaimed on the 8th of April; on March the 23rd the election by the diet of Agram of Baron Joseph Jellachich as ban of Croatia was confirmed, as a concession to the agitation among the southern Slavs; on the 18th of March Count Stadion had proclaimed a new constitution for Galicia. Even where, as in the case of the Serbs and Rumans, the government had given no formal sanction to the national claims, the emperor was regarded as the ultimate guarantee of their success; and deputations from the various provinces poured into Innsbruck protesting their loyalty.

National movements.

To say that the government deliberately adopted the Machiavellian policy of mastering the revolution by setting race against race would be to pay too high a compliment to its capacity. The policy was forced upon it; and was only pursued consciously when it became obvious. Count Stadion began it in Galicia, where, before bombarding insurgent Cracow into submission (April 26), he had won over the Ruthenian peasants by the abolition of feudal dues and by forwarding a petition to the emperor for the official recognition of their language alongside Polish. But the great object lesson was furnished by the events in Prague, where the quarrel between Czechs and Germans, radicals and conservatives, issued on the 12th of June in a rising of the Czech students and populace. The suppression of this rising, and with it of the revolution in Bohemia, on the 16th of June, by Prince Windischgrätz, was not only the first victory of the army, but was the signal for the outbreak of a universal race war, in which the idea of constitutional liberty was sacrificed to the bitter spirit of national rivalry. The parliament at Frankfort hailed Windischgrätz as a national hero, and offered to send troops to his aid; the German revolutionists in Vienna welcomed every success of Radetzky's arms in Italy as a victory for Germanism. The natural result was to drive the Slav nationalities to the side of the imperial government, since, whether at Vienna or at Budapest, the radicals were their worst enemies.

The 16th of June had been fatal to the idea of an independent Bohemia, fatal also to Pan-Slav dreams. To the Czechs the most immediate peril now seemed that from the German parliament, and in the interests of their nationality they were willing to join the Austrian government in the struggle against German liberalism. The Bohemian diet, summoned for the 19th, never met. Writs were issued in Bohemia for the election to the Austrian Reichsrath; and when, on the 10th of July, this assembled, the Slav deputies were found to be in a majority. This fact, which was to lead to violent trouble later, was at first subordinate to other issues, of which the most important was the question of the emancipation of the peasants. After long debates the law abolishing feudal services—the sole permanent outcome of the revolution—was carried on the 31st of August, and on the 7th of September received the imperial consent. The peasants thus received all that they desired, and their vast weight was henceforth thrown into the scale of the government against the revolution.

Jellachich and "Illyrism."

Meanwhile the alliance between the Slav nationalities and the conservative elements within the empire had found a powerful representative in Jellachich, the ban of Croatia. At first, indeed, his activity had been looked at askance at Innsbruck, as but another force making for disintegration. He had apparently identified himself with the "Illyrian" party, had broken off all communications with the Hungarian government, and, in spite of an imperial edict issued in response to the urgency of Batthyáni, had summoned a diet to Agram, which on the 9th of June decreed the separation of the "Triune Kingdom" from Hungary. The imperial government, which still hoped for Magyar aid against the Viennese revolutionists, repudiated the action of the ban, accused him of disobedience and treason, and deprived him of his military rank. But his true motives were soon apparent; his object was to play off the nationalism of the "Illyrians" against the radicalism of Magyars and Germans, and thus to preserve his province for the monarchy; and the Hungarian radicals played into his hands. The fate of the Habsburg empire depended upon the issue of the campaign in Italy, which would have been lost by the withdrawal of the Magyar and Croatian regiments; and the Hungarian government chose this critical moment to tamper with the relations of the army to the monarchy. In May a National Guard had been established; and the soldiers of the line were invited to join this, with the promise of higher pay; on the 1st of June the garrison of Pest took the oath to the Constitution. On the 10th Jellachich issued a proclamation to the Croatian regiments in Italy, bidding them remain and fight for the emperor and the common Fatherland. His loyalty to the tradition of the imperial army was thus announced, and the alliance was cemented between the army and the southern Slavs.

Jellachich, who had gone to Innsbruck to lay the Slav view before the emperor, was allowed to return to Agram, though not as yet formally reinstated. Here the diet passed a resolution denouncing the dual system and demanding the restoration of the union of the empire. Thus was proclaimed the identity of the Slav and the conservative points of view; the radical "Illyrian" assembly had done its work, and on the 9th of July Jellachich, while declaring it "permanent," prorogued it indefinitely "with a paternal greeting," on the ground that the safety of the Fatherland depended now "more upon physical than upon moral force." The diet thus prorogued never met again. Absolute master of the forces of the banat, Jellachich now waited until the intractable politicians of Pest should give him the occasion and the excuse for setting the imperial army in motion against them.

Hungary.

The occasion was not to be long postponed. Every day the rift between the dominant radical element in the Hungarian parliament and imperial court was widened. Kossuth and his followers were evidently aiming at the complete separation of Hungary from Austria; they were in sympathy, if not in alliance, with the German radicals in Vienna and Frankfort; they were less than half-hearted in their support of the imperial arms in Italy. The imperial government, pressed by the Magyar nationalists to renounce Jellachich and all his works, equivocated and procrastinated, while within its councils the idea of a centralized state, to replace the loose federalism of the old empire, slowly took shape under the pressure of the military party. It was encouraged by the news from Italy, where, on the 25th of July, Radetzky had won the battle of Custozza, and on the 6th of August the Austrian standard once more floated over the towers of Milan. At Custozza Magyar hussars, Croats from the Military Frontier, and Tirolese sharpshooters had fought side by side. The possibility was obvious of combating the radical and nationalist revolution by means of the army, with its spirit of comradeship in arms and its imperialist tradition.

So early as the beginning of July, Austrian officers, with the permission of the minister of war, had joined the Serb insurgents who, under Stratemirović, were defying the Magyar power in the banat. By the end of August the breach between the Austrian and Hungarian governments was open and complete; on the 4th of September Jellachich was reinstated in all his honours, and on the 11th he crossed the Drave to the invasion of Hungary. The die was thus cast; and, though efforts continued to be made to arrange matters, the time for moderate counsels was passed. The conservative leaders of the Hungarian nationalists, Eötvös and Deák, retired from public life; and, though Batthyáni consented to remain in office, the slender hope that this gave of peace was ruined by the flight of the palatine (September 24) and the murder of Count Lamberg, the newly appointed commissioner and commander-in-chief in Hungary, by the mob at Pest (September 27). The appeal was now to arms; and the fortunes of the Habsburg monarchy were bound up with the fate of the war in Hungary (see HUNGARY: *History*).

Meanwhile, renewed trouble had broken out in Vienna, where the radical populace was in conflict alike with the government and with the Slav majority of the Reichsrath. The German democrats appealed for aid to the Hungarian government; but the Magyar passion for constitutional legality led to delay, and before the Hungarian advance could be made effective, it was too late. On the 7th of October the emperor Ferdinand had fled from Schönbrunn to Olmütz, a Slav district, whence he issued a proclamation inviting whoever loved "Austria and freedom" to rally round the throne. On the 11th Windischgrätz proclaimed his intention of marching against rebellious Vienna, and on the 16th an imperial rescript appointed him a field-marshal and commander-in-chief of all the Austrian armies except that of Italy. Meanwhile, of the Reichsrath, the members of the Right and the Slav majority had left Vienna and announced a meeting of the diet at Brünn for the 20th of October; all that remained in the capital was a rump of German radicals, impotent in the hands of the proletariat and the students. The defence of the city was hastily organized under Bern, an ex-officer of Napoleon; but in the absence of help from Hungary it was futile. On the 28th of October Windischgrätz began his attack; on the 1st of November he was master of the city.

The fall of revolutionary Vienna practically involved that of the revolution in Frankfort and in Pest. From Italy the congratulations of Radetzky's victorious army came to Windischgrätz, from Russia the even more significant commendations of the emperor Nicholas. The moral of the victory was painted for all the world by the military execution of Robert Blum, whose person, as a deputy of the German parliament, should have been sacrosanct. The time had, indeed, not yet come to attempt any conspicuous breach with the constitutional principle; but the new ministry was such as the imperial sentiment would approve, inimical to the German ideals of Frankfort, devoted to the traditions of the Habsburg monarchy. At its head was Prince Felix Schwarzenberg (*q.v.*), the "army-diplomat," a statesman at once strong and unscrupulous. On the 27th of November a proclamation announced that the continuation of Austria as a united state was necessary both for Germany and for Europe. On the 2nd of December the emperor Ferdinand, bound by too many personal obligations to the revolutionary parties to serve as a useful instrument for the new policy, abdicated, and his nephew Francis Joseph ascended the throne. The proclamation of the new emperor was a gage of defiance thrown down to Magyars and German unionists alike: "Firmly determined to preserve undimmed the lustre of our crown," it ran, "but prepared to share our rights with the representatives of our peoples, we trust that with God's aid and in common with our peoples we shall succeed in uniting all the countries and races of the monarchy in one great body politic."

Accession of Francis Joseph, 1848

While the Reichsrath, transferred to Kremsier, was discussing "fundamental rights" and the difficult question of how to reconcile the theoretical unity with the actual dualism of the empire, the knot was being cut by the sword on the plains of Hungary. The Hungarian retreat after the bloody battle of Kapolna (February 26-27, 1849) was followed by the dissolution of the Kremsier assembly, and a proclamation in which the emperor announced his intention of granting a constitution to the whole monarchy "one and indivisible." On the 4th of March the constitution was published; but it proved all but as distasteful to Czechs and Croats as to the Magyars, and the speedy successes of the Hungarian arms made it, for the while, a dead letter. It needed the intervention of the emperor Nicholas, in the loftiest spirit of the Holy Alliance, before even an experimental unity of the Habsburg dominions could be established (see HUNGARY: *History*).

The capitulation of Világos, which ended the Hungarian insurrection, gave Schwarzenberg a free

hand for completing the work of restoring the *status quo ante* and the influence of Austria in Germany. The account of the process by which this was accomplished belongs to the history of Germany (*q.v.*). Here it will suffice to say that the terms of the Convention of Olmütz (September 29, 1850) seemed at the time a complete triumph for Austria over Prussia. As a matter of fact, however, the convention was, in the words of Count Beust, "not a Prussian humiliation, but an Austrian weakness." It was in the power of Austria to crush Prussia and to put an end to the dual influence in the Confederation which experience had proved to be unworkable; she preferred to re-establish a discredited system, and to leave to Prussia time and opportunity to gather strength for the inevitable conflict.

[v.03 p.0017]

Triumph of Austria.

In 1851 Austria had apparently triumphed over all its difficulties. The revolutionary movements had been suppressed, the attempt of Prussia to assume the leadership in Germany defeated, the old Federal Diet of 1815 had been restored. Vienna again became the centre of a despotic government the objects of which were to Germanize the Magyars and Slavs, to check all agitation for a constitution, and to suppress all attempts to secure a free press. For some ten years the Austrian dominion groaned under one of the worst possible forms of autocratic government. The failure of the Habsburg emperor to perpetuate this despotic régime was due (1) to the Crimean War, (2) to the establishment of Italian unity, and (3) to the successful assertion by Prussia of its claim to the leadership in Germany. The disputes which resulted in the Crimean War revealed the fact that "gratitude" plays but a small part in international affairs. In the minds of Austrian statesmen the question of the free navigation of the Danube, which would have been imperilled by a Russian occupation of the Principalities, outweighed their sense of obligation to Russia, on which the emperor Nicholas had rashly relied. That Austria at first took no active part in the war was due, not to any sentimental weakness, but to the refusal of Prussia to go along with her and to the fear of a Sardinian attack on her Italian provinces. But, on the withdrawal of the Russian forces from the Principalities, these were occupied by Austrian troops, and on the 2nd of December 1854, a treaty of alliance was signed at Vienna, between Great Britain, Austria and France, by which Austria undertook to occupy Moldavia and Walachia during the continuance of the war and "to defend the frontier of the said principalities against any return of the Russian forces." By Article III., in the event of war between Russia and Austria the alliance both offensive and defensive was to be made effective (Hertslet, No. 252). With the progressive disasters of the Russian arms, however, Austria grew bolder, and it was the ultimatum delivered by her to the emperor Alexander II. in December 1855, that forced Russia to come to terms (Treaty of Paris, March 30, 1856).

Though, however, Austria by her diplomatic attitude had secured, without striking a blow, the settlement in her sense of the Eastern Question, she emerged from the contest without allies and without friends. The "Holy Alliance" of the three autocratic northern powers, recemented at Münchengrätz in 1833, which had gained for Austria the decisive intervention of the tsar in 1849, had been hopelessly shattered by her attitude during the Crimean War. Russia, justly offended, drew closer her ties with Prussia, where Bismarck was already hatching the plans which were to mature in 1866; and, if the attitude of Napoleon in the Polish question prevented any revival of the alliance of Tilsit, the goodwill of Russia was assured for France in the coming struggle with Austria in Italy. Already the isolation of Austria had been conspicuous in the congress of Paris, where Cavour, the Sardinian plenipotentiary, laid bare before assembled Europe the scandal of her rule in Italy. It was emphasized during the campaign of 1859, when Sardinia, in alliance with France, laid the foundations of united Italy. The threat of Prussian intervention, which determined the provisions of the armistice of Villafranca, was due, not to love of Austria, but to fear of the undue aggrandizement of France. The campaign of 1859, and the diplomatic events that led up to it, are dealt with elsewhere (see Italy, Italian Wars, Napoleon III., Cavour). The results to Austria were two-fold. Externally, she lost all her Italian possessions except Venice; internally, her failure led to the necessity of conciliating public opinion by constitutional concessions.

The proclamation on the 26th of February 1861 of the new constitution for the whole monarchy, elaborated by Anton von Schmerling, though far from satisfying the national aspirations of the races within the empire, at least gave Austria a temporary popularity in Germany; the liberalism of the Habsburg monarchy was favourably contrasted with the "reactionary" policy of Prussia, where Bismarck was defying the majority of the diet in his determination to build up the military power of Prussia. The meeting of the princes summoned to Frankfort by the emperor Francis Joseph, in 1863, revealed the ascendancy of Austria among the smaller states of the Confederation; but it revealed also the impossibility of any consolidation of the Confederation without the co-operation of Prussia, which stood outside. Bismarck had long since decided that the matter could only be settled by the exclusion of Austria altogether, and that the means to this end were not discussion, but "Blood and Iron." The issue was forced by the developments of the tangled Schleswig-Holstein Question (*q.v.*), which led to the definitive breach between the two great German powers, to the campaign of 1866, and the collapse of Austria on the field of Koniggratz (July 3. See Seven Weeks' War).

(W. A. P.; A. Hl.)

The war of 1866 began a new era in the history of the Austrian empire. By the treaty of Prague (August 23, 1866) the emperor surrendered the position in Germany which his ancestors had held for so many centuries; Austria and Tirol, Bohemia and Salzburg, ceased to be German, and eight million Germans were cut off from all political union with their fellow-countrymen. At the

same time the surrender of Venetia completed the work of 1859, and the last remnant of the old-established Habsburg domination in Italy ceased. The war was immediately followed by a reorganization of the government. The Magyar nation, as well as the Czechs, had refused to recognize the validity of the constitution of 1861 which had established a common parliament for the whole empire; they demanded that the independence of the kingdom of Hungary should be restored. Even before the war the necessity of coming to terms with the Hungarians had been recognized. In June 1865 the emperor Francis Joseph visited Pest and replaced the chancellors of Transylvania and Hungary, Counts Francis Zichy and Nadásdy, supporters of the February constitution, by Count Majláth, a leader of the old conservative magnates. This was at once followed by the resignation of Schmerling, who was succeeded by Count Richard Belcredi. On the 20th of September the Reichsrath was prorogued, which was equivalent to the suspension of the constitution; and in December the emperor opened the Hungarian diet in person, with a speech from the throne that recognized the validity of the laws of 1848. Before any definite arrangement as to their re-introduction could be made, however, the war broke out; and after the defeats on the field of battle the Hungarian diet was able to make its own terms. They recognized no union between their country and the other parts of the monarchy except that which was based on the Pragmatic Sanction.[5] All recent innovations, all attempts made during the last hundred years to absorb Hungary in a greater Austria, were revoked. An agreement was made by which the emperor was to be crowned at Pest and take the ancient oath to the Golden Bull; Hungary (including Transylvania and Croatia) was to have its own parliament and its own ministry; Magyar was to be the official language; the emperor was to rule as king; there was to be complete separation of the finances; not even a common nationality was recognized between the Hungarians and the other subjects of the emperor; a Hungarian was to be a foreigner in Vienna, an Austrian a foreigner in Budapest. A large party wished indeed that nothing should be left but a purely personal union similar to that between England and Hanover. Deák and the majority agreed, however, that there should be certain institutions common to Hungary and the rest of the monarchy; these were—(1) foreign affairs, including the diplomatic and consular service; (2) the army and navy; (3) the control of the expenses required for these branches of the public service.

Establishment of the dual monarchy.

Recognizing in a declaratory act the legal existence of these common institutions, they also determined the method by which they should be administered. In doing so they carried out with great exactitude the principle of dualism, establishing in form a complete parity between Hungary on one side and the other territories of the king on the other. They made it a condition that there should be constitutional government in the rest of the monarchy as well as in Hungary, and a parliament in which all the other territories should be represented. From both the Hungarian and the Austrian parliament there was to be elected a *Delegation*, consisting of sixty members; to these Delegations the common ministers were to be responsible, and to them the estimates for the joint services were to be submitted. The annual meetings were to be held alternately in Vienna and in Pest. They were very careful that these Delegations should not overshadow the parliaments by which they were appointed. The Delegations were not to sit together; each was to meet separately; they were to communicate by writing, every document being accompanied by a translation in Magyar or German, as the case might be; only if after three times exchanging notes they failed to agree was there to be a common session; in that case there would be no discussion, and they were to vote in silence; a simple majority was sufficient. There were to be three ministers for common purposes—(1) for foreign affairs; (2) for war; (3) for finance; these ministers were responsible to the Delegations, but the Delegations were really given no legislative power. The minister of war controlled the common army, but even the laws determining the method by which the army was to be recruited had to be voted separately in each of the parliaments. The minister of finance had to lay before them the common budget, but they could not raise money or vote taxes; after they had passed the budget the money required had to be provided by the separate parliaments. Even the determination of the proportion which each half of the monarchy was to contribute was not left to the Delegations. It was to be fixed once every ten years by separate committees chosen for that purpose from the Austrian Reichsrath and the Hungarian parliament, the so-called *Quota-Deputations*. In addition to these "common affairs" the Hungarians, indeed, recognized that there were certain other matters which it was desirable should be managed on identical principles in the two halves of the monarchy—namely, customs and excise currency; the army and common railways. For these, however, no common institutions were created; they must be arranged by agreement; the ministers must confer and then introduce identical acts in the Hungarian and the Austrian parliaments.

[v.03 p.0018]

Delegations.

The main principles of this agreement were decided during the spring of 1867; but during this period the Austrians were not really consulted at all. The negotiations on behalf of the court of Vienna were entrusted to Beust, whom the emperor appointed chancellor of the empire and also minister-president of Austria. He had no previous experience of Austrian affairs, and was only anxious at once to bring about a settlement which would enable the empire to take a strong position in international politics. In the summer of 1867, however (the Austrian Reichsrath having met), the two parliaments each elected a deputation of fifteen members to arrange the financial settlement. The first matter was the debt, amounting to over 3000 million gulden, in addition to the floating debt, which had been contracted during recent years. The Hungarians laid down the principle that they were in no way responsible for debts contracted during a time when they had been deprived of their constitutional liberties; they consented, however, to pay each year 29½ million gulden towards

Financial settlement.

the interest. The whole responsibility for the payment of the remainder of the interest, amounting annually to over a hundred million gulden, and the management of the debt, was left to the Austrians. The Hungarians wished that a considerable part of it should be repudiated. It was then agreed that the two states should form a Customs Union for the next ten years; the customs were to be paid to the common exchequer; all sums required in addition to this to meet the expenses were to be provided as to 30% by Hungary and as to 70% by Austria. After the financial question had been thus settled, the whole of these arrangements were then, on the 21st and the 24th of December 1867, enacted by the two parliaments, and the system of dualism was established.

The acts were accepted in Austria out of necessity; but no parties were really satisfied. The Germans, who accepted the principle of dualism, were indignant at the financial arrangements; for Hungary, while gaining more than an equal share of power, paid less than one-third of the common expenses. On the other hand, according to British ideas of taxable capacity, Hungary paid, and still pays, more than her share. The Germans, however, could at least hope that in the future the financial arrangements might be revised; the complaints of the Slav races were political, and within the constitution there was no means of remedy, for, while the settlement gave to the Hungarians all that they demanded, it deprived the Bohemians or Galicians of any hope that they would be able to obtain similar independence. Politically, the principle underlying the agreement was that the empire should be divided into two portions; in one of these the Magyars were to rule, in the other the Germans; in either section the Slav races—the Serbs and Croatians, the Czechs, Poles and Slovenes—were to be placed in a position of political inferiority. [6]

The logical consistency with which the principle of Dualism was carried out is shown in a change of title. By a letter to Beust of the 14th of November 1868 the emperor ordered that he should henceforward be styled, not as before "Emperor of Austria, King of Hungary, King of Bohemia, &c.," but "Emperor of Austria, King of Bohemia, &c., and Apostolic King of Hungary," thereby signifying the separation of the two districts over which he rules. His shorter style is "His Majesty the Emperor and King," and "His Imperial and Apostolic Royal Majesty"; the lands over which he rules are called "The Austrian-Hungarian Monarchy" or "The Austrian-Hungarian Realm." The new terminology, "Imperial and Royal" (*Kaiserlich und Königlich*), has since then been applied to all those branches of the public service which belong to the common ministries; this was first the case with the diplomatic service; not till 1889 was it applied to the army, which for some time kept up the old style of *Kaiserlich-Königlich*; in 1895 it was applied to the ministry of the imperial house, an office always held by the minister for foreign affairs. The minister for foreign affairs was at first called the *Reichskanzler*; but in 1871, when Andrássy succeeded Beust, this was given up in deference to Hungarian feeling, for it might be taken to imply that there was a single state of which he was minister. The old style *Kaiserlich-Königlich*, the "K.K." which has become so familiar through long use, is still retained in the Austrian half of the monarchy. There are, therefore, *e.g.*, three ministries of finance: the *Kaiserlich und Königlich* for joint affairs; the *Kaiserlich-Königlich* for Austrian affairs; the *Királyé* for Hungary.

Common affairs.

The settlement with Hungary consisted then of three parts:—(1) the political settlement, which was to be permanent and has since remained part of the fundamental constitution of the monarchy; (2) the periodical financial settlement, determining the partition of the common expenses as arranged by the Quota-Deputations and ratified by the parliaments; (3) the Customs Union and the agreement as to currency—a voluntary and terminable arrangement made between the two governments and parliaments. The history of the common affairs which fall under the management of the common ministries is, then, the history of the foreign policy of the empire and of the army. It is with this and this alone that the Delegations are occupied, and it is to this that we must now turn. The annual meetings call for little notice; they have generally been the occasion on which the foreign minister has explained and justified his policy; according to the English custom, red books, sometimes containing important despatches, have been laid before them; but the debates have caused less embarrassment to the government than is generally the case in parliamentary assemblies, and the army budget has generally been passed with few and unimportant alterations.

Foreign policy.

For the first four years, while Beust was chancellor, the foreign policy was still influenced by the feelings left by the war of 1866. We do not know how far there was a real intention to revenge Königgrätz and recover the position lost in Germany. This would be at least a possible policy, and one to which Beust by his previous history would be inclined. There were sharp passages of arms with the Prussian government regarding the position of the South German states; a close friendship was maintained with France; there were meetings of the emperor and of Napoleon at Salzburg in 1868, and the next year at Paris; the death of Maximilian in Mexico cast a shadow over the friendship, but did not destroy it. The opposition of the Hungarians and financial difficulties probably prevented a warlike policy. In 1870 there were discussions preparatory to a formal alliance with France against the North German Confederation, but nothing was signed.[7] The war of 1870 put an end to all ideas of this kind; the German successes were so rapid that Austria was not exposed to the temptation of intervening, a temptation that could hardly have been resisted had the result been doubtful or the struggle prolonged. The absorption of South Germany in the German empire took away the chief cause for friction; and from that time warm friendship, based on the maintenance of the established order, has existed between the two empires. Austria gave up all hope of regaining her position in Germany; Germany disclaimed all intention of acquiring the German provinces of Austria. Beust's retirement in 1871 put the

finishing touch on the new relations. His successor, Count Andrássy, a Hungarian, established a good understanding with Bismarck; and in 1872 the visit of the emperor Francis Joseph, accompanied by his minister, to Berlin, was the final sign of the reconciliation with his uncle. The tsar was also present on that occasion, and for the next six years the close friendship between the three empires removed all danger of war. Three years later the full reconciliation with Italy followed, when Francis Joseph consented to visit Victor Emmanuel in Venice.

The Eastern question.

The outbreak of disturbance in the Balkans ended this period of calm. The insurrection in Bosnia and Herzegovina immediately affected Austria; refugees in large numbers crossed the frontier and had to be maintained by the government. The political problem presented was a very difficult one. The sympathy of the Slav inhabitants of the empire made it impossible for the government of Vienna to regard with indifference the sufferings of Christians in Turkey. Active support was impossible, because the Hungarians, among whom the events of 1848 had obliterated the remembrance of the earlier days of Turkish conquest, were full of sympathy for the Turks. It was a cardinal principle of Austrian policy that she could not allow the erection of new Slav states on her southern frontier. Moreover, the disturbances were fomented by Russian agents, and any increase of Russian influence (for which the Pan-Slav party was working) was full of danger to Austria. For a time the mediation of Germany preserved the good understanding between the two eastern empires. In 1875 Andrássy drafted a note, which was accepted by the powers, requiring Turkey to institute the reforms necessary for the good government of the provinces. Turkey agreed to do this, but the insurgents required a guarantee from the Powers that Turkey would keep her engagements. This could not be given, and the rebellion continued and spread to Bulgaria. The lead then passed to Russia, and Austria, even after the outbreak of war, did not oppose Russian measures. At the beginning of 1877 a secret understanding had been made between the two powers, by which Russia undertook not to annex any territory, and in other ways not to take steps which would be injurious to Austria. The advance of the Russian army on Constantinople, however, was a serious menace to Austrian influence; Andrássy therefore demanded that the terms of peace should be submitted to a European conference, which he suggested should meet at Vienna. The peace of San Stefano violated the engagements made by Russia, and Andrássy was therefore compelled to ask for a credit of 60 million gulden and to mobilize a small portion of the army; the money was granted unanimously in the Hungarian Delegation, though the Magyars disliked a policy the object of which appeared to be not the defence of Turkey against Russia, but an agreement with Russia which would give Austria compensation at the expense of Turkey; in the Austrian Deputation it was voted only by a majority of 39 to 20, for the Germans were alarmed at the report that it would be used for an occupation of part of the Turkish territory.

Bosnia and Herzegovina.

The active share taken by Great Britain, however, relieved Austria from the necessity of having recourse to further measures. By an arrangement made beforehand, Austria was requested at the congress of Berlin to undertake the occupation and administration of Bosnia and Herzegovina—an honourable but arduous task. The provinces could not be left to the Turks; Austria could not allow them to fall under Russian influence. The occupation was immediately begun, and 60,000 Austrian troops, under the command of General Philippovich,[8] crossed the frontier on the 29th of July. The work was, however, more difficult than had been anticipated; the Mahommedans offered a strenuous resistance; military operations were attended with great difficulty in the mountainous country; 200,000 men were required, and they did not succeed in crushing the resistance till after some months of obstinate fighting. The losses on either side were very heavy; even after the capture of Serajevo in August, the resistance was continued; and besides those who fell in battle, a considerable number of the insurgents were put to death under military law. The opposition in the Delegations, which met at the end of the year, was so strong that the government had to be content with a credit to cover the expenses for 1879 of less than half what they had originally asked, and the supplementary estimate of 40,000,000 gulden for 1878 was not voted till the next year. In 1879 the Porte, after long delay, recognized the occupation on the distinct understanding that the sovereignty of the sultan was acknowledged. A civil administration was then established, the provinces not being attached to either half of the empire, but placed under the control of the joint minister of finance. The government during the first two years was not very successful; the Christian population were disappointed at finding that they still had, as in the old days, to pay rent to the Mahommedan begs. There were difficulties also between the Roman Catholics and the members of the Greek Church. In 1881 disturbances in Dalmatia spread over the frontier into Herzegovina, and another expedition had to be sent to restore order. When this was done Benjamin de Kallay was appointed minister, and under his judicious government order and prosperity were established in the provinces. In accordance with another clause of the treaty of Berlin, Austria was permitted to place troops in the sanjak of Novi-Bazar, a district of great strategic importance, which separated Servia and Montenegro, and through which the communication between Bosnia and Salonica passed. This was done in September 1879, an agreement with Turkey having specified the numbers and position of the garrison. Another slight alteration of the frontier was made in the same year, when, during the delimitation of the new frontier of Montenegro, the district of Spizza was incorporated in the kingdom of Dalmatia.

Italy and the Irredentists.

The congress of Berlin indirectly caused some difficulties with Italy. In that country was a large party which, under the name of the "Irredentists," demanded that those Italian-speaking districts, South Tirol, Istria and

Trieste, which were under Austrian rule, should be joined to Italy; there were public meetings and riots in Italy; the Austrian flag was torn down from the consulate in Venice and the embassy at Rome insulted. The excitement spread across the frontier; there were riots in Trieste, and in Tirol it was necessary to make some slight movement of troops as a sign that the Austrian government was determined not to surrender any territory. For a short time there was apprehension that the Italian government might not be strong enough to resist the movement, and might even attempt to realize these wishes by means of an alliance with Russia; but the danger quickly passed away.

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Alliance with Germany.

In the year 1879 the European position of the monarchy was placed on a more secure footing by the conclusion of a formal alliance with Germany. In the autumn of that year Bismarck visited Vienna and arranged with Andrássy a treaty by which Germany bound herself to support Austria against an attack from Russia, Austria-Hungary pledging herself to help Germany against a combined attack of France and Russia; the result of this treaty, of which the tsar was informed, was to remove, at least for the time, the danger of war between Austria-Hungary and Russia. It was the last achievement of Andrássy, who had already resigned, but it was maintained by his successor, Baron Haymerle, and after his death in 1881 by Count Kalnóky. It was strengthened in 1882 by the adhesion of Italy, for after 1881 the Italians required support, owing to the French occupation of Tunis, and after five years it was renewed. Since that time it has been the foundation on which the policy of Austria-Hungary has depended, and it has survived all dangers arising either from commercial differences (as between 1880 and 1890) or national discord. The alliance was naturally very popular among the German Austrians; some of them went so far as to attempt to use it to influence internal policy, and suggested that fidelity to this alliance required that there should be a ministry at Vienna which supported the Germans in their internal struggle with the Slavs; they represented it as a national alliance of the Teutonic races, and there were some Germans in the empire who supported them in this view. The governments on both sides could of course give no countenance to this theory; Bismarck especially was very careful never to let it be supposed that he desired to exercise influence over the internal affairs of his ally. Had he done so, the strong anti-German passions of the Czechs and Poles, always inclined to an alliance with France, would have been aroused, and no government could have maintained the alliance. After 1880, the exertions of Count Kalnóky again established a fairly good understanding with Russia, as was shown by the meetings of Francis Joseph with the tsar in 1884 and 1885, but the outbreak of the Bulgarian question in 1885 again brought into prominence the opposed interests of Russia and Austria-Hungary. In the December of this year Austria-Hungary indeed decisively interfered in the war between Bulgaria and Servia, for at this time Austrian influence predominated in Servia, and after the battle of Slivnitza the Austro-Hungarian minister warned Prince Alexander of Bulgaria that if he advanced farther he would be met by Austro-Hungarian as well as Servian troops. But after the abdication of Alexander, Count Kalnóky stated in the Delegations that Austria-Hungary would not permit Russia to interfere with the independence of Bulgaria. This decided step was required by Hungarian feeling, but it was a policy in which Austria-Hungary could not depend on the support of Germany, for—as Bismarck stated—Bulgaria was not worth the bones of a single Pomeranian grenadier. Austria-Hungary also differed from Russia as to the position of Prince Ferdinand of Bulgaria, and during 1886-1887 much alarm was caused by the massing of Russian troops on the Galician frontier. Councils of war were summoned to consider how this exposed and distant province was to be defended, and for some months war was considered inevitable; but the danger was averted by the renewal of the Triple Alliance and the other decisive steps taken at this time by the German government (see GERMANY). [9]

Since this time the foreign policy of Austria-Hungary has been peaceful and unambitious; the close connexion with Germany has so far been maintained, though during the last few years it has been increasingly difficult to prevent the violent passions engendered by national enmity at home from reacting on the foreign policy of the monarchy; it would scarcely be possible to do so, were it not that discussions on foreign policy take place not in the parliaments but in the Delegations where the numbers are fewer and the passions cooler. In May 1895 Count Kalnóky had to retire, owing to a difference with Bánffy, the Hungarian premier, arising out of the struggle with Rome. He was succeeded by Count Goluchowski, the son of a well-known Polish statesman. In 1898 the expulsion of Austrian subjects from Prussia, in connexion with the Anti-Polish policy of the Prussian government, caused a passing irritation, to which Count Thun, the Austrian premier, gave expression. The chief objects of the government in recent years have been to maintain Austro-Hungarian trade and influence in the Balkan states by the building of railways, by the opening of the Danube for navigation, and by commercial treaties with Rumania, Servia and Bulgaria; since the abdication of King Milan especially, the affairs of Servia and the growth of Russian influence in that country have caused serious anxiety.

The army.

The disturbed state of European politics and the great increase in the military establishments of other countries made it desirable for Austria also to strengthen her military resources. The bad condition of the finances rendered it, however, impossible to carry out any very great measures. In 1868 there had been introduced compulsory military service in both Austria and Hungary; the total of the army available in war had been fixed at 800,000 men. Besides this joint army placed under the joint ministry of war, there was in each part of the monarchy a separate militia and a separate minister for national defence. In Hungary this national force or *honvéd* was kept quite distinct from the ordinary army; in Austria, however (except in Dalmatia and Tirol, where there was a

separate local militia), the *Landwehr*, as it was called, was practically organized as part of the standing army. At the renewal of the periodical financial and economic settlement (*Ausgleich*) in 1877 no important change was made, but in 1882 the system of compulsory service was extended to Bosnia and Herzegovina, and a reorganization was carried out, including the introduction of army corps and local organization on the Prussian plan. This was useful for the purposes of speedy mobilization, though there was some danger that the local and national spirit might penetrate into the army. In 1886 a law was carried in either parliament creating a *Landsturm*, and providing for the arming and organization of the whole male population up to the age of forty-two in case of emergency, and in 1889 a small increase was made in the annual number of recruits. A further increase was made in 1892-1893. In contrast, however, with the military history of other continental powers, that of Austria-Hungary shows a small increase in the army establishment. Of recent years there have been signs of an attempt to tamper with the use of German as the common language for the whole army. This, which is now the principal remnant of the old ascendancy of German, and the one point of unity for the whole monarchy, is a matter on which the government and the monarch allow no concession, but in the Hungarian parliament protests against it have been raised, and in 1899 and 1900 it was necessary to punish recruits from Bohemia, who answered the roll call in the Czechish *zde* instead of the German *hier*.

The Customs Union.

In those matters which belong to the periodical and terminable agreement, the most important is the Customs Union, which was established in 1867, and it is convenient to treat separately the commercial policy of the dual state.[10] At first the customs tariff in Austria-Hungary, as in most other countries, was based on a number of commercial treaties with Germany, France, Italy, Great Britain, &c., each of which specified the maximum duties that could be levied on certain articles, and all of which contained a "most favoured nation" clause. The practical result was a system very nearly approaching to the absence of any customs duties, and for the period for which these treaties lasted a revision of the tariff could not be carried out by means of legislation. After the year 1873, a strong movement in favour of protective duties made itself felt among the Austrian manufacturers who were affected by the competition of German, English and Belgian goods, and Austria was influenced by the general movement in economic thought which about this time caused the reaction against the doctrines of free trade. Hungary, on the other hand, was still in favour of free trade, for there were no important manufacturing industries in that country, and it required a secure market for agricultural produce. After 1875 the commercial treaties expired; Hungary thereupon also gave notice to terminate the commercial union with Austria, and negotiations began as to the principle on which it was to be renewed. This was done during the year 1877, and in the new treaty, while raw material was still imported free of duty, a low duty was placed on textile goods as well as on corn, and the excise on sugar and brandy was raised. All duties, moreover, were to be paid in gold—this at once involving a considerable increase. The tariff treaties with Great Britain and France were not renewed, and all attempts to come to some agreement with Germany broke down, owing to the change of policy which Bismarck was adopting at this period. The result was that the system of commercial treaties ceased, and Austria-Hungary was free to introduce a fresh tariff depending simply on legislation, an "autonomous tariff" as it is called. With Great Britain, France and Germany, there was now only a "most favoured nation" agreement; fresh commercial treaties were made with Italy (1879), Switzerland and Servia (1881). During 1881-1882 Hungary, desiring means of retaliation against the duties on corn and the impediments to the importation of cattle recently introduced into Germany, withdrew her opposition to protective duties; the tariff was completely revised, protective duties were introduced on all articles of home production, and high finance duties on other articles such as coffee and petroleum. At the same time special privileges were granted to articles imported by sea, so as to foster the trade of Trieste and Fiume; as in Germany a subvention was granted to the great shipping companies, the Austrian Lloyd and Adria; the area of the Customs Union was enlarged so as to include Trieste, Istria and Dalmatia, as well as Bosnia and Herzegovina. In 1887 a further increase of duties was laid on corn (this was at the desire of Hungary as against Rumania, for a vigorous customs war was being carried on at this time) and on woollen and textile goods. Austria, therefore, during these years completely gave up the principle of free trade, and adopted a nationalist policy similar to that which prevailed in Germany. A peculiar feature of these treaties was that the government was empowered to impose an additional duty (*Retorsionszoll*) on goods imported from countries in which Austria-Hungary received unfavourable treatment. In 1881 this was fixed at 10% (5% for some articles), but in 1887 it was raised to 30 and 15% respectively. In 1892 Austria-Hungary joined with Germany, Italy, Belgium, and Switzerland in commercial treaties to last for twelve years, the object being to secure to the states of central Europe a stable and extended market; for the introduction of high tariffs in Russia and America had crippled industry. Two years later Austria-Hungary also arranged with Russia a treaty similar to that already made between Russia and Germany; the reductions in the tariff secured in these treaties were applicable also to Great Britain, with which there still was a most favoured nation treaty. The system thus introduced gave commercial security till the year 1903.

Reform of the Currency.

The result of these and other laws was an improvement in financial conditions, which enabled the government at last to take in hand the long-delayed task of reforming the currency. Hitherto the currency had been partly in silver (gulden), the "Austrian currency" which had been introduced in 1857, partly in paper money, which took the form of notes issued by the Austro-Hungarian Bank. This institution had, in 1867, belonged entirely to Austria; it had branches in Hungary, and its notes were current throughout the monarchy, but the direction was entirely Austrian. The Hungarians had not sufficient credit to establish a national bank of their own, and at the

settlement of 1877 they procured, as a concession to themselves, that it should be converted into an Austro-Hungarian bank, with a head office at Pest as well as at Vienna, and with the management divided between the two countries. This arrangement was renewed in 1887. In 1848 the government had been obliged to authorize the bank to suspend cash payments, and the wars of 1859 and 1866 had rendered abortive all attempts to renew them. The notes, therefore, formed an inconvertible paper currency. The bank by its charter had the sole right of issuing notes, but during the war of 1866 the government, in order to raise money, had itself issued notes (*Staatsnoten*) to the value of 312 million gulden, thereby violating the charter of the bank. The operation begun in 1892 was therefore threefold: (1) the substitution of a gold for a silver standard; (2) the redemption of the *Staatsnoten*; (3) the resumption of cash payments by the bank.

In 1867 Austria-Hungary had taken part in the monetary conference which led to the formation of the Latin Union; it was intended to join the Union, but this was not done. A first step, however, had been taken in this direction by the issue of gold coins of the value of eight and four gulden. No attempt was made, however, to regulate the relations of these coins to the "Austrian" silver coinage; the two issues were not brought into connexion, and every payment was made in silver, unless it was definitely agreed that it should be paid in gold. In 1879, owing to the continued depreciation of silver, the free coinage of silver was suspended. In 1892 laws introducing a completely new coinage were carried in both parliaments, in accordance with agreements made by the ministers. The unit in the new issue was to be the krone, divided into 100 heller; the krone being almost of the same value (24-25th) as the franc. (The twenty-krone piece in gold weighs 6.775 gr., the twenty-franc piece 6.453.) The gold krone was equal to .42 of the gold gulden, and it was declared equal to .5 of the silver gulden, so much allowance being made for the depreciation of silver. The first step towards putting this act into practice was the issue of one-krone pieces (silver), which circulated as half gulden, and of nickel coins; all the copper coins and other silver coins were recalled, the silver gulden alone being left in circulation. The coinage of the gold four- and eight-gulden was suspended. Nothing more could be done till the supply of gold had been increased. The bank was required to buy gold (during 1892 it bought over forty M. gulden), and was obliged to coin into twenty- or ten-krone pieces all gold brought to it for that purpose. Then a loan of 150 M. gulden at 4% was made, and from the gold (chiefly bar gold and sovereigns) which Rothschild, who undertook the loan, paid in, coins of the new issue were struck to the value of over 34 million kronen. This was, however, not put into circulation; it was used first for paying off the *Staatsnoten*. By 1894 the state was able to redeem them to the amount of 200 million gulden, including all those for one gulden. It paid them, however, not in gold, but in silver (one-krone pieces and gulden) and in bank notes, the coins and notes being provided by the bank, and in exchange the newly-coined gold was paid to the bank to be kept as a reserve to cover the issue of notes. At the same time arrangements were made between Austria and Hungary to pay off about 80 million of exchequer bills which had been issued on the security of the government salt-works, and were therefore called "*salinenscheine*." In 1899 the remainder of the *Staatsnoten* (112 million gulden) were redeemed in a similar manner. The bank had in this way acquired a large reserve of gold, and in the new charter which was (after long delay) passed in 1899, a clause was introduced requiring the resumption of cash payments, though this was not to come into operation immediately. Then from 1st January 1900 the old reckoning by gulden was superseded, that by krone being introduced in all government accounts, the new silver being made a legal tender only for a limited amount. For the time until the 1st of July 1908, however, the old gulden were left in circulation, payments made in them, at the rate of two kronen to one gulden, being legal up to any amount.

This important reform has thereby been brought to a satisfactory conclusion, and at a time when the political difficulties had reached a most acute stage. It is indeed remarkable that notwithstanding the complicated machinery of the dual monarchy, and the numerous obstacles which have to be overcome before a reform affecting both countries can be carried out, the financial, the commercial, and the foreign policy has been conducted since 1870 with success. The credit of the state has risen, the chronic deficit has disappeared, the currency has been put on a sound basis, and part of the unfunded debt has been paid off. Universal military service has been introduced, and all this has been done in the presence of difficulties greater than existed in any other civilized country.

The Ausgleich with Hungary.

Each of the financial and economic reforms described above was, of course, the subject of a separate law, but, so far as they are determined at the general settlement which takes place between Austria and Hungary every ten years, they are comprised under the expression "Ausgleich" (compact or compromise), which includes especially the determination of the Quota, and to this extent they are all dealt with together as part of a general settlement and bargain. In this settlement a concession on commercial policy would be set off against a gain on the financial agreement; *e.g.* in 1877 Austria gave Hungary a share in the management of the bank, while the arrangement for paying the bonus on exported sugar was favourable to Austria; on the other hand, since the increased duty on coffee and petroleum would fall more heavily on Austria, the Austrians wished to persuade the Hungarians to pay a larger quota of the common expenses, and there was also a dispute whether Hungary was partly responsible for a debt of 80 M. gulden to the bank. Each measure had, therefore, to be considered not only on its own merits, but in relation to the general balance of advantage, and an amendment in one might bring about the rejection of all. The whole series of acts had to be carried in two parliaments, each open to the influence of national jealousy and race hatred in its most extreme form, so that the negotiations have been conducted under serious difficulties, and the periodical settlement has always been a time of great anxiety. The

first settlement occupied two full years, from 1876, when the negotiations began, to June 1878, when at last all the bills were carried successfully through the two parliaments; and it was necessary to prolong the previous arrangements (which expired at the end of 1877) till the middle of 1878. First the two ministries had to agree on the drafts of all the bills; then the bills had to be laid before the two parliaments. Each parliament elected a committee to consider them, and the two committees carried on long negotiations by notes supplemented by verbal discussions. Then followed the debates in the two parliaments; there was a ministerial crisis in Austria, because the House refused to accept the tax on coffee and petroleum which was recommended by the ministers; and finally a great council of all the ministers, with the emperor presiding, determined the compromise that was at last accepted. In 1887 things went better; there was some difficulty about the tariff, especially about the tax on petroleum, but Count Taaffe had a stronger position than the Austrian ministers of 1877. Ten years later, on the third renewal, the difficulties were still greater. They sprang from a double cause. First the Austrians were determined to get a more favourable division of the common expenses; that of 1867 still continued, although Hungary had grown relatively in wealth.[11] Moreover, a proposed alteration in the taxes on sugar would be of considerable advantage to Hungary; the Austrians, therefore, demanded that henceforth the proportion should be not 68.6:31.4 but 58:42. On this there was a deadlock; all through 1897 and 1898 the Quota-Deputations failed to come to an agreement. This, however, was not the worst. Parliamentary government in Austria had broken down; the opposition had recourse to obstruction, and no business could be done. Their object was to drive out the Badeni government, and for that reason the obstruction was chiefly directed against the renewal of the Ausgleich; for, as this was the first necessity of state, no government could remain in office which failed to carry it through. The extreme parties of the Germans and the anti-Semites were also, for racial reasons, opposed to the whole system. When, therefore, the government at the end of 1897 introduced the necessary measures for prolonging the existing arrangements provisionally till the differences with Hungary had been settled, scenes of great disorder ensued, and at the end of the year the financial arrangements had not been prolonged, and neither the bank charter nor the Customs Union had been renewed. The government, therefore (Badeni having resigned), had to proclaim the necessary measures by imperial warrant. Next year it was even worse, for there was obstruction in Hungary as well as in Austria; the Quota-Deputations again came to no agreement, and the proposals for the renewal of the Bank charter, the reform of the currency, the renewal of the Customs Union, and the new taxes on beer and brandy, which were laid before parliament both at Vienna and Pest, were not carried in either country; this time, therefore, the existing arrangements had to be prolonged provisionally by imperial and royal warrant both in Austria and Hungary. During 1899 parliamentary peace was restored in Hungary by the resignation of Bánffy; in Austria, however, though there was again a change of ministry the only result was that the Czechs imitated the example of the Germans and resorted to obstruction so that still no business could be done. The Austrian ministry, therefore, came to an agreement with the Hungarians that the terms of the new Ausgleich should be finally proclaimed in Austria by imperial warrant; the Hungarians only giving their assent to this in return for considerable financial concessions.

The main points of the agreement were: (1) the Bank charter was to be renewed till 1910, the Hungarians receiving a larger share in the direction than they had hitherto enjoyed; (2) the Customs Union so far as it was based on a reciprocal and binding treaty lapsed, both sides, however, continuing it in practice, and promising to do so until the 31st of December 1907. Not later than 1901 negotiations were to be begun for a renewal of the alliance, and if possible it was to be renewed from the year 1903, in which year the commercial treaties would expire. If this were done, then the tariff would be revised before any fresh commercial treaties were made. If it were not done, then no fresh treaties would be made extending beyond the year 1907, so that if the Commercial Union of Austria and Hungary were not renewed before 1907, each party would be able to determine its own policy unshackled by any previous treaties. These arrangements in Hungary received the sanction of the parliament; but this could not be procured in Austria, and they were, therefore, proclaimed by imperial warrant; first of all, on 20th July, the new duties on beer, brandy and sugar; then on 23rd September the Bank charter, &c. In November the Quota-Deputations at last agreed that Hungary should henceforward pay 33-3/49, a very small increase, and this was also in Austria proclaimed in the same way. The result was that a working agreement was made, by which the Union was preserved.

(J. W. He.)

Austro-Hungarian crisis, 1903-1907.

Since the years 1866-1871 no period of Austro-Hungarian development has been so important as the years 1903-1907. The defeat of the old Austria by Prussia at Sadowa in 1866, the establishment of the Dual Monarchy in 1867 and the foundation of the new German empire in 1871, formed the starting-point of Austro-Hungarian history properly so called; but the Austro-Hungarian crisis of 1903-1906—a crisis temporarily settled but not definitively solved,—and the introduction of universal suffrage in Austria, discredited the original interpretation of the dual system and raised the question whether it represented the permanent form of the Austro-Hungarian polity.

At the close of the 19th century both states of the Dual Monarchy were visited by political crises of some severity. Parliamentary life in Austria was paralysed by the feud between Germans and Czechs that resulted directly from the Badeni language ordinances of 1897 and indirectly from the development of Slav influence, particularly that of Czechs and Poles during the Taaffe era (1879-1893). Government in Austria was carried on by cabinets of officials with the help of the emergency clause (paragraph 14) of the constitution. Ministers, nominally responsible to

parliament, were in practice responsible only to the emperor. Thus during the closing years of last and the opening years of the present century, political life in Austria was at a low ebb and the constitution was observed in the letter rather than in spirit.

Hungary was apparently better situated. Despite the campaign of obstruction that overthrew the Bánffy and led to the formation of the Széll cabinet in 1899, the hegemony of the Liberal party which, under various names, had been the mainstay of dualism since 1867, appeared to be unshaken. But clear signs of the decay of the dualist and of the growth of an extreme nationalist Magyar spirit were already visible. The Army bills of 1889, which involved an increase of the peace footing of the joint Austro-Hungarian army, had been carried with difficulty, despite the efforts of Koloman Tisza and of Count Julius Andrássy the Elder. Demands tending towards the Magyarization of the joint army had been advanced and had found such an echo in Magyar public opinion that Count Andrássy was obliged solemnly to warn the country of the dangers of nationalist Chauvinism and to remind it of its obligations under the Compact of 1867. The struggle over the civil marriage and divorce laws that filled the greater part of the nineties served and was perhaps intended by the Liberal leaders to serve as a diversion in favour of the Liberal-dualist standpoint; nevertheless, Nationalist feeling found strong expression during the negotiations of Bánffy and Széll with various Austrian premiers for the renewal of the economic *Ausgleich*, or "Customs and Trade Alliance." At the end of 1902 the Hungarian premier, Széll, concluded with the Austrian premier, Körber, a new customs and trade alliance comprising a joint Austro-Hungarian tariff as a basis for the negotiation of new commercial treaties with Germany, Italy and other states. This arrangement, which for the sake of brevity will henceforth be referred to as the Széll-Körber Compact, was destined to play an important part in the history of the next few years, though it was never fully ratified by either parliament and was ultimately discarded. Its conclusion was prematurely greeted as the end of a period of economic strife between the two halves of the monarchy and as a pledge of a decade of peaceful development. Events were soon to demonstrate the baselessness of these hopes.

[v.03 p.0023]

The Army question.

In the autumn of 1902 the Austrian and the Hungarian governments, at the instance of the crown and in agreement with the joint minister for war and the Austrian and Hungarian ministers for national defence, laid before their respective parliaments bills providing for an increase of 21,000 men in the annual contingents of recruits. 16,700 men were needed for the joint army, and the remainder for the Austrian and Hungarian national defence troops (Landwehr and honvéd). The total contribution of Hungary would have been some 6500 and of Austria some 14,500 men. The military authorities made, however, the mistake of detaining in barracks several thousand supernumerary recruits (*i.e.* recruits liable to military service but in excess of the annual 103,000 enrollable by law) pending the adoption of the Army bills by the two parliaments. The object of this apparently high-handed step was to avoid the expense and delay of summoning the supernumeraries again to the colours when the bills should have received parliamentary sanction; but it was not unnaturally resented by the Hungarian Chamber, which has ever possessed a lively sense of its prerogatives. The Opposition, consisting chiefly of the independence party led by Francis Kossuth (eldest son of Louis Kossuth), made capital out of the grievance and decided to obstruct ministerial measures until the supernumeraries should be discharged. The estimates could not be sanctioned, and though Kossuth granted the Széll cabinet a vote on account for the first four months of 1903, the Government found itself at the mercy of the Opposition. At the end of 1902 the supernumeraries were discharged—too late to calm the ardour of the Opposition, which proceeded to demand that the Army bills should be entirely withdrawn or that, if adopted, they should be counterbalanced by concessions to Magyar nationalist feeling calculated to promote the use of the Magyar language in the Hungarian part of the army and to render the Hungarian regiments, few of which are purely Magyar, more and more Magyar in character. Széll, who vainly advised the crown and the military authorities to make timely concessions, was obliged to reject these demands which enjoyed the secret support of Count Albert Apponyi, the Liberal president of the Chamber and of his adherents. The obstruction of the estimates continued. On the 1st of May the Széll cabinet found itself without supply and governed for a time "*ex-lex*"; Széll, who had lost the confidence of the crown, resigned and was succeeded (June 26) by Count Khuen-Hedervàry, previously ban, or governor, of Croatia. Before taking office Khuen-Hedervàry negotiated with Kossuth and other Opposition leaders, who undertook that obstruction should cease if the Army bills were withdrawn. Despite the fact that the Austrian Army bill had been voted by the Reichsrath (February 19), the crown consented to withdraw the bills and thus compelled the Austrian parliament to repeal, at the dictation of the Hungarian obstructionists, what it regarded as a patriotic measure. Austrian feeling became embittered towards Hungary and the action of the crown was openly criticized.

The Magyar words of command.

Meanwhile the Hungarian Opposition broke its engagement. Obstruction was continued by a section of the independence party; and Kossuth, seeing his authority ignored, resigned the leadership. The obstructionists now raised the cry that the German words of command in the joint army must be replaced by Magyar words in the regiments recruited from Hungary—a demand which, apart from its disintegrating influence on the army, the crown considered to be an encroachment upon the royal military prerogatives as defined by the Hungarian Fundamental Law XII. of 1867. Clause 11 of the law runs:—"In pursuance of the constitutional military prerogatives of His Majesty, everything relating to the unitary direction, leadership and inner organization of the whole army, and thus also of the Hungarian army as a complementary part of the whole army, is recognized as subject to His Majesty's disposal." The cry for the Magyar words of command on which the subsequent constitutional crisis turned, was tantamount to a demand that the monarch

should differentiate the Hungarian from the Austrian part of the joint army, and should render it impossible for any but Magyar officers to command Hungarian regiments, less than half of which have a majority of Magyar recruits. The partisans of the Magyar words of command based their claim upon clause 12 of the Fundamental Law XII. of 1867—which runs:—"Nevertheless the country reserves its right periodically to complete the Hungarian army and the right of granting recruits, *the fixing of the conditions on which the recruits are granted,* the fixing of the term of service and all the dispositions concerning the stationing and the supplies of the troops according to existing law both as regards legislation and administration." Since Hungary reserved her right to fix the conditions on which recruits should be granted, the partisans of the Magyar words of command argued that the abolition of the German words of command in the Hungarian regiments might be made such a condition, despite the enumeration in the preceding clause 11, of everything appertaining to the unitary leadership and inner organization of the joint Austro-Hungarian army as belonging to the constitutional military prerogatives of the crown. Practically, the dispute was a trial of strength between Magyar nationalist feeling and the crown. Austrian feeling strongly supported the monarch in his determination to defend the unity of the army, and the conflict gradually acquired an intensity that appeared to threaten the very existence of the dual system.

When Count Khuen-Hedervàry took office and Kossuth relinquished the leadership of the independence party, the extension of the crisis could not be foreseen. A few extreme nationalists continued to obstruct the estimates, and it appeared as though their energy would soon flag. An attempt to quicken this process by bribery provoked, however, an outburst of feeling against Khuen-Hedervàry who, though personally innocent, found his position shaken. Shortly afterwards Magyar resentment of an army order issued from the cavalry manœuvres at Chlopy in Galicia—in which the monarch declared that he would "hold fast to the existing and well-tried organization of the army" and would never "relinquish the rights and privileges guaranteed to its highest war-lord"; and of a provocative utterance of the Austrian premier Körber in the Reichsrath led to the overthrow of the Khuen-Hedervàry cabinet (September 30) by an immense majority. The cabinet fell on a motion of censure brought forward by Kossuth, who had profited by the bribery incident to resume the leadership of his party.

Stephen Tisza.

An interval of negotiation between the crown and many leading Magyar Liberals followed, until at the end of October 1903 Count Stephen Tisza, son of Koloman Tisza, accepted a mission to form a cabinet after all others had declined. As programme Tisza brought with him a number of concessions from the crown to Magyar nationalist feeling in regard to military matters, particularly in regard to military badges, penal procedure, the transfer of officers of Hungarian origin from Austrian to Hungarian regiments, the establishment of military scholarships for Magyar youths and the introduction of the two years' service system. In regard to the military language, the Tisza programme—which, having been drafted by a committee of nine members, is known as the "programme of the nine"—declared that the responsibility of the cabinet extends to the military prerogatives of the crown, and that "the legal influence of parliament exists in this respect as in respect of every constitutional right." The programme, however, expressly excluded for "weighty political reasons affecting great interests of the nation" the question of the military language; and on Tisza's motion the Liberal party adopted an addendum, sanctioned by the crown: "the party maintains the standpoint that the king has a right to fix the language of service and command in the Hungarian army on the basis of his constitutional prerogatives as recognized in clause 11 of law XII. of 1867."

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Notwithstanding the concessions, obstruction was continued by the Clericals and the extreme Independents, partly in the hope of compelling the crown to grant the Magyar words of command and partly out of antipathy towards the person of the young calvinist premier. In March 1904, Tisza, therefore, introduced a drastic "guillotine" motion to amend the standing orders of the House, but withdrew it in return for an undertaking from the Opposition that obstruction would cease. This time the Opposition kept its word. The Recruits bill and the estimates were adopted, the Delegations were enabled to meet at Budapest—where they voted £22,000,000 as extraordinary estimates for the army and navy and especially for the renewal of the field artillery—and the negotiations for new commercial treaties with Germany and Italy were sanctioned, although parliament had never been able to ratify the Széll-Körber compact with the tariff on the basis of which the negotiations would have to be conducted. But, as the autumn session approached, Tisza foresaw a new campaign of obstruction, and resolved to revert to his drastic reform of the standing orders. The announcement of his determination caused the Opposition to rally against him, and when on the 18th of November the Liberal party adopted a "guillotine" motion by a show of hands in defiance of orthodox procedure, a section of the party seceded. On the 13th of December the Opposition, infuriated by the formation of a special corps of parliamentary constables, invaded and wrecked the Chamber. Tisza appealed to the country and suffered, on the 26th of January 1905, an overwhelming defeat at the hands of a coalition composed of dissentient Liberals, Clericals, Independents and a few Bánffyites. The Coalition gained an absolute majority and the Independence party became the strongest political group. Nevertheless the various adherents of the dual system retained an actual majority in the Chamber and prevented the Independence party from attempting to realize its programme of reducing the ties between Hungary and Austria to the person of the joint ruler. On the 25th of January, the day before his defeat, Count Tisza had signed on behalf of Hungary the new commercial treaties concluded by the Austro-Hungarian foreign office with Germany and Italy on the basis of the Széll-Körber tariff. He acted *ultra vires*, but by his act saved Hungary from a severe economic crisis and retained for her the right to benefit by economic partnership with

Austria until the expiry of the new treaties in 1917.

Deadlock of 1905.

A deadlock, lasting from January 1905 until April 1906, ensued between the crown and Hungary and, to a great extent, between Hungary and Austria. The Coalition, though possessing the majority in the Chamber, resolved not to take office unless the crown should grant its demands, including the Magyar words of command and customs separation from Austria. The crown declined to concede these points, either of which would have wrecked the dual system as interpreted since 1867. The Tisza cabinet could not be relieved of its functions till June 1905, when it was succeeded by a non-parliamentary administration under the premiership of General Baron Fejerváry, formerly minister for national defence. Seeing that the Coalition would not take office on acceptable terms, Fejerváry obtained the consent of the crown to a scheme, drafted by Kristóffy, minister of the interior, that the dispute between the crown and the Coalition should be subjected to the test of universal suffrage and that to this end the franchise in Hungary be radically reformed. The scheme alarmed the Coalition, which saw that universal suffrage might destroy not only the hegemony of the Magyar nobility and gentry in whose hands political power was concentrated, but might, by admitting the non-Magyars to political equality with the Magyars, undermine the supremacy of the Magyar race itself. Yet the Coalition did not yield at once. Not until the Chamber had been dissolved by military force (February 19, 1906) and an open breach of the constitution seemed within sight did they come to terms with the crown and form an administration. The miserable state of public finances and the depression of trade doubtless helped to induce them to perform a duty which they ought to have performed from the first; but their chief motive was the desire to escape the menace of universal suffrage or, at least, to make sure that it would be introduced in such a form as to safeguard Magyar supremacy over the other Hungarian races.

Pact of 1906.

The pact concluded (April 8, 1906) between the Coalition and the crown is known to have contained the following conditions:—All military questions to be suspended until after the introduction of universal suffrage; the estimates and the normal contingent of recruits to be voted for 1905 and 1906; the extraordinary military credits, sanctioned by the delegations in 1904, to be voted by the Hungarian Chamber; ratification of the commercial treaties concluded by Tisza; election of the Hungarian Delegation and of the Quota-Deputation; introduction of a suffrage reform at least as far reaching as the Kristóffy scheme. These "capitulations" obliged the Coalition government to carry on a dualist policy, although the majority of its adherents became, by the general election of May 1906, members of the Kossuth or Independence party, and, as such, pledged to the economic and political separation of Hungary from Austria save as regards the person of the ruler. Attempts were, however, made to emphasize the independence of Hungary. During the deadlock (June 2, 1905) Kossuth had obtained the adoption of a motion to authorize the compilation of an autonomous Hungarian tariff, and on the 28th of May 1906, the Coalition cabinet was authorized by the crown to present the Széll-Körber tariff to the Chamber in the form of a Hungarian autonomous tariff distinct from but identical with the Austrian tariff. This concession of form having been made to the Magyars without the knowledge of the Austrian government, Prince Konrad Hohenlohe, the Austrian premier, resigned office; and his successor, Baron Beck, eventually (July 6) withdrew from the table of the Reichsrath the whole Széll-Körber compact, declaring that the only remaining economic ties between the two countries were freedom of trade, the commercial treaties with foreign countries, the joint state bank and the management of excise. If the Hungarian government wished to regulate its relationship to Austria in a more definite form, added the Austrian premier, it must conclude a new agreement before the end of the year 1907, when the reciprocity arrangement of 1899 would lapse. The Hungarian government replied that any new arrangement with Austria must be concluded in the form of a commercial treaty as between two foreign states and not in the form of a "customs and trade alliance."

Agreement of 1907.

Austria ultimately consented to negotiate on this basis. In October 1907 an agreement was attained, thanks chiefly to the sobering of Hungarian opinion by a severe economic crisis, which brought out with unusual clearness the fact that separation from Austria would involve a period of distress if not of commercial ruin for Hungary. Austria also came to see that separation from Hungary would seriously enhance the cost of living in Cisleithania and would deprive Austrian manufacturers of their best market. The main features of the new "customs and commercial treaty" were: (1) Each state to possess a separate but identical customs tariff. (2) Hungary to facilitate the establishment of direct railway communication between Vienna and Dalmatia, the communication to be established by the end of 1911, each state building the sections of line that passed through its own territory. (3) Austria to facilitate railway communication between Hungary and Prussia. (4) Hungary to reform her produce and Stock Exchange laws so as to prevent speculation in agrarian produce. (5) A court of arbitration to be established for the settlement of differences between the two states, Hungary selecting four Austrian and Austria four Hungarian judges, the presidency of the court being decided by lot, and each government being represented before the court by its own delegates. (6) Impediments to free trade in sugar to be practically abolished. (7) Hungary to be entitled to redeem her share of the old Austrian debt (originally bearing interest at 5 and now at 4.2%) at the rate of 4.325% within the next ten years; if not redeemed within ten years the rate of capitalization to decrease annually by 1/12% until it reaches 4.2%. This arrangement represents a potential economy of some £2,000,000 capital for Hungary as compared with the original Austrian demand that the Hungarian contribution to the service of the old Austrian debt be capitalized at 4.2%. (8) The securities of the two governments to rank as

investments for savings banks, insurance companies and similar institutions in both countries, but not as trust fund investments. (9) Commercial treaties with foreign countries to be negotiated, not, as hitherto, by the joint minister for foreign affairs alone, but also by a nominee of each government. (10) The quota of Austrian and Hungarian contribution to joint expenditure to be 63.6 and 36.4 respectively—an increase of 2% in the Hungarian quota, equal to some £200,000 a year.

The economic dispute between Hungary and Austria was thus settled for ten years after negotiations lasting more than twelve years. One important question, however, that of the future of the joint State Bank, was left over for subsequent decision. During the negotiations for the customs and commercial treaty, the Austrian government attempted to conclude for a longer period than ten years, but was unable to overcome Hungarian resistance. Therefore, at the end of 1917, the commercial treaties with Germany, Italy and other countries, and the Austro-Hungarian customs and commercial treaty, would all lapse. Ten years of economic unity remained during which the Dual Monarchy might grow together or grow asunder, increasing accordingly in strength or in weakness.

(H. W. S.)

During this period of internal crisis the international position of the Dual Monarchy was threatened by two external dangers. The unrest in Macedonia threatened to reopen the Eastern Question in an acute form; with Italy the irredentist attitude of the Zanardelli cabinet led in 1902-1903 to such strained relations that war seemed imminent. The southern Tirol, the chief passes into Italy, strategic points on the Istrian and Dalmatian coasts, were strongly fortified, while in the interior the Tauern, Karawanken and Wochein railways were constructed, partly in order to facilitate the movement of troops towards the Italian border. The tension was relaxed with the fall of the Zanardelli government, and comparatively cordial relations were gradually re-established.

Balkan crisis.

In the affairs of the Balkan Peninsula a temporary agreement with Russia was reached in 1903 by the so-called "February Programme," supplemented in the following October by the "Mürzsteg Programme" (see MACEDONIA; TURKEY; EUROPE: *History*). The terms of the Mürzsteg programme were observed by Count Goluchowski, in spite of the ruin of Russian prestige in the war with Japan, so long as he remained in office. In October 1906, however, he retired, and it was soon clear that his successor, Baron von Aerenthal,[12] was determined to take advantage of the changed European situation to take up once more the traditional policy of the Habsburg monarchy in the Balkan Peninsula. He gradually departed from the Mürzsteg basis, and in January 1908 deliberately undermined the Austro-Russian agreement by obtaining from the sultan a concession for a railway from the Bosnian frontier through the sanjak of Novibazar to the Turkish terminus at Mitrovitza. This was done in the teeth of the expressed wish of Russia; it roused the helpless resentment of Servia, whose economic dependence upon the Dual Monarchy was emphasized by the outcome of the war of tariffs into which she had plunged in 1906, and who saw in this scheme another link in the chain forged for her by the Habsburg empire; it offended several of the great powers, who seemed to see in this railway concession the price of the abandonment by Austria-Hungary of her interest in Macedonian reforms. That Baron von Aerenthal was able to pursue a policy apparently so rash, was due to the fact that he could reckon on the support of Germany. The intimate relations between the two powers had been revealed during the dispute between France and Germany about Morocco; in the critical division of the 3rd of March 1906 at the Algeciras Conference Austria-Hungary, alone of all the powers, had sided with Germany, and it was a proposal of the Austro-Hungarian plenipotentiary that formed the basis of the ultimate settlement between Germany and France (see MOROCCO: *History*). The cordial relations thus emphasized encouraged Baron Aerenthal, in the autumn of 1908, to pursue a still bolder policy. The revolution in Turkey had entirely changed the face of the Eastern Question; the problem of Macedonian reform was swallowed up in that of the reform of the Ottoman empire generally, there was even a danger that a rejuvenated Turkey might in time lay claim to the provinces occupied by Austria-Hungary under the treaty of Berlin; in any case, the position of these provinces, governed autocratically from Vienna, between a constitutional Turkey and a constitutional Austria-Hungary, would have been highly anomalous. In the circumstances Baron Aerenthal determined on a bold policy. Without consulting the co-signatory powers of the treaty of Berlin, and in deliberate violation of its provisions, the king-emperor issued, on the 13th of October, a decree annexing Bosnia and Herzegovina to the Habsburg Monarchy, and at the same time announcing the withdrawal of the Austro-Hungarian troops from the sanjak of Novibazar. (See EUROPE: *History*.)

Internal difficulties.

Meanwhile the relations between the two halves of the Dual Monarchy had again become critical. The agreement of 1907 had been but a truce in the battle between two irreconcilable principles: between Magyar nationalism, determined to maintain its ascendancy in an independent Hungary, and Habsburg imperialism, equally determined to preserve the economic and military unity of the Dual Monarchy. In this conflict the tactical advantage lay with the monarchy; for the Magyars were in a minority in Hungary, their ascendancy was based on a narrow and artificial franchise, and it was open to the king-emperor to hold *in terrorem* over them an appeal to the disfranchised majority. It was the introduction of a Universal Suffrage Bill by Mr Joseph Kristóffy, minister of the interior in the "unconstitutional" cabinet of Baron Fejérváry, which brought the Opposition leaders in the Hungarian parliament to terms and made possible the agreement of 1907. But the Wekerle

ministry which succeeded that of Fejérváry on the 9th of April 1906 contained elements which made any lasting compromise impossible. The burning question of the "Magyar word of command" remained unsettled, save in so far as the fixed determination of the king-emperor had settled it; the equally important question of the renewal of the charter of the Austro-Hungarian State Bank had also formed no part of the agreement of 1907. On the other hand, the Wekerle ministry was pledged to a measure of franchise reform, a pledge which they showed no eagerness to redeem, though the granting of universal suffrage in the Austrian half of the Monarchy had made such a change inevitable. In March 1908 Mr Hallo laid before the Hungarian parliament a formal proposal that the charter of the Austro-Hungarian Bank, which was to expire at the end of 1910, should not be renewed; and that, in the event of failure to negotiate a convention between the banks of Austria and Hungary, a separate Hungarian Bank should be established. This question, obscured during the winter by the Balkan crisis, once more became acute in the spring of 1909. In the Coalition cabinet itself opinion was sharply divided, but in the end the views of the Independence party prevailed, and Dr Wekerle laid the proposal for a separate Hungarian Bank before the king-emperor and the Austrian government. Its reception was significant. The emperor Francis Joseph pointed out that the question of a separate Bank for
[v.03 p.0026] Hungary did not figure in the act of 1867, and could not be introduced into it, *especially since the capital article of the ministerial programme*, i.e. *electoral reform, was not realized, nor near being realized*. This was tantamount to an appeal from the Magyar *populus* to the Hungarian *plebs*, the disfranchised non-Magyar majority; an appeal all the more significant from the fact that it ignored the suffrage bill brought in on behalf of the Hungarian government by Count Julius Andrássy in November 1908, a bill which, under the guise of granting the principle of universal suffrage, was ingeniously framed so as to safeguard and even to extend Magyar ascendancy (see HUNGARY: *History*). In consequence of this rebuff Dr Wekerle tendered his resignation on the 27th of April. Months passed without it being possible to form a new cabinet, and a fresh period of crisis and agitation was begun.

(W. A. P.)

II. *Austria Proper since* 1867.

As already explained, the name Austria is used for convenience to designate those portions of the possessions of the house of Habsburg, which were not included by the settlement of 1867 among the lands of the Hungarian crown. The separation of Hungary made it necessary to determine the method by which these territories[13] were henceforth to be governed. It was the misfortune of the country that there was no clear legal basis on which new institutions could be erected. Each of the territories was a separate political unit with a separate history, and some of them had a historic claim to a large amount of self-government; in many the old feudal estates had survived till 1848. Since that year the empire had been the subject of numerous experiments in government; by the last, which began in 1860, *Landtage* or diets have been instituted in each of the territories on a nearly uniform system and with nearly identical powers, and by the constitution published in February 1861 (the February Constitution, as it is called), which is still the ultimate basis for the government, there was instituted a *Reichsrath* or parliament for the whole empire; it consisted of a House of Lords (*Herrenhaus*), in which sat the archbishops and prince bishops, members of the imperial family, and other members appointed for life, besides some hereditary members, and a Chamber of Deputies. The members of the latter for each territory were not chosen by direct election, but by the diets. The diets themselves were elected for six years; they were chosen generally (there were slight local differences) in the following way: (*a*) a certain number of bishops and rectors of universities sat in virtue of their office; (*b*) the rest of the members were chosen by four electoral bodies or *curiae*,—(1) the owners of estates which before 1848 had enjoyed certain feudal privileges, the so-called great proprietors; (2) the chambers of commerce; (3) the towns; (4) the rural districts. In the two latter classes all had the suffrage who paid at least ten gulden in direct taxes. The districts were so arranged as to give the towns a very large representation in proportion to their populations. In Bohemia, *e.g.*, the diet consisted of 241 members: of these five were *ex officio* members; the feudal proprietors had seventy; the towns and chambers of commerce together had eighty-seven; the rural districts seventy-nine. The electors in the rural districts were 236,000, in the towns 93,000. This arrangement seems to have been deliberately made by Schmerling, so as to give greater power to the German inhabitants of the towns; the votes of the proprietors would, moreover, nearly always give the final decision to the court and the government, for the influence exercised by the government over the nobility would generally be strong enough to secure a majority in favour of the government policy.

The February Constitution.

This constitution had failed; territories so different in size, history and circumstances were not contented with similar institutions, and a form of self-government which satisfied Lower Austria and Salzburg did not satisfy Galicia and Bohemia. The Czechs of Bohemia, like the Magyars, had refused to recognize the common parliament on the ground that it violated the historic rights of the Bohemian as of the Hungarian crown, and in 1865 the constitution of 1861 had been superseded, while the territorial diets remained. In 1867 it was necessary once more to summon, in some form or another, a common parliament for the whole of Austria, by which the settlement with Hungary could be ratified.

Centralists and Federalists.

This necessity brought to a decisive issue the struggle between the parties of the Centralists and Federalists. The latter claimed that the new constitution must be made by agreement with the territories; the former maintained that the constitution of 1861 was still valid, and demanded that

in accordance with it the Reichsrath should be summoned and a "constitutional" government restored. The difference between the two parties was to a great extent, though not entirely, one of race. The kernel of the empire was the purely German district, including Upper and Lower Austria, Salzburg, Tirol (except the south) and Vorarlberg, all Styria except the southern districts, and a large part of Carinthia. There was strong local feeling, especially in Tirol, but it was local feeling similar to that which formerly existed in the provinces of France; among all classes and parties there was great, loyalty both to the ruling house and to the idea of the Austrian state; but while the Liberal party, which was dominant in Lower Austria and Styria, desired to develop the central institutions, there was a strong Conservative and Clerical party which supported local institutions as a protection against the Liberal influence of a centralized parliament and bureaucracy, and the bishops and clergy were willing to gain support in the struggle by alliance with the Federalists.

The Slavonic Lands.

Very different was it in the other territories where the majority of the population was not German—and where there was a lively recollection of the time when they were not Austrian. With Palacky, they said, "We existed before Austria; we shall continue to exist after it is gone." Especially was this the case in Bohemia. In this great country, the richest part of the Austrian dominions, where over three-fifths of the population were Czech, racial feeling was supported by the appeal to historic law. A great party, led by Palacky and Rieger, demanded the restoration of the Bohemian monarchy in its fullest extent, including Moravia and Silesia, and insisted that the emperor should be crowned as king of Bohemia at Prague as his predecessors had been, and that Bohemia should have a position in the monarchy similar to that obtained by Hungary. Not only did the party include all the Czechs, but they were supported by many of the great nobles who were of German descent, including Count Leo Thun, his brother-in-law Count Heinrich Clam-Martinitz, and Prince Friedrich von Schwarzenberg, cardinal archbishop of Prague, who hoped in a self-governing kingdom of Bohemia to preserve that power which was threatened by the German Liberals. The feudal nobles had great power arising from their wealth, the great traditions of their families, and the connexion with the court, and by the electoral law they had a large number of representatives in the diet. On the other hand the Germans of Bohemia, fearful of falling under the control of the Czechs, were the most ardent advocates of centralization. The Czechs were supported also by their fellow-countrymen in Moravia, and some of the nobles, headed by Count Belcredi, brother of the minister; but in Brünn there was a strong German party. In Silesia the
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Germans had a considerable majority, and as there was a large Polish element which did not support the Czechs, the diet refused to recognize the claims of the Bohemians.

The Poles of Galicia stood apart from the other Slav races. The German-speaking population was very small, consisting chiefly of government officials, railway servants and Jews; but there was a large minority (some 43%) of Ruthenes. The Poles wished to gain as much autonomy as they could for their own province, but they had no interest in opposing the centralization of other parts; they were satisfied if Austria would surrender the Ruthenes to them. They were little influenced by the pan-Slav agitation; it was desirable for them that Austria, which gave them freedom and power, should continue strong and united. Their real interests were outside the monarchy, and they did not cease to look forward to a restoration of the Polish kingdom. The great danger was that they might entangle Austria in a war with Russia.

The southern Slavs had neither the unity, nor the organization, nor the historical traditions of the Czechs and Poles; but the Slovenes, who formed a large majority of the population in Carniola, and a considerable minority in the adjoining territory of Carinthia and the south of Styria, demanded that their language should be used for purposes of government and education. Their political ideal was an "Illyrian" kingdom, including Croatia and all the southern Slavs in the coast district, and a not very successful movement had been started to establish a so-called Illyrian language, which should be accepted by both Croats and Slovenes. There was, however, another element in the southern districts, viz. the Serbs, who, though of the same race and language as the Croats, were separated from them by religion. Belonging to the Orthodox Church they were attracted by Russia. They were in constant communication with Servia and Montenegro; and their ultimate hope, the creation of a great Servian kingdom, was less easy to reconcile with loyalty to Austria. Of late years attempts have been made to turn the Slovenian national movement into this direction, and to attract the Slovenes also towards the Orthodox non-Austrian Slavs.

South Dalmatia.

In the extreme south of Dalmatia is a small district which had not formed part of the older duchy of Dalmatia, and had not been joined to the Austrian empire till 1814; in former years part of it formed the republic of Ragusa, and the rest belonged to Albania. The inhabitants of this part, who chiefly belonged to the Greek Church, still kept up a close connexion with Albania and with Montenegro, and Austrian authority was maintained with difficulty. Disturbances had already broken out once before; and in 1869 another outbreak took place. This district had hitherto been exempted from military service; by the law of 1869, which introduced universal military service, those who had hitherto been exempted were required to serve, not in the regular army but in the militia. The inhabitants of the district round the Bocche di Cattaro (the Bocchesi, as they are commonly called) refused to obey this order, and when a military force was sent it failed to overcome their resistance; and by an agreement made at Knezlac in December 1869, Rodics, who had taken command, granted the insurgents all they asked and a complete amnesty. After the conquest of Bosnia another attempt was made to enforce military service; once more a rebellion broke out, and spread to the contiguous districts of Herzegovina. This time, however, the government, whose position in the

Balkans had been much strengthened by the occupation of the new provinces, did not fear to act with decision. A considerable force was sent under General Baron Stephan von Jovanovich (1828-1885); they were supported from sea by the navy, and eventually the rebellion was crushed. An amnesty was proclaimed, but the greater number of the insurgents sought refuge in Montenegro rather than submit to military service.

The Italians of Trieste and Istria were the only people of the empire who really desired separation from Austria; annexation to Italy was the aim of the *Italianissimi*, as they were called. The feeling was less strong in Tirol, where, except in the city of Trent, they seem chiefly to have wished for separate local institutions, so that they should no longer be governed from Innsbruck. The Italian-speaking population on the coast of Dalmatia only asked that the government should uphold them against the pressure of the Slav races in the interior, and for this reason were ready to support the German constitutionalists.

German Constitutional party.

The party of centralization was then the Liberal German party, supported by a few Italians and the Ruthenes, and as years went by it was to become the National German party. They hoped by a common parliament to create the feeling of a common Austrian nationality, by German schools to spread the use of the German language. Every grant of self-government to the territories must diminish the influence of the Germans, and bring about a restriction in the use of the German language; moreover, in countries such as Bohemia, full self-government would almost certainly mean that the Germans would become the subject race. This was a result which they could not accept. It was intolerable to them that just at the time when the national power of the non-Austrian Germans was so greatly increased, and the Germans were becoming the first race in Europe, they themselves should resign the position as rulers which they had won during the last three hundred years. They maintained, moreover, that the ascendancy of the Germans was the only means of preserving the unity of the monarchy; German was the only language in which the different races could communicate with one another; it must be the language of the army, the civil service and the parliament. They laid much stress on the historic task of Austria in bringing German culture to the half-civilized races of the east. They demanded, therefore, that all higher schools and universities should remain German, and that so far as possible the elementary schools should be Germanized. They looked on the German schoolmaster as the apostle of German culture, and they looked forward to the time when the feeling of a common Austrian nationality should obscure the national feeling of the Slavs, and the Slavonic idioms should survive merely as the local dialects of the peasantry, the territories becoming merely the provinces of a united and centralized state. The total German population was not quite a third of the whole. The maintenance of their rule was, therefore, only possible by the exercise of great political ability, the more so, since, as we have seen, they were not united among themselves, the clergy and Feudal party being opposed to the Liberals. Their watchword was the constitution of 1861, which had been drawn up by their leaders; they demanded that it should be restored, and with it parliamentary government. They called themselves, therefore, the Constitutional party. But the introduction of parliamentary government really added greatly to the difficulty of the task before them. In the old days German ascendancy had been secured by the common army, the civil service and the court. As soon, however, as power was transferred to a parliament, the Germans must inevitably be in a minority, unless the method of election was deliberately arranged so as to give them a majority. Parliamentary discussion, moreover, was sure to bring out those racial differences which it was desirable should be forgotten, and the elections carried into every part of the empire a political agitation which was very harmful when each party represented a different race.

Crisis of 1867.

The very first events showed one of those extraordinary changes of policy so characteristic of modern Austrian history. The decision of the government on the constitutional question was really determined by immediate practical necessity. The Hungarians required that the settlement should be ratified by a parliament, therefore a parliament must be procured which would do this. It must be a parliament in which the Germans had a majority, for the system of dualism was directly opposed to the ambitions of the Slavs and the Federalists. Belcredi, who had come into power in 1865 as a Federalist, and had suspended the constitution of 1861 on the 2nd of January 1867, ordered new elections for the diets, which were then to elect deputies to an extraordinary Reichsrath which should consider the *Ausgleich*, or compact with Hungary. The wording of the decree implied that the February constitution did not exist as of law; the Germans and Liberals, strenuously objecting to a "feudal-federal" constitution which would give the Slavs a preponderance in the empire, maintained that the February constitution was still in force, and that changes could only be introduced by a regular Reichsrath summoned in accordance with it, protested against the decree, and, in some cases, threatened not to take part in the elections. As the Federalists were all opposed to the Ausgleich, it was clear that a Reichsrath chosen in these circumstances would refuse to ratify it, and this was probably Belcredi's intention. As the existence of the empire would thereby be endangered, Beust interfered; Belcredi was dismissed, Beust himself became minister-president on the 7th of February 1867, and a new edict was issued from Vienna ordering the diets to elect a Reichsrath, according to the constitution, which was now said to be completely valid. Of course, however, those diets in which there was a Federalist majority, viz. those of Bohemia, Moravia, Carinthia and Tirol, which were already pledged to support the January policy of the government, did not acquiesce in the February policy; and they refused to elect except on terms which the government could not accept. The first three were immediately dissolved. In the elections which followed in Bohemia the influence of the government was sufficient to secure a German majority among the landed proprietors; the Czechs, who were

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therefore in a minority, declared the elections invalid, refused to take any part in electing deputies for the Reichsrath, and seceded altogether from the diet. The result was that Bohemia now sent a large German majority to Vienna, and the few Czechs who were chosen refused to take their seat in the parliament. Had the example of the Czechs been followed by the other Slav races it would still have been difficult to get together a Reichsrath to pass the Ausgleich. It was, however, easier to deal with the Poles of Galicia, for they had no historical rights to defend; and by sending delegates to Vienna they would not sacrifice any principle or prejudice any legal claim; they had only to consider how they could make the best bargain. Their position was a strong one; their votes were essential to the government, and the government could be useful to them; it could give them the complete control over the Ruthenes. A compact then was easily arranged.

Beust's compact with the Poles.

Beust promised them that there should be a special minister for Galicia, a separate board for Galician education, that Polish should be the language of instruction in all secondary schools, that Polish instead of German should be the official language in the law courts and public offices, Ruthenian being only used in the elementary schools under strict limitations. On these terms the Polish deputies, led by Ziemialkowski, agreed to go to Vienna and vote for the Ausgleich.

The constitution of 1867.

When the Reichsrath met, the government had a large majority; and in the House, in which all the races except the Czechs were represented, the Ausgleich was ratified almost unanimously. This having been done, it was possible to proceed to special legislation for the territories, which were henceforward officially known as "the kingdoms and lands represented in the Reichsrath." A series of fundamental laws were carried, which formally established parliamentary government, with responsibility of ministers, and complete control over the budget, and there were included a number of clauses guaranteeing personal rights and liberties in the way common to all modern constitutions. The influence of the Poles was still sufficient to secure considerable concessions to the wishes of the Federalists, since if they did not get what they wished they would leave the House, and the Slovenes, Dalmatians and Tirolese would certainly follow them. Hence the German Liberals were prevented from introducing direct elections to the Reichsrath, and the functions of the Reichsrath were slightly less extensive than they had hitherto been. Moreover, the Delegation was to be chosen not by the House as a whole, but by the representatives of the separate territories. This is one reason for the comparative weakness of Austria as compared with Hungary, where the Delegation is elected by each House as a whole; the Bohemian representatives, *e.g.*, meet and choose 10 delegates, the Galicians 7, those from Trieste 1; the Delegation, is, therefore, not representative of the majority of the chamber of deputies, but includes representatives of all the groups which may be opposing the government there, and they can carry on their opposition even in the Delegation. So it came about in 1869, that on the first occasion when there was a joint sitting of the Delegations to settle a point in the budget, which Hungary had accepted and Austria rejected, the Poles and Tirolese voted in favour of the Hungarian proposal.

The Bürger Ministerium.

As soon as these laws had been carried (December 1867), Beust retired from the post of minister-president; and in accordance with constitutional practice a parliamentary ministry was appointed entirely from the ranks of the Liberal majority; a ministry generally known as the "Bürger Ministerium" in which Giskra and Herbst—the leaders of the German party in Moravia and Bohemia—were the most important members. Austria now began its new life as a modern constitutional state. From this time the maintenance of the revised constitution of 1867 has been the watchword of what is called the Constitutional party. The first use which the new government made of their power was to settle the finances, and in this their best work was done. Among them were nearly all the representatives of trade and industry, of commercial enterprise and financial speculation; they were the men who hoped to make Austria a great industrial state, and at this time they were much occupied with railway enterprise. Convinced free-traders, they hoped by private energy to build up the fortunes of the country, parliamentary government—which meant for them the rule of the educated and well-to-do middle class—being one of the means to this end. They accepted the great burden of debt which the action of Hungary imposed upon the country, and rejected the proposals for repudiation, but notwithstanding the protest of foreign bondholders they imposed a tax of 16% on all interest on the debt. They carried out an extension of the commercial treaty with Great Britain by which a further advance was made in the direction of free trade.

The Liberals and the concordat.

Of equal importance was their work in freeing Austria from the control of the Church, which checked the intellectual life of the people. The concordat of 1855 had given the Church complete freedom in the management of all ecclesiastical affairs; there was full liberty of intercourse with Rome, the state gave up all control over the appointment of the clergy, and in matters of church discipline the civil courts had no voice—the clergy being absolutely subject to the power of the bishops, who could impose temporal as well as spiritual penalties. The state had even resigned to the Church all authority over some departments of civil life, and restored the authority of the canon law. This was the case as regards marriage; all disputes were to be tried before ecclesiastical courts, and the marriage registers were kept by the priests. All the schools were under the control of the Church; the bishops could forbid the use of books prejudicial to religion; in elementary schools all teachers were subject to the inspection of the Church, and in higher schools only Roman Catholics could be appointed. It had been agreed that the whole education of the Roman Catholic youth, in all schools, private as well as public, should be in accordance with

the teaching of the Roman Catholic Church. The authority of the Church extended even to the universities. Some change in this system was essential; the Liberal party demanded that the government should simply state that the concordat had ceased to exist. To this, however, the emperor would not assent, and there was a difficulty in overthrowing an act which took the form of a treaty. The government wished to come to some agreement by friendly discussion with Rome, but Pius IX. was not willing to abate anything of his full claims. The ministry, therefore, proceeded by internal legislation, and in 1868 introduced three laws: (1) a marriage law transferred the decisions on all questions of marriage from the ecclesiastical to the civil courts, abolished the authority of the canon law, and introduced civil marriage in those cases where the clergy refused to perform the ceremony; (2) the control of secular education was taken from the Church, and the management of schools transferred to local authorities which were to be created by the diets; (3) complete civil equality between Catholics and non-Catholics was established. These laws were carried through both Houses in May amid almost unparalleled excitement, and at once received the imperial sanction, notwithstanding the protest of all the bishops, led by
[v.03 p.0029] Joseph Othmar von Rauscher (1797-1875), cardinal archbishop of Vienna, who had earned his red hat by the share he had taken in arranging the concordat of 1855, and now attempted to use his great personal influence with the emperor (his former pupil) to defeat the bill.

The ministry had the enthusiastic support of the German population in the towns. They were also supported by the teaching profession, which desired emancipation from ecclesiastical control, and hoped that German schools and German railways were to complete the work which Joseph II. had begun. But the hostility of the Church was dangerous. The pope, in an allocution of 22nd June 1868, declared that these "damnable and abominable laws" which were "contrary to the concordat, to the laws of the Church and to the principles of Christianity," were "absolutely and for ever null and void." The natural result was that when they were carried into effect the bishops in many cases refused to obey. They claimed that the laws were inconsistent with the concordat, that the concordat still was in force, and that the laws were consequently invalid. The argument was forcible, but the courts decided against them. Rudigier, bishop of Linz, was summoned to a criminal court for disturbing the public peace; he refused to appear, for by the concordat bishops were not subject to temporal jurisdiction; and when he was condemned to imprisonment the emperor at once telegraphed his full pardon. In the rural districts the clergy had much influence; they were supported by the peasants, and the diets of Tirol and Vorarlberg, where there was a clerical majority, refused to carry out the school law.

On the proclamation of papal infallibility in 1870, the government took the opportunity of declaring that the concordat had lapsed, on the ground that there was a fundamental change in the character of the papacy. Nearly all the Austrian prelates had been opposed to the new doctrine; many of them remained to the end of the council and voted against it, and they only declared their submission with great reluctance. The Old Catholic movement, however, never made much progress in Austria. Laws regulating the position of the Church were carried in 1874. (For the concordat see Laveleye, *La Prusse et l'Autriche*, Paris, 1870.)

Nationalism in Galicia and Bohemia.

During 1868 the constitution then was open to attack on two sides, for the nationalist movement was gaining ground in Bohemia and Galicia. In Galicia the extreme party, headed by Smolka, had always desired to imitate the Czechs and not attend at Vienna; they were outvoted, but all parties agreed on a declaration in which the final demands of the Poles were drawn up;[14] they asked that the powers of the Galician diet should be much increased, and that the members from Galicia should cease to attend the Reichsrath on the discussion of those matters with which the Galician diet should be qualified to deal. If these demands were not granted they would leave the Reichsrath. In Bohemia the Czechs were very active; while the Poles were parading their hostility to Russia in such a manner as to cause the emperor to avoid visiting Galicia, some of the Czech leaders attended a Slav demonstration at Moscow, and in 1868 they drew up and presented to the diet at Prague a "declaration" which has since been regarded as the official statement of their claims. They asked for the full restoration of the Bohemian kingdom; they contended that no foreign assembly was qualified to impose taxes in Bohemia; that the diet was not qualified to elect representatives to go to Vienna, and that a separate settlement must be made with Bohemia similar to that with Hungary. This declaration was signed by eighty-one members, including many of the feudal nobles and bishops.[15] The German majority declared that they had forfeited their seats, and ordered new elections. The agitation spread over the country, serious riots took place, and with a view to keeping order the government decreed exceptional laws. Similar events happened in Moravia, and in Dalmatia the revolt broke out among the Bocchesi.

Parliamentary breakdown of 1870.

Before the combination of Clericals and Federalists the ministry broke down; they were divided among themselves; Counts Taaffe and Alfred Potocki, the minister of agriculture, wished to conciliate the Slav races—a policy recommended by Beust, probably with the sympathy of the emperor; the others determined to cripple the opposition by taking away the elections for the Reichsrath from the diets. Taaffe and his friends resigned in January 1870, but the majority did not long survive. In March, after long delay, the new Galician demands were definitely rejected; the whole of the Polish club, followed by the Tirolese and Slovenes, left the House, which consequently consisted of 110 members—the Germans and German representatives from Bohemia and Moravia. It was clearly impossible to govern with such a parliament. Not four years had gone by, and the new constitution seemed to have failed like the old one. The only thing to do was to attempt a reconciliation with the Slavs. The ministry resigned, and Potocki and Taaffe formed a government with this object. Potocki, now minister-president, then entered on negotiations,

hoping to persuade the Czechs to accept the constitution. Rieger and Thun were summoned to Vienna; he himself went to Prague, but after two days he had to give up the attempt in despair. Feudals and Czechs all supported the declaration of 1868, and would accept no compromise, and he returned to Vienna after what was the greatest disappointment of his life. Government, however, had to be carried on; the war between Germany and France broke out in July, and Austria might be drawn into it; the emperor could not at such a crisis alienate either the Germans or the Slavs. The Reichsrath and all the diets were dissolved. This time in Bohemia the Czechs, supported by the Feudals and the Clericals, gained a large majority; they took their seats in the diet only to declare that they did not regard it as the legal representative of the Bohemian kingdom, but merely an informal assembly, and refused to elect delegates for the Reichsrath. The Germans in their turn now left the diet, and the Czechs voted an address to the crown, drawn up by Count Thun, demanding the restoration of the Bohemian kingdom. When the Reichsrath met there were present only 130 out of 203 members, for the whole Bohemian contingent was absent; the government then, under a law of 1868, ordered that as the Bohemian diet had sent no delegates, they were to be chosen directly from the people. Twenty-four Constitutionalists and thirty *Declaranten* were chosen; the latter, of course, did not go to Vienna, but the additional twenty-four made a working majority by which the government was carried on for the rest of the year.

The ministry of Hohenwart.

But Potocki's influence was gone, and as soon as the European crisis was over, in February 1871, the emperor appointed a ministry chosen not from the Liberals but from the Federalists and Clericals, led by Count Hohenwart and A. E. F. Schäffle, a professor at the university of Vienna, chiefly known for his writings on political economy. They attempted to solve the problem by granting to the Federalists all their demands. So long as parliament was sitting they were kept in check; as soon as it had voted supplies and the Delegations had separated, they ordered new elections in all those diets where there was a Liberal majority. By the help of the Clericals they won enough seats to put the Liberals in a minority in the Reichsrath, and it would be possible to revise the constitution if the Czechs consented to come. They would only attend, however, on their own terms, which were a complete recognition by the government of the claims made in the Declaration. This was agreed to; and on the 12th of September at the opening of the diet, the governor read a royal message recognizing the separate existence of the Bohemian kingdom, and promising that the emperor should be crowned as king at Prague. It was received with delight throughout Bohemia, and the Czechs drew a draft constitution of fundamental rights. On this the Germans, now that they were in a minority, left the diet, and began preparations for resistance. In Upper Austria, Moravia and Carinthia, where they were outvoted by the Clericals, they seceded, and the whole work of 1867 was on the point of being overthrown. Were the movement not stopped the constitution would be superseded, and the union with Hungary endangered. Beust and Andrássy warned the emperor of the danger, and the crown prince of Saxony was summoned by Beust to remonstrate with him. A great council was called at Vienna (October 20), at which the emperor gave his decision that the Bohemian demands could not be accepted. The Czechs must come to Vienna, and consider a revision of the constitution in a constitutional manner. Hohenwart resigned, but at the same time Beust was dismissed, and a new cabinet was chosen once more from among the German Liberals, under the leadership of Prince Adolf Auersperg, whose brother Carlos had been one of the chief members in the Bürger Ministerium. For the second time in four years the policy of the government had completely changed within a few months. On 12th September the decree had been published accepting the Bohemian claims; before the end of the year copies of it were seized by the police, and men were thrown into prison for circulating it.

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Auersperg's ministry, 1871 to 1879.

Auersperg's ministry held office for eight years. They began as had the Bürger Ministerium, with a vigorous Liberal centralizing policy. In Bohemia they succeeded at first in almost crushing the opposition. In 1872 the diet was dissolved; and the whole influence of the government was used to procure a German majority. Koller, the governor, acted with great vigour. Opposition newspapers were suppressed; cases in which Czech journalists were concerned were transferred to the German districts, so that they were tried by a hostile German jury. Czech manifestoes were confiscated, and meetings stopped at the slightest appearance of disorder; and the riots were punished by quartering soldiers upon the inhabitants. The decision between the two races turned on the vote of the feudal proprietors, and in order to win this a society was formed among the German capitalists of Vienna (to which the name of *Chabrus* was popularly given) to acquire by real or fictitious purchase portions of those estates to which a vote was attached. These measures were successful; a large German majority was secured; Jews from Vienna sat in the place of the Thuns and the Schwarzenbergs; and as for many years the Czechs refused to sit in the diet, the government could be carried on without difficulty. A still greater blow to the Federalists was the passing of a new electoral law in 1873. The measure transferred the right of electing members of the Reichsrath from the diets to the direct vote of the people, the result being to deprive the Federalists of their chief weapon; it was no longer possible to take a formal vote of the legal representatives in any territory refusing to appoint deputies, and if a Czech or Slovene member did not take his seat the only result was that a single constituency was unrepresented, and the opposition weakened. The measure was strongly opposed. A petition with 250,000 names was presented from Bohemia; and the Poles withdrew from the Reichsrath when the law was introduced. But enough members remained to give the legal quorum, and it was carried by 120 to 2 votes. At the same time the number of members was increased to 353, but the proportion of representatives from the different territories was maintained and the system of election was not

altered. The proportion of members assigned to the towns was increased, the special representatives of the chambers of commerce and of the landed proprietors were retained, and the suffrage was not extended. The artificial system which gave to the Germans a parliamentary majority continued.

Czech dissensions.

At this time the Czechs were much weakened by quarrels among themselves. A new party had arisen, calling themselves Radicals, but generally known as the Young Czechs. They disliked the alliance with the aristocracy and the clergy; they wished for universal suffrage, and recalled the Hussite traditions. They desired to take their seats in the diet, and to join with the Germans in political reform. They violently attacked Rieger, the leader of the Old Czechs, who maintained the alliance with the Feudalists and the policy of passive opposition. Twenty-seven members of the diet led by Gregr and Stadkowsky, being outvoted in the Czech Club, resigned their seats. They were completely defeated in the elections which followed, but for the next four years the two parties among the Czechs were as much occupied in opposing one another as in opposing the Germans. These events might have secured the predominance of the Liberals for many years. The election after the reform bill gave them an increased majority in the Reichsrath. Forty-two Czechs who had won seats did not attend; forty-three Poles stood aloof from all party combination, giving their votes on each occasion as the interest of their country seemed to require; the real opposition was limited to forty Clericals and representatives of the other Slav races, who were collected on the Right under the leadership of Hohenwart. Against them were 227 Constitutionalists, and it seemed to matter little that they were divided into three groups; there were 105 in the Liberal Club under the leadership of Herbst, 57 Constitutionalists, elected by the landed proprietors, and a third body of Radicals, some of whom were more democratic than the old Constitutional party, while others laid more stress on nationality. They used their majority to carry a number of important laws regarding ecclesiastical affairs. Yet within four years the government was obliged to turn for support to the Federalists and Clericals, and the rule of the German Liberals was overthrown. Their influence was indirectly affected by the great commercial crisis of 1873. For some years there had been active speculations on the Stock Exchange; a great number of companies, chiefly banks and building societies, had been founded on a very insecure basis.

Financial crisis of 1873.

The inevitable crisis began in 1872; it was postponed for a short time, and there was some hope that the Exhibition, fixed for 1873, would bring fresh prosperity; the hope was not, however, fulfilled, and the final crash, which occurred in May, brought with it the collapse of hundreds of undertakings. The loss fell almost entirely on those who had attempted to increase their wealth by speculative investment. Sound industrial concerns were little touched by it, but speculation had become so general that every class of society was affected, and in the investigation which followed it became apparent that some of the most distinguished members of the governing Liberal party, including at least two members of the government, were among those who had profited by the unsound finance. It appeared also that many of the leading newspapers of Vienna, by which the Liberal party was supported, had received money from financiers. For the next two years political interest was transferred from parliament to the law courts, in which financial scandals were exposed, and the reputations of some of the leading politicians were destroyed.[16]

Fall of the Liberal ministry.

This was to bring about a reaction against the economic doctrines which had held the field for nearly twenty years; but the full effect of the change was not seen for some time. What ruined the government was the want of unity in the party, and their neglect to support a ministry which had been taken from their own ranks. In a country like Austria, in which a mistaken foreign policy or a serious quarrel with Hungary might bring about the disruption of the monarchy, parliamentary government was impossible unless the party which the government helped in internal matters were prepared to support it in foreign affairs and in the commercial policy bound up with the settlement with Hungary. This the constitutional parties did not do. During discussions on the economic arrangement with Hungary in 1877 a large number voted against the duties on coffee and petroleum, which were an essential part of the agreement; they demanded, moreover, that the treaty of Berlin should be laid before the House, and 112 members, led by Herbst, gave a vote hostile to some of its provisions, and in the Delegation refused the supplies necessary for the occupation of Bosnia. They doubtless were acting in accordance with their principles, but the situation was such that it would have been impossible to carry out their wishes; the only result was that the Austrian ministers and Andrássy had to turn for help to the Poles, who began to acquire the position of a government party, which they have kept since then. At the beginning of 1870 Auersperg's resignation, which had long been offered, was accepted. The constitutionalists remained in power; but in the reconstructed cabinet, though Stremayr was president, Count Taaffe, as minister of the interior, was the most important member.

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Parliament was dissolved in the summer, and Taaffe, by private negotiations, first of all persuaded the Bohemian feudal proprietors to give the Feudalists, who had long been excluded, a certain number of seats; secondly, he succeeded where Potocki had failed, and came to an agreement with the Czechs; they had already, in 1878, taken their seats in the diet at Prague, and now gave up the policy of "passive resistance," and consented to take their seats also in the parliament at Vienna.

Count Taaffe.

On entering the House they took the oath without reservation, but in the speech from the throne the emperor himself stated that they had entered without prejudice to their convictions, and on the first day of the session Rieger read a formal reservation of right. The Liberals had also lost many seats, so that the

House now had a completely different aspect; the constitutionalists were reduced to 91 Liberals and 54 Radicals; but the Right, under Hohenwart, had increased to 57, and there were 57 Poles and 54 Czechs. A combination of these three parties might govern against the constitutionalists. Taaffe, who now became first minister, tried first of all to govern by the help of the moderates of all parties, and he included representatives of nearly every party in his cabinet. But the Liberals again voted against the government on an important military bill, an offence almost as unpardonable in Austria as in Germany, and a great meeting of the party decided that they would not support the government. Taaffe, therefore, was obliged to turn for support to the Right. The German members of the government resigned, their place was taken by Clericals, Poles and Czechs, Smolka was elected president of the Lower House of the Reichsrath, and the German Liberals found themselves in a minority opposed by the "iron ring" of these three parties, and helpless in the parliament of their own creation. For fourteen years Taaffe succeeded in maintaining the position he had thus secured. He was not himself a party man; he had sat in a Liberal government; he had never assented to the principles of the Federalists, nor was he an adherent of the Clerical party. He continued to rule according to the constitution; his watchword was "unpolitical politics," and he brought in little contentious legislation. The great source of his strength was that he stood between the Right and a Liberal government. There was a large minority of constitutionalists; they might easily become a majority, and the Right were therefore obliged to support Taaffe in order to avert this. They continued to support him, even if they did not get from him all that they could have wished, and the Czechs acquiesced in a foreign policy with which they had little sympathy. Something, however, had to be done for them, and from time to time concessions had to be made to the Clericals and the Federalists.

The Clericals.

The real desire of the Clericals was an alteration of the school law, by which the control of the schools should be restored to the Church and the period of compulsory education reduced. In this, however, the government did not meet them, and in 1882 the Clericals, under Prince Alfred v. Liechtenstein, separated from Hohenwart's party and founded their own club, so that they could act more freely. Both the new Clerical Club and the remainder of the Conservatives were much affected by the reaction against the doctrines of economic Liberalism. They began to adopt the principles of Christian Socialism expounded by Rudolf Mayer and Baron von Vogelfang, and the economic revolt against the influence of capital was with them joined to a half-religious attack upon the Jews. They represented that Austria was being governed by a close ring of political financiers, many of whom were Jews or in the pay of the Jews, who used the forms of the constitution, under which there was no representation of the working classes, to exploit the labour of the poor at the same time that they ruined the people by alienating them from Christianity in "godless schools." It was during these years that the foundation for the democratic clericalism of the future was laid. The chief political leader in this new tendency was Prince Aloys v. Liechtenstein, who complained of the political influence exercised by the chambers of commerce, and demanded the organization of working men in gilds. It was by their influence that a law was introduced limiting the rate of interest, and they co-operated with the government in legislation for improving the material condition of the people, which had been neglected during the period of Liberal government, and which was partly similar to the laws introduced at the same time in Germany.

Special legislation.

There seems no doubt that the condition of the workmen in the factories of Moravia and the oil-mines of Galicia was peculiarly unfortunate; the hours of work were very long, the conditions were very injurious to health, and there were no precautions against accidents. The report of a parliamentary inquiry, called for by the Christian Socialists, showed the necessity for interference. In 1883 a law was carried, introducing factory inspection, extending to mines and all industrial undertakings. The measure seems to have been successful, and there is a general agreement that the inspectors have done their work with skill and courage. In 1884 and 1885 important laws were passed regulating the work in mines and factories, and introducing a maximum working day of eleven hours in factories, and ten hours in mines. Sunday labour was forbidden, and the hours during which women and children could be employed were limited. Great power was given to the administrative authorities to relax the application of these laws in special cases and special trades. This power was at first freely used, but it was closely restricted by a further law of 1893. In 1887-1888 laws, modelled on the new German laws, introduced compulsory insurance against accidents and sickness. These measures, though severely criticized by the Opposition, were introduced to remedy obvious, and in some cases terrible social evils. Other laws to restore gilds among working men had a more direct political object. Another form of state socialism was the acquisition of railways by the state. Originally railways had been built by private enterprise, supported in some cases by a state guarantee; a law of 1877 permitted the acquisition of private lines; when Taaffe retired the state possessed nearly 5000 m. of railway, not including those which belonged to Austria and Hungary conjointly. In 1889 a minister of railways was appointed. In this policy military considerations as well as economic were of influence. In every department we find the same reaction against the doctrines of *laissez-faire*. In 1889 for the first time the Austrian budget showed a surplus, partly the result of the new import duties, partly due to a reform of taxation.

For a fuller description of these social reforms, see the *Jahrbuch fur Gesetzgebung* (Leipzig, 1886, 1888 and 1894); also the annual summary of new laws in the *Zeitschrift fur Staatswissenschaft* (Stuttgart). For the Christian Socialists, see Nitti, *Catholic Socialism* (London, 1895).

Meanwhile it was necessary for the government to do something for the Czechs and the other

Slavs, on whose support they depended for their majority. The influence of the government became more favourable to them in the matter of language, and this caused the struggle of nationalities to assume the first place in Austrian public life—a place which it has ever since maintained. The question of language becomes a political one, so far as it concerns the use of different languages in the public offices and law courts, and in the schools. There never was any general law laying down clear and universal rules, but since the time of Joseph II. German had been the ordinary language of the government. All laws were published in German; German was the sole language used in the central public offices in Vienna, and the language of the court and of the army; moreover, in almost every part of the monarchy it had become the language of what is called the *internal service* in the public offices and law courts; all books and correspondence were kept in German, not only in the German districts, but also in countries such as Bohemia and Galicia. The bureaucracy and the law courts had therefore become a network of German-speaking officialism extending over the whole country; no one had any share in the government unless he could speak and write German. The only exception was in the Italian districts; not only in Italy itself (in Lombardy, and afterwards in Venetia), but in South Tirol, Trieste, Istria and Dalmatia, Italian has always been used, even for the internal service of the government offices, and though the actual words of command are now given in German and the officers are obliged to know Serbo-Croatian it remains to this day the language of the Austrian navy. Any interference with the use of German would be a serious blow to the cause of those who hoped to Germanize the whole empire. Since 1867 the old rules have been maintained absolutely as regards the army, and German has also, as required by the military authorities, become the language of the railway administration. It remains the language of the central offices in Vienna, and is the usual, though not the only, language used in the Reichsrath. In 1869 a great innovation was made, when Polish was introduced throughout the whole of Galicia as the normal language of government; and since that time the use of German has almost entirely disappeared in that territory. Similar innovations have also begun, as we shall see, in other parts.

The language question.

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Different from this is what is called the *external service*. Even in the old days it was customary to use the language of the district in communication between the government offices and private individuals, and evidence could be given in the law courts in the language generally spoken. This was not the result of any law, but depended on administrative regulations of the government service; it was practically necessary in remote districts, such as Galicia and Bukovina, where few of the population understood German. In some places a Slav-speaking individual would himself have to provide the interpreter, and approach the government in German. Local authorities, *e.g.* town councils and the diets, were free to use what language they wished, and in this matter the Austrian government has shown great liberality. The constitution of 1867 laid down a principle of much importance, by which previous custom became established as a right. Article 19 runs: "All races of the empire have equal rights, and every race has an inviolable right to the preservation and use of its own nationality and language. The equality of all customary (*landesüblich*) languages in school, office and public life, is recognized by the state. In those territories in which several races dwell, the public and educational institutions are to be so arranged that, without applying compulsion to learn a second *Landessprache*, each of the races receives the necessary means of education in its own language." The application of this law gives great power to the government, for everything depends on what is meant by *landesüblich*, and it rests with them to determine when a language is customary. The Germans demand the recognition of German as a customary language in every part of the empire, so that a German may claim to have his business attended to in his own language, even in Dalmatia and Galicia. In Bohemia the Czechs claim that their language shall be recognized as customary, even in those districts such as Reichenberg, which are almost completely German; the Germans, on the other hand, claim that the Czech language shall only be recognized in those towns and districts where there is a considerable Czech population. What Taaffe's Administration did was to interpret this law in a sense more favourable to the Slavs than had hitherto been the case.

Peculiar importance is attached to the question of education. The law of 1867 required that the education in the elementary schools in the Slav districts should be given in Czech or Slovenian, as the case might be. The Slavs, however, required that, even when a small minority of Slav race settled in any town, they should not be compelled to go to the German schools, but should have their own school provided for them; and this demand was granted by Prazak, minister of education under Count Taaffe. The Germans had always hoped that the people as they became educated would cease to use their own particular language. Owing to economic causes the Slavs, who increase more rapidly than the Germans, tend to move westwards, and large numbers settle in the towns and manufacturing districts. It might have been expected that they would then cease to use their own language and become Germanized; but, on the contrary, the movement of population is spreading their language and they claim that special schools should be provided for them, and that men of their own nationality should be appointed to government offices to deal with their business. This has happened not only in many places in Bohemia, but in Styria, and even in Vienna, where there has been a great increase in the Czech population and a Czech school has been founded. The introduction of Slavonic into the middle and higher schools has affected the Germans in their most sensitive point. They have always insisted that German is the *Kultur-sprache*. On one occasion Count A. Auersperg (Anastasius Grün) entered the diet of Carniola carrying the whole of the Slovenian literature under his arm, as evidence that the Slovenian language could not well be substituted for German as a medium of higher education.

The first important regulations which were issued under the law of 1867 applied to Dalmatia, and for that country between 1872 and 1876 a series of laws and edicts were issued determining to

what extent the Slavonic idioms were to be recognized. Hitherto all business had been done in Italian, the language of a small minority living in the seaport towns. The effect of these laws has been to raise Croatian to equality with Italian. It has been introduced in all schools, so that nearly all education is given in Croatian, even though a knowledge of Italian is quite essential for the maritime population; and it is only in one or two towns, such as Zara, the ancient capital of the country, that Italian is able to maintain itself. Since 1882 there has been a Slav majority in the diet, and Italian has been disused in the proceedings of that body. In this case the concessions to the Servo-Croatians had been made by the Liberal ministry; they required the parliamentary support of the Dalmatian representatives, who were more numerous than the Italian, and it was also necessary to cultivate the loyalty of the Slav races in this part so as to gain a support for Austria against the Russian party, which was very active in the Balkan Peninsula. It was better to sacrifice the Italians of Dalmatia than the Germans of Carinthia.[17]

It was not till 1879 that the Slovenes received the support of the government. In Carniola they succeeded, in 1882, in winning a majority in the diet, and from this time, while the diet of Styria is the centre of the German, that of Carniola is the chief support of the Slovene agitation. In the same year they won the majority in the town council of Laibach, which had hitherto been German. They were able, therefore, to introduce Illyrian as the official language, and cause the names of the streets to be written up in Illyrian. This question of street names is, as it were, a sign of victory. Serious riots broke out in some of the towns of Istria when, for the first time, Illyrian was used for this purpose as well as Italian. In Prague the victory of the Czechs has been marked by the removal of all German street names, and the Czech town council even passed a by-law forbidding private individuals to have tablets put up with the name of the street in German. In consequence of a motion by the Slovene members of the Reichsrath and a resolution of the diet of Carniola, the government also declared Slovenian to be a recognized language for the whole of Carniola, for the district of Cilli in Styria, and for the Slovene and mixed districts in the south of Carinthia, and determined that in Laibach a Slovene gymnasium should be maintained as well as the German one.

The Germans complain that in many cases the government acted very unfairly to them. They constantly refer to the case of Klagenfurt. This town in Carinthia had a population of 16,491 German-speaking Austrians; the Slovenian-speaking population numbered 568, of whom 180 were inhabitants of the gaol or the hospital. The government, however, in 1880 declared Slovenian a customary language, so that provision had to be made in public offices and law courts for dealing with business in Slovenian. It must be remembered, however, that even though the town was German, the rural population of the surrounding villages was chiefly Slovene.

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It was in Bohemia and Moravia that the contest was fought out with the greatest vehemence. The two races were nearly equal, and the victory of Czech would mean that nearly two million Germans would be placed in a position of subordination; but for the last twenty years there had been a constant encroachment by Czech on German. This was partly due to the direct action of the government. An ordinance of 1880 determined that henceforward all business which had been brought before any government office or law court should be dealt with, within the office, in the language in which it was introduced; this applied to the whole of Bohemia and Moravia, and meant that Czech would henceforward have a position within the government service. It was another step in the same direction when, in 1886, it was ordered that "to avoid frequent translations" business introduced in Czech should be dealt with in the same language in the high courts of Prague and Brünn. Then not only were a large number of Czech elementary schools founded, but also many middle schools were given to the Czechs, and Czech classes introduced in German schools; and, what affected the Germans most, in 1882 classes in Czech were started in the university of Prague—a desecration, as it seemed, of the oldest German university.

The growth of the Slav races was, however, not merely the result of government assistance; it had begun long before Taaffe assumed office; it was to be seen in the census returns and in the results of elections. Prague was no longer the German city it had been fifty years before; the census of 1880 showed 36,000 Germans to 120,000 Czechs. It was the same in Pilsen. In 1861 the Germans had a majority in this town; in 1880 they were not a quarter of the population. This same phenomenon, which occurs elsewhere, cannot be attributed to any laxity of the Germans. The generation which was so vigorously demanding national rights had themselves all been brought up under the old system in German schools, but this had not implanted in them a desire to become German. It was partly due to economic causes—the greater increase among the Czechs, and the greater migration from the country to the towns; partly the result of the romantic and nationalist movement which had arisen about 1830, and partly the result of establishing popular education and parliamentary government at the same time. As soon as these races which had so long been ruled by the Germans received political liberty and the means of education, they naturally used both to reassert their national individuality.

It may be suggested that the resistance to the German language is to some extent a result of the increased national feeling among the Germans themselves. They have made it a matter of principle. In the old days it was common for the children of German parents in Bohemia to learn Czech; since 1867 this has ceased to be the case. It may almost be said that they make it a point of honour not to do so. A result of this is that, as educated Czechs are generally bilingual, it is easier for them to obtain appointments in districts where a knowledge of Czech is required, and the Germans, therefore, regard every order requiring the use of Czech as an order which excludes Germans from a certain number of posts. This attitude of hostility and contempt is strongest among the educated middle class; it is not shown to the same extent by the clergy and

the nobles.

The influence of the Church is also favourable to the Slav races, not so much from principle as owing to the fact that they supply more candidates for ordination than the Germans. There is no doubt, however, that the tendency among Germans has been to exalt the principle of nationality above religion, and to give it an absolute authority in which the Roman Catholic Church cannot acquiesce. In this, as in other ways, the Germans in Austria have been much influenced by the course of events in the German empire. This hostility of the Church to the German nationalist movement led in 1898 to an agitation against the Roman Catholic Church, and among the Germans of Styria and other territories large numbers left the Church, going over either to Protestantism or to Old Catholicism. This "Los von Rom" movement, which was caused by the continued alliance of the Clerical party with the Slav parties, is more of the nature of a political demonstration than of a religious movement.

German hostility.

The Germans, so long accustomed to rule, now saw their old ascendancy threatened, and they defended it with an energy that increased with each defeat. In 1880 they founded a great society, the *Deutscher Schulverein*, to establish and assist German schools. It spread over the whole of the empire; in a few years it numbered 100,000 members, and had an income of nearly 300,000 gulden; no private society in Austria had ever attained so great a success. In the Reichsrath a motion was introduced, supported by all the German Liberal parties, demanding that German should be declared the language of state and regulating the conditions under which the other idioms could be recognized; it was referred to a committee from which it never emerged, and a bill to the same effect, introduced in 1886, met a similar fate. In Bohemia they demanded, as a means of protecting themselves against the effect of the language ordinances, that the country should be divided into two parts; in one German was to be the sole language, in the other Czech was to be recognized. A proposal to this effect was introduced by them in the diet at the end of 1886, but since 1882 the Germans had been in a minority. The Czechs, of course, refused even to consider it; it would have cut away the ground on which their whole policy was built up, namely, the indissoluble unity of the Bohemian kingdom, in which German and Czech should throughout be recognized as equal and parallel languages. It was rejected on a motion of Prince Karl Schwarzenberg without discussion, and on this all the Germans rose and left the diet, thereby imitating the action of the Czechs in old days when they had the majority.

New German parties.

These events produced a great change on the character of the German opposition. It became more and more avowedly racial; the defence of German nationality was put in the front of their programme. The growing national animosity added bitterness to political life, and destroyed the possibility of a strong homogeneous party on which a government might depend. The beginning of this movement can be traced back to the year 1870. About that time a party of young Germans had arisen who professed to care little for constitutionalism and other "legal mummies," but made the preservation and extension of their own nationality their sole object. As is so often the case in Austria, the movement began in the university of Vienna, where a *Leseverein* (reading club) of German students was formed as a point of cohesion for Germans, which had eventually to be suppressed. The first representative of the movement in parliament was Herr von Schönerer, who did not scruple to declare that the Germans looked forward to union with the German empire. They were strongly influenced by men outside Austria. Bismarck was their national hero, the anniversary of Sedan their political festival, and approximation to Germany was dearer to them than the maintenance of Austria. After 1878 a heightening of racial feeling began among the Radicals, and in 1881 all the German parties in opposition joined together in a club called the United Left, and in their programme put in a prominent place the defence of the position of the Germans as the condition for the existence of the state, and demanded that German should be expressly recognized as the official language. The younger and more ardent spirits, however, found it difficult to work in harmony with the older constitutional leaders. They complained that the party leaders were not sufficiently decisive in the measures for self-defence. In 1885 great festivities in honour of Bismarck's eightieth birthday, which had been arranged in Graz, were forbidden by the government, and the Germans of Styria were very indignant that the party did not take up the matter with sufficient energy. After the elections of 1885 the Left, therefore, broke up again into two clubs, the "German Austrian," which included the more moderate, and the "German," which wished to use sharper language. The German Club, *e.g.*, congratulated Bismarck on his measures against the Poles; the German Austrians refused to take cognizance of events outside Austria with which they had nothing to do. Even the German Club was not sufficiently decided for Herr von Schönerer and his friends, who broke off from it and founded a "National German Union." They spoke much of *Germanentum* and *Unverfälschtes Deutschtum*, and they advocated a political union with the German empire, and were strongly anti-Hungarian and wished to resign all control over Galicia, if by a closer union with Germany they could secure German supremacy in Bohemia and the south Slav countries. They play the same part in Austria as does the "pan-Germanic Union" in Germany. When in 1888 the two clubs, the German Austrians and the Germans, joined once more under the name of the "United German Left" into a new club with eighty-seven members, so as the better to guard against the common danger and to defeat the educational demands of the Clericals, the National Germans remained apart with seventeen members. They were also infected by the growing spirit of anti-Semitism. The German parties had originally been the party of the capitalists, and comprised a large number of Jews; this new German party committed itself to violent attacks upon the Jews, and for this reason alone any real harmony between the different branches would have been impossible.

Notwithstanding the concessions about language the Czechs had, however, made no advance towards their real object—the recognition of the Bohemian kingdom. Perhaps the leaders of the party, who were now growing old, would have been content with the influence they had already attained, but they were hard pressed at home by the Young Czechs, who were more impatient. When Count Thun was appointed governor of Bohemia their hopes ran high, for he was supposed to favour the coronation of the emperor at Prague. In 1890, however, instead of proceeding to the coronation as was expected, Taaffe attempted to bring about a reconciliation between the opposing parties. The influence by which his policy was directed is not quite clear, but the Czechs had been of recent years less easy to deal with, and Taaffe had never really shown any wish to alter the constitution; his policy always was to destroy the influence of parliament by playing off one party against the other, and so to win a clear field for the government. During the month of January conferences were held at Vienna, with Taaffe in the chair, to which were invited representatives of the three groups into which the Bohemian representatives were divided, the German party, the Czechs, and the Feudal party. After a fortnight's discussion an agreement was made on the basis of a separation between the German and the Czech districts, and a revision of the electoral law. A protocol enumerating the points agreed on was signed by all who had taken part in the conference, and in May bills were laid before the diet incorporating the chief points in the agreement. But they were not carried; the chief reason being that the Young Czechs had not been asked to take part in the conference, and did not consider themselves bound by its decisions; they opposed the measures and had recourse to obstruction, and a certain number of the Old Czechs gradually came over to them. Their chief ground of criticizing the proposed measures was that they would threaten the unity of the Bohemian country.[18] At the elections in 1891 a great struggle took place between the Old and the Young Czechs. The latter were completely victorious; Rieger, who had led the party for thirty years, disappeared from the Reichsrath. The first result was that the proposed agreement with Bohemia came to an end. But the disappearance of the Old Czechs made the parliamentary situation very insecure. The Young Czechs could not take their place: their Radical and anti-clerical tendencies alarmed the Feudalists and Clericalists who formed so large a part of the Right; they attacked the alliance with Germany; they made public demonstration of their French sympathies; they entered into communication with other Slav races, especially the Serbs of Hungary and Bosnia; they demanded universal suffrage, and occasionally supported the German Radicals in their opposition to the Clerical parties, especially in educational matters; under their influence disorder increased in Bohemia, a secret society called the *Umladina* (an imitation of the Servian society of that name) was discovered, and stringent measures had to be taken to preserve order. The government therefore veered round towards the German Liberals; some of the ministers most obnoxious to the Germans resigned, and their places were taken by Germans. For two years the government seemed to waver, looking now to the Left, now to Hohenwart and his friends; for a time Taaffe really had the support of all parties except the Young Czechs.

The agreement with Bohemia.

After two years he gave up his cautious policy and took a bold move. In October 1893 he introduced a reform bill. Universal suffrage had long been demanded by the working men and the Socialists; the Young Czechs also had put it on their programme, and many of the Christian Socialists and anti-Semites desired an alteration of the franchise. Taaffe's bill, while keeping the *curiae* of the feudal proprietors and the chambers of commerce as they were, and making no change in the number of members, proposed to give the franchise in both towns and rural districts to every one who could read and write, and had resided six months in one place. This was opposed by the Liberals, for with the growth of socialism and anti-Semitism, they knew that the extension of the franchise would destroy their influence. On this Taaffe had probably calculated, but he had omitted to inquire what the other parties would do. He had not even consulted Hohenwart, to whose assistance he owed his long tenure of power. Not even the pleasure of ruining the Liberals was sufficient to persuade the Conservatives to vote for a measure which would transfer the power from the well-to-do to the indigent, and Hohenwart justly complained that they ought to have been secure against surprises of this kind. The Poles also were against a measure which would give more influence to the Ruthenes. The position of the government was hopeless, and without waiting for a division Taaffe resigned.

Electoral reform.

The event to which for fourteen years the Left had looked forward had now happened. Once more they could have a share in the government, which they always believed belonged to them by nature. Taught by experience and adversity, they did not scruple to enter into an alliance with their old enemies, and a coalition ministry was formed from the Left, the Clericals and the Poles. The president was Prince Alfred Windisch-Grätz, grandson of the celebrated general, one of Hohenwart's ablest lieutenants; Hohenwart himself did not take office. Of course an administration of this kind could not take a definite line on any controversial question, but during 1894 they carried through the commercial treaty with Russia and the laws for the continuance of the currency reform. The differences of the clubs appeared, however, in the discussions on franchise reform; the government, not strong enough to have a policy of its own, had referred the matter to a committee; for the question having once been raised, it was impossible not to go on with it. This would probably have been fatal to the coalition, but the final blow was given by a matter of very small importance arising from the disputes on nationality. The Slovenes had asked that in the gymnasium at Cilli classes in which instruction was given in Slovenian should be formed parallel to the German classes. This request caused great excitement in Styria and the neighbouring districts; the Styrian diet (from which the Slovene minority had seceded) protested.

The coalition ministry, 1893.

The Slovenes were, however, members of the Hohenwart Club, so Hohenwart and his followers supported the request, which was adopted by the ministry. The German Left opposed it; they were compelled to do so by the popular indignation in the German districts; and when the vote was carried against them (12th June 1895) they made it a question of confidence, and formally withdrew their support from the government, which therefore at once resigned.

Badeni's ministry.

After a short interval the emperor appointed as minister-president Count Badeni, who had earned a great reputation as governer of Galicia. He formed an administration the merit of which, as of so many others, was that it was to belong to no party and to have no programme. He hoped to be able to work in harmony with the moderate elements of the Left; his mission was to carry through the composition (*Ausgleich*) with Hungary; to this everything else must be subordinated. During 1896 he succeeded in carrying a franchise reform bill, which satisfied nearly all parties. All the old categories of members were maintained, but a fifth *curia* was added, in which almost any one might vote who had resided six months in one place and was not in domestic service; in this way
[v.03 p.0035] seventy-two would be added to the existing members. This matter having been settled, parliament was dissolved. The result of the elections of 1897 was the return of a House so constituted as to make any strong government impossible. On both sides the anti-Semitic parties representing the extreme demagogic elements were present in considerable numbers. The United German Left had almost disappeared; it was represented only by a few members chosen by the great proprietors; in its place there were the three parties—the German Popular party, the German Nationalists, and the German Radicals—who all put questions of nationality first and had deserted the old standpoint of the constitution. Then there were the fourteen Social Democrats who had won their seats under the new franchise. The old party of the Right was, however, also broken up; side by side with forty-one Clericals there were twenty-eight Christian Socialists led by Dr Lueger, a man of great oratorical power, who had won a predominant influence in Vienna, so long the centre of Liberalism, and had quite eclipsed the more modest efforts of Prince Liechtenstein. As among the German National party, there were strong nationalist elements in his programme, but they were chiefly directed against Jews and Hungarians; Lueger had already distinguished himself by his violent attacks on Hungary, which had caused some embarrassment to the government at a time when the negotiations for the *Ausgleich* were in progress. Like anti-Semites elsewhere, the Christian Socialists were reckless and irresponsible, appealing directly to the passions and prejudices of the most ignorant. There were altogether 200 German members of the Reichsrath, but they were divided into eight parties, and nowhere did there seem to be the elements on which a government could be built up.

The parliamentary situation is best explained by the following table showing the parties:—

	1897.		1901.	
German Liberals—				
Constitutional Landed Proprietors	28		28	
German Radicals	49		41	
German Popular Party	42		51	
Schoenerer Group	5		21	
Kronawetter	1		. .	
Democrat	1		. .	
	—	126	—	141
Social Democrats		14		10
German Conservatives—				
German Clericals	30	}	37	
German Popular Party	15			
Christian Socialists	28		23	
	—	73	—	60
Federalist Great Proprietors		16		16
Czechs—				
Young Czechs	60		53	
Radical Young Czechs	1		4	
Clerical Czechs	1		2	
Agrarian Czechs	1		6	
	—	63	—	65
Poles—				
Polish Club	59		60	
Stoyalovski Group	6		. .	
Popular Polish Party	3		11	
	—	68	—	71
Slovenes—				
Clerical Slovenes	11		. .	
Radical "	5		. .	
	—	16	—	16
Italians—				

Liberal Italians	14	. .
Clerical "	5	. .
	— 19	— 19
Croatians	11	9
Serbs	2	2
Ruthenes—		
Ruthenes	6	. .
Young Ruthenes	5	. .
	— 11	— 11
Rumanians—		
Rumanians	5	. .
Young Rumanians	1	. .
	— 6	— 5
Total	425	425

The most remarkable result of the elections was the disappearance of the Liberals in Vienna. In 1879, out of 37 members returned in Lower Austria, 33 were Liberals, but now they were replaced to a large extent by the Socialists. It was impossible to maintain a strong party of moderate constitutionalists, on whom the government could depend, unless there was a large nucleus from Lower Austria. The influence of Lueger was very embarrassing; he had now a majority of two-thirds in the town council, and had been elected burgomaster. The emperor had refused to confirm the election; he had been re-elected, and then the emperor, in a personal interview, appealed to him to withdraw. He consented to do so; but, after the election of 1897 had given him so many followers in the Reichsrath, Badeni advised that his election as burgomaster should be confirmed. There was violent antipathy between the Christian Socialists and the German Nationalists, and the transference of their quarrels from the Viennese Council Chamber to the Reichsrath was very detrimental to the orderly conduct of debate.

Socialism.

The limited suffrage had hitherto prevented socialism from becoming a political force in Austria as it had in Germany, and the national divisions have always impeded the creation of a centralized socialist party. The first object of the working classes necessarily was the attainment of political power; in 1867 there had been mass demonstrations and petitions to the government for universal suffrage. During the next years there was the beginning of a real socialist movement in Vienna and in Styria, where there is a considerable industrial population; after 1879, however, the growth of the party was interrupted by the introduction of anarchical doctrines. Most's paper, the *Freiheit*, was introduced through Switzerland, and had a large circulation. The anarchists, under the leadership of Peukert, seem to have attained considerable numbers. In 1883-1884 there were a number of serious strikes, collisions between the police and the workmen, followed by assassinations; it was a peculiarity of Austrian anarchists that in some cases they united robbery to murder. The government, which was seriously alarmed, introduced severe repressive measures; the leading anarchists were expelled or fled the country. In 1887, under the leadership of Dr Adler, the socialist party began to revive (the party of violence having died away), and since then it has steadily gained in numbers; in the forefront of the political programme is put the demand for universal suffrage. In no country is the 1st of May, as the festival of Labour, celebrated so generally.

The language ordinances of 1897.

Badeni after the election sent in his resignation, but the emperor refused to accept it, and he had, therefore, to do the best he could and turn for support to the other nationalities. The strongest of them were the fifty-nine Poles and sixty Young Czechs; he therefore attempted, as Taaffe had done, to come to some agreement with them. The Poles were always ready to support the government; among the Young Czechs the more moderate had already attempted to restrain the wilder spirits of the party, and they were quite prepared to enter into negotiations. They did not wish to lose the opportunity which now was open to them of winning influence over the administration. What they required was further concession as to the language in Bohemia. In May 1897 Badeni, therefore, published his celebrated *ordinances*. They determined (1) that all correspondence and documents regarding every matter brought before the government officials should be conducted in the language in which it was first introduced. This applied to the whole of Bohemia, and meant the introduction of Czech into the government offices throughout the whole of the kingdom; (2) after 1903 no one was to be appointed to a post under the government in Bohemia until he had passed an examination in Czech. These ordinances fulfilled the worst fears of the Germans. The German Nationalists and Radicals declared that no business should be done till they were repealed and Badeni dismissed. They resorted to obstruction. They brought in repeated motions to impeach the ministers, and parliament had to be prorogued in June, although no business of any kind had been transacted. Badeni had not anticipated the effect his ordinances would have; as a Pole he had little experience in the western part of the empire. During the recess he tried to open negotiations, but the Germans refused even to enter into a discussion until the ordinances had been withdrawn. The agitation spread throughout the country; great meetings were held at Eger and Aussig, which were attended by Germans from across the frontier, and led to serious disturbances; the cornflower, which had become the symbol of German nationality and union with Germany, was freely worn, and the language used

was in many cases treasonable. The emperor insisted that the Reichsrath should again be summoned to pass the necessary measures for the agreement with Hungary; scenes then took place which have no parallel in parliamentary history. To meet the obstruction it was determined to sit at night, but this was unsuccessful. On one occasion Dr Lecher, one of the representatives of Moravia, spoke for twelve hours, from 9 P.M. till 9 A.M., against the Ausgleich. The opposition was not always limited to feats of endurance of this kind. On the 3rd of November there was a free fight in the House; it arose from a quarrel between Dr Lueger and the Christian Socialists on the one side (for the Christian Socialists had supported the government since the confirmation of Lueger as burgomaster) and the German Nationalists under Herr Wolf, a German from Bohemia, the violence of whose language had already caused Badeni to challenge him to a duel. The Nationalists refused to allow Lueger to speak, clapping their desks, hissing and making other noises, till at last the Young Czechs attempted to prevent the disorder by violence. On the 24th of November the scenes of disturbance were renewed. The president, Herr v. Abrahamovitch, an Armenian from Galicia, refused to call on Schönerer to speak. The Nationalists therefore stormed the platform, and the president and ministers had to fly into their private rooms to escape personal violence, until the Czechs came to their rescue, and by superiority in numbers and physical strength severely punished Herr Wolf and his friends. The rules of the House giving the president no authority for maintaining order, he determined, with the assent of the ministers, to propose alterations in procedure. The next day, when the sitting began, one of the ministers, Count Falkenhayn, a Clerical who was very unpopular, moved "That any member who continued to disturb a sitting after being twice called to order could be suspended—for three days by the president, and for thirty days by the House." The din and uproar was such that not a word could be heard, but at a pre-arranged signal from the president all the Right rose, and he then declared that the new order had been carried, although the procedure of the House required that it should be submitted to a committee. The next day, at the beginning of the sitting, the Socialists rushed on the platform, tore up and destroyed all the papers lying there, seized the president, and held him against the wall. After he had escaped, eighty police were introduced into the House and carried out the fourteen Socialists. The next day Herr Wolf was treated in the same manner. The excitement spread to the street. Serious disorders took place in Vienna and in Graz; the German opposition had the support of the people, and Lueger warned the ministers that as burgomaster he would be unable to maintain order in Vienna; even the Clerical Germans showed signs of deserting the government. The emperor, hastily summoned to Vienna, accepted Badeni's resignation, the Germans having thus by obstruction attained part of their wishes. The new minister, Gautsch, a man popular with all parties, held office for three months; he proclaimed the budget and the Ausgleich, and in February replaced the language ordinances by others, under which Bohemia was to be divided into three districts—one Czech, one German and one mixed. The Germans, however, were not satisfied with this; they demanded absolute repeal. The Czechs also were offended; they arranged riots at Prague; the professors in the university refused to lecture unless the German students were defended from violence; Gautsch resigned, and Thun, who had been governor of Bohemia, was appointed minister. Martial law was proclaimed in Bohemia, and strictly enforced. Thun then arranged with the Hungarian ministers a compromise about the Ausgleich.

Badeni resigns.

The Reichsrath was again summoned, and the meetings were less disturbed than in the former year, but the Germans still prevented any business from being done. The Germans now had a new cause of complaint. Paragraph 14 of the Constitutional law of 1867 provided that, in cases of pressing necessity, orders for which the assent of the Reichsrath was required might, if the Reichsrath were not in session, be proclaimed by the emperor; they had to be signed by the whole ministry, and if they were not laid before the Reichsrath within four months of its meeting, or if they did not receive the approval of both Houses, they ceased to be valid. The Germans contended that the application of this clause to the Ausgleich was invalid, and demanded that it should be repealed. Thun had in consequence to retire, in September 1899. His successor, Count Clary, began by withdrawing the ordinances which had been the cause of so much trouble, but it was now too late to restore peace. The Germans were not sufficiently strong and united to keep in power a minister who had brought them the relief for which they had been clamouring for two years. The Czechs, of course, went into opposition, and used obstruction. The extreme German party, however, took the occasion to demand that paragraph 14 should be repealed. Clary explained that this was impossible, but he gave a formal pledge that he would not use it. The Czechs, however, prevented him passing a law on excise which was a necessary part of the agreements with Hungary; it was, therefore, impossible for him to carry on the government without breaking his word; there was nothing left for him to do but to resign, after holding office for less than three months. The emperor then appointed a ministry of officials, who were not bound by his pledge, and used paragraph 14 for the necessary purposes of state. They then made way for a ministry under Herr v. Körber. During the early months of 1900 matters were more peaceful, and Körber hoped to be able to arrange a compromise; but the Czechs now demanded the restoration of their language in the internal service of Bohemia, and on 8th June, by noise and disturbance, obliged the president to suspend the sitting. The Reichsrath was immediately dissolved, the emperor having determined to make a final attempt to get together a parliament with which it would be possible to govern. The new elections on which so much was to depend did not take place till January 1901. They resulted in a great increase of the extreme German Nationalist parties. Schönerer and the German Radicals—the fanatical German party who in their new programme advocated union of German Austria with the German empire—now numbered twenty-one, who chiefly came from Bohemia. They were able for the first time to procure the election of one of their party in the Austrian Delegation, and threatened to introduce into the

Renewed conflict between Germans and Czechs.

Assembly scenes of disorder similar to those which they had made common in the Reichsrath. All those parties which did not primarily appeal to national feeling suffered loss; especially was this the case with the two sections of the Clericals, the Christian Socialists and the Ultramontanes; and the increasing enmity between the German Nationalists (who refused even the name German to a Roman Catholic) and the Church became one of the most conspicuous features in the political situation. The loss of seats by the Socialists showed that even among the working men the national agitation was gaining ground; the diminished influence of the anti-Semites was the most encouraging sign.

Notwithstanding the result of the elections, the first months of the new parliament passed in comparative peace. There was a truce between the nationalities. The Germans were more occupied with their opposition to the Clericals than with their feud with the Slavs. The Czechs refrained from obstruction, for they did not wish to forfeit the alliance with the Poles and Conservatives, on which their parliamentary strength depended, and the Germans used the opportunity to pass measures for promoting the material prosperity of the country, especially for an important system of canals which would bring additional prosperity to the coal-fields and manufactures of Bohemia.

(J. W. He.)

[v.03 p.0037] ***Public works policy.***

The history of Austria since the general election of 1901 is the history of franchise reform as a crowning attempt to restore parliament to normal working conditions. The premier, Dr von Körber, who had undertaken to overcome obstruction and who hoped to effect a compromise between Germans and Czechs, induced the Chamber to sanction the estimates, the contingent of recruits and other "necessities of state" for 1901 and 1902, by promising to undertake large public works in which Czechs and Germans were alike interested. These public works were chiefly a canal from the Danube to the Oder; a ship canal from the Danube to the Moldau near Budweis, and the canalization of the Moldau from Budweis to Prague; a ship canal running from the projected Danube-Oder canal near Prerau to the Elbe near Pardubitz, and the canalization of the Elbe from Pardubitz to Melnik; a navigable connexion between the Danube-Oder Canal and the Vistula and the Dniester. It was estimated that the construction of these four canals would require twenty years, the funds being furnished by a 4% loan amortizable in ninety years. In addition to the canals, the cabinet proposed and the Chamber sanctioned the construction of a "second railway route to Trieste" designed to shorten the distance between South Germany, Salzburg and the Adriatic, by means of a line passing under the Alpine ranges of central and southern Austria. The principal sections of this line were named after the ranges they pierced, the chief tunnels being bored through the Tauern, Karawanken and Wochein hills. Sections were to be thrown open to traffic as soon as completed and the whole work to be ended during 1909. The line forms one of the most interesting railway routes in Europe. The cost, however, greatly exceeded the estimate sanctioned by parliament; and the contention that the parliamentary adoption of the Budget in 1901-1902 cost the state £100,000,000 for public works, is not entirely unfounded. True, these works were in most cases desirable and in some cases necessary, but they were hastily promised and often hastily begun under pressure of political expediency. The Körber administration was for this reason subsequently exposed to severe censure.

Körber's parliamentary difficulties.

Despite these public works Dr von Körber found himself unable to induce parliament to vote the Budgets for 1903, 1904 or 1905, and was obliged to revert to the expedient employed by his predecessors of sanctioning the estimates by imperial ordinance under paragraph 14 of the constitution. His attempts in December 1902 and January 1903 to promote a compromise between Czechs and Germans proved equally futile. Körber proposed that Bohemia be divided into 10 districts, of which 5 would be Czech, 3 German and 2 mixed. Of the 234 district tribunals, 133 were to be Czech, 94 German and 7 mixed. The Czechs demanded on the contrary that both their language and German should be placed on an equal footing throughout Bohemia, and be used for all official purposes in the same way. As this demand involved the recognition of Czech as a language of internal service in Bohemia it was refused by the Germans. Thenceforward, until his fall on the 31st of December 1904, Körber governed practically without parliament. The Chamber was summoned at intervals rather as a pretext for the subsequent employment of paragraph 14 than in the hope of securing its assent to legislative measures. The Czechs blocked business by a pile of "urgency motions" and occasionally indulged in noisy obstruction. On one occasion a sitting lasted 57 hours without interruption. In consequence of Czech aggressiveness, the German parties (the German Progressists, the German Populists, the Constitutional Landed Proprietors and the Christian Socialists) created a joint executive committee and a supreme committee of four members to watch over German racial interests.

Baron Gautsch premier.

By the end of 1904 it had become clear that the system of government by paragraph 14, which Dr von Körber had perfected was not effective in the long run. Loans were needed for military and other purposes, and paragraph 14 itself declares that it cannot be employed for the contraction of any lasting burden upon the exchequer, nor for any sale of state patrimony. As the person of the premier had become so obnoxious to the Czechs that his removal would be regarded by them as a concession, his resignation was suddenly accepted by the emperor, and, on the 1st of January 1905, a former premier, Baron von Gautsch, was appointed in his stead. Parliamentary activity was at once resumed; the Austro-Hungarian tariff contained in the Széll-Körber compact was adopted, the estimates were discussed and the commercial treaty with Germany ratified. In

the early autumn, however, a radical change came over the spirit of Austrian politics. For nearly three years Austria had been watching with bitterness and depression the course of the crisis in Hungary. Parliament had repeatedly expressed its disapproval of the Magyar demands upon the crown, but had succeeded only in demonstrating its own impotence. The feeling that Austria could be compelled by imperial ordinance under paragraph 14 to acquiesce in whatever concessions the crown might make to Hungary galled Austrian public opinion and prepared it for coming changes. In August 1905 the crown took into consideration and in September sanctioned the proposal that universal suffrage be introduced into the official programme of the Fejérváry cabinet then engaged in combating the Coalition in Hungary. It is not to be supposed that the king of Hungary assented to this programme without reflecting that what he sought to further in Hungary, it would be impossible for him, as emperor of Austria, to oppose in Cisleithania. His subsequent action justifies, indeed, the belief that, when sanctioning the Fejérváry programme, the monarch had already decided that universal suffrage should be introduced in Austria; but even he can scarcely have been prepared for the rapidity with which the movement in Austria gained ground and accomplished its object.

Franchise reform.

On the 15th of September 1905 a huge socialist and working-class demonstration in favour of universal suffrage took place before the parliament at Budapest. The Austrian Socialist party, encouraged by this manifestation and influenced by the revolutionary movement in Russia, resolved to press for franchise reform in Austria also. An initial demonstration, resulting in some bloodshed, was organized in Vienna at the beginning of November. At Prague, Graz and other towns, demonstrations and collisions with the police were frequent. The premier, Baron Gautsch, who had previously discountenanced universal suffrage while admitting the desirability of a restricted reform, then changed attitude and permitted an enormous Socialist demonstration, in support of universal suffrage, to take place (November 28) in the Vienna Ringstrasse. Traffic was suspended for five hours while an orderly procession of workmen, ten abreast, marched silently along the Ringstrasse past the houses of parliament. The demonstration made a deep impression upon public opinion. On the same day the premier promised to introduce by February a large measure of franchise reform so framed as to protect racial minorities from being overwhelmed at the polls by majorities of other races. On the 23rd of February 1906 he indeed brought in a series of franchise reform measures. Their main principles were the abolition of the *curia* or electoral class system and the establishment of the franchise on the basis of universal suffrage; and the division of Austria electorally into racial compartments within which each race would be assured against molestation from other races. The Gautsch redistribution bill proposed to increase the number of constituencies from 425 to 455, to allot a fixed number of constituencies to each province and, within each province, to each race according to its numbers and tax-paying capacity. The reform bill proper proposed to enfranchise every male citizen above 24 years of age with one year's residential qualification.

At first the chances of the adoption of such a measure seemed small. It was warmly supported from outside by the Social Democrats, who held only 11 seats in the House; inside, the Christian Socialists or Lueger party were favourable on the whole as they hoped to gain seats at the expense of the German Progressives and German Populists and to extend their own organization throughout the empire. The Young Czechs, too, were favourable, while the Poles reserved their
[v.03 p.0038] attitude. Hostile in principle and by instinct, they waited to ascertain the mind of the emperor, before actively opposing the reform. With the exception of the German Populists who felt that a German "Liberal" party could not well oppose an extension of popular rights, all the German Liberals were antagonistic, some bitterly, to the measure. The Constitutional Landed Proprietors who had played so large a part in Austrian politics since the 'sixties, and had for a generation held the leadership of the German element in parliament and in the country, saw themselves doomed and the leadership of the Germans given to the Christian Socialists. None of the representatives of the *curia* system fought so tenaciously for their privileges as did the German nominees of the *curia* of large landed proprietors. Their opposition proved unavailing. The emperor frowned repeatedly upon their efforts.

Baron Beck premier.

Baron Gautsch fell in April over a difference with the Poles, and his successor, Prince Konrad zu Hohenlohe-Schillingsfürst, who had taken over the reform bills, resigned also, six weeks later, as a protest against the action of the crown in consenting to the enactment of a customs tariff in Hungary distinct from, though identical with, the joint Austro-Hungarian tariff comprised in the Széll-Körber compact and enacted as a joint tariff by the Reichsrath. A new cabinet was formed (June 2) by Baron von Beck, permanent under secretary of state in the ministry for agriculture, an official of considerable ability who had first acquired prominence as an instructor of the heir apparent, Archduke Francis Ferdinand, in constitutional and administrative law. By dint of skilful negotiation with the various parties and races, and steadily supported by the emperor who, on one occasion, summoned the recalcitrant party leaders to the Hofburg *ad audiendum verbum* and told them the reform "must be accomplished," Baron Beck succeeded, in October 1906, in attaining a final agreement, and on the 1st of December in securing the adoption of the reform. During the negotiations the number of constituencies was raised to 516, divided, according to provinces, as follows:—

Bohemia	130	previously	110
Galicia	106	"	78
Lower Austria	64	"	46

Moravia	49	"	43
Styria	30	"	27
Tirol	25	"	21
Upper Austria	22	"	20
Austrian Silesia	15	"	12
Bukovina	14	"	11
Carniola	12	"	11
Dalmatia	11	"	11
Carinthia	10	"	10
Salzburg	7	"	7
Istria	6	"	5
Görz and Gradisca	6	"	5
Trieste and territory	5	"	5
Vorarlberg	4	"	4

In the allotment of the constituencies to the various races their tax-paying capacity was taken into consideration. In mixed districts separate constituencies and registers were established for the electors of each race, who could only vote on their own register for a candidate of their own race. Thus Germans were obliged to vote for Germans and Czechs for Czechs; and, though there might be victories of Clerical over Liberal Germans or of Czech Radicals over Young Czechs, there could be no victories of Czechs over Germans, Poles over Ruthenes, or Slovenes over Italians. The constituencies were divided according to race as follows:—

Germans of all parties	233	previously	205
Czechs of all parties	108	"	81
Poles	80	"	71
Southern Slavs (Slovenes, Croats, Serbs)	37	"	27
Ruthenes	34	"	11
Italians	19	"	18
Rumanians	5	"	5

These allotments were slightly modified at the polls by the victory of some Social Democratic candidates not susceptible of strict racial classification. The chief feature of the allotment was, however, the formal overthrow of the fiction that Austria is preponderatingly a German country and not a country preponderatingly Slav with a German dynasty and a German façade. The German constituencies, though allotted in a proportion unduly favourable, left the Germans, with 233 seats, in a permanent minority as compared with the 259 Slav seats. Even with the addition of the "Latin" (Rumanian and Italian) seats the "German-Latin block" amounted only to 257. This "block" no longer exists in practice, as the Italians now tend to co-operate rather with the Slavs than with the Germans. The greatest gainers by the redistribution were the Ruthenes, whose representation was trebled, though it is still far from being proportioned to their numbers. This and other anomalies will doubtless be corrected in future revisions of the allotment, although the German parties, foreseeing that any revision must work out to their disadvantage, stipulated that a two-thirds majority should be necessary for any alteration of the law.

General election 1907.

After unsuccessful attempts by the Upper House to introduce plural voting, the bill became law in January 1907, the peers insisting only upon the establishment of a fixed *maximum* number or *numerus clausus*, of non-hereditary peers, so as to prevent the resistance of the Upper Chamber from being overwhelmed at any critical moment by an influx of crown nominees appointed *ad hoc*. The general election which took place amid considerable enthusiasm on the 14th of May resulted in a sweeping victory for the Social Democrats whose number rose from 11 to 87; in a less complete triumph for the Christian Socialists who increased from 27 to 67; and in the success of the extremer over the conservative elements in all races. A classification of the groups in the new Chamber presents many difficulties, but the following statement is approximately accurate. It must be premised that, in order to render the Christian Socialist or Lueger party the strongest group in parliament, an amalgamation was effected between them and the conservative Catholic party:—

German Conservatives—		Total.
Christian Socialists	96	
German Agrarians	19	
German Liberals—		
Progressives	15	
Populists	29	
Pan-German radicals (Wolf group)	13	
Unattached Pan-Germans	3	
" Progressives	2	
Czechs—	—	177
Czech Agrarians	28	

Young Czechs	18	
Czech Clericals	17	
Old Czechs	7	
Czech National Socialists	9	
Realists	2	
Unattached Czech	1	
Social Democrats—	—	82
Of all races	87	87
Poles—		
Democrats	26	
Conservatives	15	
Populists	18	
Centre	12	
Independent Socialist	1	
Ruthenes—	—	72
National Democrats	25	
Old or Russophil Ruthenes	5	
Slovenes—	—	30
Clericals	17	
Southern Slav Club—		
Croats, Serbs, Slovene Liberals	20	37
Italians—		
Clerical Populists	11	
Liberals	4	
	—	15
Rumanians—		
Rumanian Club	5	5
Jews—		
Zionists	4	
Democrats	1	5
	—	
Unclassified, vacancies, &c	6	6
		——
		516

[v.03 p.0039] The legislature elected by universal suffrage worked fairly smoothly during the first year of its existence. The estimates were voted with regularity, racial animosity was somewhat less prominent, and some large issues were debated. The desire not to disturb the emperor's Diamond Jubilee year by untoward scenes doubtless contributed to calm political passion, and it was celebrated in 1908 with complete success. But it was no sooner over than the crisis over the annexation of Bosnia and Herzegovina, which is dealt with above, eclipsed all purely domestic affairs in the larger European question.

(H. W. S.)

Bibliography.—1. *Sources*. A collection of early authorities on Austrian history was published in 3 vols. folio by Hieronymus Pez (Leipzig, 1721-1725) under the title *Scriptores rerum Austriacarum veteres et genuini*, of which a new edition was printed at Regensburg in 1745, and again, under the title of *Rerum Austriacarum scriptores*, by A. Rauch at Vienna in 1793-1794. It was not, however, till the latter half of the 19th century that the vast store of public and private archives began to be systematically exploited. Apart from the material published in the *Monumenta Germ. Hist*. of Pertz and his collaborators, there are several collections devoted specially to the sources of Austrian history. Of these the most notable is the *Fontes rerum Austriacarum*, published under the auspices of the Historical Commission of the Imperial Academy of Sciences at Vienna; the series, of which the first volume was published in 1855, is divided into two parts: (i.) *Scriptores*, of which the 9th vol. appeared in 1904; (ii.) *Diplomataria et Acta*, of which the 58th vol. appeared in 1906. It covers the whole range of Austrian history, medieval and modern. Another collection is the *Quellen und Forschungen zur Geschichte, Literatur und Sprache Österreichs und seiner Kronländer*, edited by J. Hirn and J. E. Wackernagel (Graz, 1895, &c.), of which vol. x. appeared in 1906. Besides these there are numerous accounts and inventories of public and private archives, for which see Dahlmann-Waitz, *Quellenkunde* (ed. 1906), pp. 14-15, 43, and suppl. vol. (1907), pp. 4-5. Of collections of treaties the most notable is that of L. Neumann, *Recueil des traités conclus par l'Autriche avec les puissances étrangères depuis 1763* (6 vols., Leipzig, 1855: c.), continued by A. de Plason (18 vols., Vienna, 1877-1905). In 1907, however, the Imperial Commission for the Modern History of Austria issued the first volume of a new series, *Österreichische Staatsverträge*, which promises to be of the utmost value. Like the *Recueil des*

traités conclus par la Russie of T. T. de Martens, it is compiled on the principle of devoting separate volumes to the treaties entered into with the several states; this is obviously convenient as enabling the student to obtain a clear review of the relations of Austria to any particular state throughout the whole period covered. For treaties see also J. Freiherr von Vasque von Püttlingen, *Übersicht der österreichischen Staatsverträge seit Maria Theresa bis auf die neueste Zeit* (Vienna, 1868); and L. Bittner, *Chronologisches Verzeichnis der österreichischen Staatsverträge* (Band G, 1526-1723, Vienna, 1903).

2. *Works.*—(*a*) *General.* Archdeacon William Coxe's *History of the House of Austria, 1218-1792* (3 vols., London, 1817), with its continuation by W. Kelly (London, 1853; new edition, 1873), remains the only general history of Austria in the English language. It has, of course, long been superseded as a result of the research indicated above. The amount of work that has been devoted to this subject since Coxe's time will be seen from the following list of books, which are given in the chronological order of their publication:—J. Majláth, *Geschichte des österreichischen Kaiserstaates* (5 vols., Hamburg, 1834-1850); Count F. von Hartig, *Genesis der Revolution in Österreich im Jahre 1848* (Leipzig, 1851; 3rd edition, enlarged, *ib.*, 1851; translated as appendix to Coxe's *House of Austria*, ed. 1853), a work which created a great sensation at the time and remains of much value; W. H. Stiles, *Austria in 1848-1849* (2 vols., New York, 1852), by an eye-witness of events; M. Büdinger, *Österreichische Gesch. bis zum Ausgange des dreizehnten Jahrhunderts*, vol. i. to A.D. 1055 (Leipzig, 1858); A. Springer, *Geschichte Österreichs seit dem Wiener Frieden*, 1809 (2 vols. to 1849; Leipzig, 1863-1865); A. von Arneth, *Geschichte Maria Theresias* (10 vols., Vienna, 1863-1879); the series *Österreichische Gesch. für das Volk*, 17 vols., by various authors (Vienna, 1864, &c.), for which see Dahlmann-Waitz, p. 86; H. Bidermann, *Gesch. der österreichischen Gesamtstaatsidee*, 1526-1804, parts 1 and 2 to 1740 (Innsbruck, 1867, 1887); J. A. Freiherr von Helfert, *Gesch. Österreichs vom Ausgange des Oktoberaufstandes*, 1848, vols. i.-iv. (Leipzig and Prague, 1869-1889); W. Rogge, *Österreich von Világos bis zur Gegenwart* (3 vols., Leipzig and Vienna, 1872, 1873), and *Österreich seit der Katastrophe Hohenwart-Beust* (Leipzig, 1879), written from a somewhat violent German standpoint; Franz X. Krones (Ritter von Marchland), *Handbuch der Gesch. Österreichs* (5 vols., Berlin, 1876-1879), with copious references, *Gesch. der Neuzeit Österreichs vom 18ten Jahrhundert bis auf die Gegenwart* (Berlin, 1879), from the German-liberal point of view, and *Grundriss der österreichischen Gesch.* (Vienna, 1882); Baron Henry de Worms, *The Austro-Hungarian Empire* (London, 2nd ed., 1876); Louis Asseline, *Histoire de l'Autriche depuis la mort de Marie Thérèse* (Paris, 1877), sides with the Slavs against Germans and Magyars; Louis Leger, *Hist. de l'Autriche-Hongrie* (Paris, 1879), also strongly Slavophil; A. Wolf, *Geschichtliche Bilder aus Österreich* (2 vols., Vienna, 1878-1880), and *Österreich unter Maria Theresia, Joseph II. und Leopold I.* (Berlin, 1882); E. Wertheimer, *Gesch. Österreichs und Ungarns im ersten Jahrzehnt des 19ten Jahrhunderts* (2 vols., Leipzig, 1884-1890); A. Huber, *Gesch. Österreichs*, vols. i. to v. up to 1648 (in Heeren's *Gesch. der europ. Staaten*, Gotha, 1885-1895); J. Emmer, *Kaiser Franz Joseph I., fünfzig Jahre österreichischer Gesch.* (2 vols., Vienna, 1898); F. M. Mayer, *Gesch. Österreichs mit besonderer Rücksicht auf das Kulturleben* (2 vols. 2nd ed., Vienna, 1900-1901); A. Dopsch, *Forschungen zur inneren Gesch. Österreichs*, vol. i. 1 (Innsbruck, 1903); Louis Eisenmann, *Le Compromis austro-hongrois de 1867* (Paris, 1904); H. Friedjung, *Österreich von 1848 bis 1860* (Stuttgart, 1908 seq.); Geoffrey Drage, *Austria-Hungary* (London, 1909).

(*b*) *Constitutional.*—E. Werunsky, *Österreichische Reichs- und Rechtsgeschichte* (Vienna, 1894, &c.); A. Bechmann, *Lehrbuch der österreichischen Reichsgesch.* (Prague, 1895-1896); A. Huber, *Österreichische Reichsgesch.* (Leipzig and Vienna, 1895, 2nd ed. by A. Dopsch, *ib.*, 1901); A. Luschin von Ebengreuth, *Österreichische Reichsgesch.* (2 vols., Bamberg, 1895, 1896), a work of first-class importance; and *Grundriss der österreichischen Reichsgesch.* (Bamberg, 1899); G. Kolmer, *Parlament und Verfassung in Österreich*, vols. i. to iii. from 1848 to 1885 (Vienna, 1902-1905). For relations with Hungary see J. Andrássy, *Ungarns Ausgleich mit Österreich, 1867* (Leipzig, 1897); L. Eisenmann, *Le Compromis austro-hongrois de 1867* (Paris, 1904).

(*c*) *Diplomatic.*—A. Beer, *Zehn Jahre österreichischer Politik, 1801-1810* (Leipzig, 1877), and *Die orientalische Politik Österreichs seit 1774* (Prague and Leipzig, 1883); A. Fournier, *Gentz und Cobenzl: Gesch. der öst. Politik in den Jahren 1801-1805* (Vienna, 1880); F. von Demelitsch, *Metternich und seine auswärtige Politik*, vol. i. (1809-1812, Stuttgart, 1898); H. Übersberger, *Österreich und Russland seit dem Ende des 15ten Jahrhunderts*, vol. i. 1488 to 1605 (Kommission für die neuere Gesch. Österreichs, Vienna, 1905). See further the bibliographies to the articles on METTERNICH, GENTZ, &c. For the latest developments of the "Austrian question" see André Chéradame, *L'Europe et la question d'Autriche au seuil du XX^e siècle* (Paris, 1901), and *L'Allemagne, la France et la question d'Autriche* (76, 1902); René Henry, *Questions d'Autriche-Hongrie et question d'orient* (Paris, 1903), with preface by Anatole Leroy-Beaulieu; "Scotus Viator," *The Future of Austria-Hungary* (London, 1907).

(*d*) *Racial Question.*—There is a very extensive literature on the question of languages and race in Austria. The best statement of the legal questions involved is in Josef Ulbrith and Ernst Mischler's *Österr. Staatswörterbuch* (3 vols., Vienna, 1894-1897; 2nd ed. 1904, &c.). See also Dummreicher, *Südostdeutsche Betrachtungen* (Leipzig, 1893); Hainisch, *Die Zukunft der Deutsch-Österreicher* (Vienna, 1892); Herkner, *Die Zukunft der Deutsch-Österreicher* (*ib.* 1893); L. Leger, *La Save, le Danube et le Balkan* (Paris, 1884); Bressnitz von Sydacoff, *Die panslavistische Agitation* (Berlin, 1899); Bertrand Auerbach, *Les Races et les nationalités en Autriche-Hongrie* (Paris, 1898).

(*e*) *Biographical.*—C. von Wurzbach, *Biographisches Lexikon des Kaisertums Österreich* (60 vols.,

Vienna, 1856-1891); also the *Allgemeine deutsche Biographie*.

Many further authorities, whether works, memoirs or collections of documents, are referred to in the lists appended to the articles in this book on the various Austrian sovereigns and statesmen. For full bibliography see Dahlmann-Waitz, *Quellenkunde* (ed. 1906, and subsequent supplements); many works, covering particular periods, are also enumerated in the bibliographies in the several volumes of the *Cambridge Modern History*.

(W. A. P.)

[1] Rudolph V. as archduke of Austria, II. as emperor.

[2] Thus, while the number of recruits, though varying from year to year, could be settled by the war department, the question of the claim of a single conscript for exemption, on grounds not recognized by precedent, could only be settled by imperial decree.

[3] Forbidden books were the only ones read, and forbidden newspapers the only ones believed.

[4] In Hungary the diet was not summoned at all between 1811 and 1825, nor in Transylvania between 1811 and 1834.

[5] For the separate political histories of Austria and Hungary see the section on II. *Austria Proper*, below, and HUNGARY; the present section deals with the history of the whole monarchy as such.

[6] Baron H. de Worms, *The Austro-Hungarian Empire* (London, 1876), and Beust's *Memoirs*.

[7] See General Le Brun, *Souvenirs militaires* (1866-1870, Paris, 1895); also, Baron de Worms, *op. cit.*, and the article on BEUST.

[8] Josef, Freiherr Philippović von Philippsberg (1818-1889), belonged to an old Christian noble family of Bosnia.

[9] Sir Charles Dilke, *The Present Position of European Politics* (London, 1887).

[10] Matlekovits, *Die Zollpolitik der österreichisch-ungarischen Monarchie* (Leipzig, 1891), gives the Hungarian point of view; Bazant, *Die Handelspolitik Österreich-Ungarns* (1875-1892, Leipzig, 1894).

[11] The only change was that as the military frontier had been given over to Hungary, Hungary in consequence of this addition of territory had to pay 2%, the remaining 98% being divided as before, so that the real proportion was 31.4 and 68.6.

[12] Alois, Count Lexa von Aerenthal, was born on the 27th of September 1854 at Gross-Skal in Bohemia, studied at Bonn and Prague, was attaché at Paris (1877) and afterwards at St Petersburg, envoy extraordinary at Bucharest (1895) and ambassador at St Petersburg (1896). He was created a count on the emperor's 79th birthday in 1909.

[13] It is impossible to avoid using the word "Austria" to designate these territories, though it is probably incorrect. Officially the word "Austria" is not found, and though the sovereign is emperor of Austria, an Austrian empire appears not to exist; the territories are spoken of in official documents as "the kingdoms and lands represented in the Reichsrath." The Hungarians and the German party in Austria have expressed their desire that the word Austria should be used, but it has not been gratified. On the other hand, expressions such as "Austrian citizens," "Austrian law" are found. The reason of this peculiar use is probably twofold. On the one hand, a reluctance to confess that Hungary is no longer in any sense a part of Austria; on the other hand, the refusal of the Czechs to recognize that their country is part of Austria. Sometimes the word *Erbländer*, which properly is applied only to the older ancestral dominions of the house of Habsburg, is used for want of a better word.

[14] The documents are printed in Baron de Worms, *op. cit*.

[15] It is printed in the *Europaischer Geschichtskalender* (1868).

[16] See Wirth, *Geschichte der Handelskrisen* (Frankfort, 1885); and an interesting article by Schäffle in the *Zeitschrift f. Staatswissenschaft* (Stuttgart, 1874).

[17] For Dalmatia, see T. G. Jackson, *Dalmatia &c.*, (Oxford, 1889).

[18] On this see Menger, *Der Ausgleich mit Böhmen* (Vienna, 1891), where the documents are printed.

AUSTRIAN SUCCESSION, WAR OF THE (1740-1748). This war began with the invasion of Silesia by Frederick II. of Prussia in 1740, and was ended by the peace of Aix-la-Chapelle (Aachen) in 1748. After 1741 nearly all the powers of Europe were involved in the struggle, but the most enduring interest of the war lies in the struggle of Prussia and Austria for Silesia. Southwest Germany, the Low Countries and Italy were, as usual, the battle-grounds of France and Austria. The constant allies of France and Prussia were Spain and Bavaria; various other powers at intervals joined them. The cause of Austria was supported almost as a matter of course

by England and Holland, the traditional enemies of France. Of Austria's allies from time to time Sardinia and Saxony were the most important.

1. *Frederick's Invasion of Silesia, 1740.*—Prussia in 1740 was a small, compact and thoroughly organized power, with an army 100,000 strong. The only recent war service of this army had been in the desultory Rhine campaign of 1733-35. It was therefore regarded as one of the minor armies of Europe, and few thought that it could rival the forces of Austria and France. But it was drilled to a perfection not hitherto attained, and the Prussian infantry soldier was so well trained
[v.03 p.0040] and equipped that he could fire five shots to the Austrian's three, though the cavalry and artillery were less efficient. But the initial advantage of Frederick's army was that it had, undisturbed by wars, developed the standing army theory to full effect. While the Austrians had to wait for drafts to complete the field forces, Prussian regiments could take the field at once, and thus Frederick was able to overrun Silesia almost unopposed. His army was concentrated quietly upon the Oder, and without declaration of war, on the 16th of December 1740, it crossed the frontier into Silesia. The Austrian generals could do no more than garrison a few fortresses, and with the small remnant of their available forces fell back to the mountain frontier of Bohemia and Moravia. The Prussian army was soon able to go into winter quarters, holding all Silesia and investing the strong places of Glogau, Brieg and Neisse.

2. *Silesian Campaign of 1741.*—In February 1741, the Austrians collected a field army under Count Neipperg (1684-1774) and made preparations to reconquer Silesia. The Austrians in Neisse and Brieg still held out. Glogau, however, was stormed on the night of the 9th of March, the Prussians, under Prince Leopold (the younger) of Anhalt-Dessau, executing their task in one hour with a mathematical precision which excited universal admiration. But the Austrian army in Moravia was now in the field, and Frederick's cantonments were dispersed over all Upper Silesia. It was a work of the greatest difficulty to collect the army, for the ground was deep in snow, and before it was completed Neisse was relieved and the Prussians cut off from their own country by the march of Neipperg from Neisse on Brieg; a few days of slow manœuvring between these places ended in the battle of Mollwitz (10th April 1741), the first pitched battle fought by Frederick and his army. The Prussian right wing of cavalry was speedily routed, but the day was retrieved by the magnificent discipline and tenacity of the infantry. The Austrian cavalry was shattered in repeated attempts to ride them down, and before the Prussian volleys the Austrian infantry, in spite of all that Neipperg and his officers could do, gradually melted away. After a stubborn contest the Prussians remained masters of the field. Frederick himself was far away. He had fought in the cavalry mêlée, but after this, when the battle seemed lost, he had been persuaded by Field Marshal Schwerin to ride away. Schwerin thus, like Marshal Saxe at Fontenoy, remained behind to win the victory, and the king narrowly escaped being captured by wandering Austrian hussars. The immediate result of the battle was that the king secured Brieg, and Neipperg fell back to Neisse, where he maintained himself and engaged in a war of manœuvre during the summer. But Europe realized suddenly that a new military power had arisen, and France sent Marshal Belleisle to Frederick's camp to negotiate an alliance. Thenceforward the "Silesian adventure" became the War of the Austrian Succession. The elector of Bavaria's candidature for the imperial dignity was to be supported by a French "auxiliary" army, and other French forces were sent to observe Hanover. Saxony was already watched by a Prussian army under Prince Leopold of Anhalt-Dessau, the "old Dessauer," who had trained the Prussian army to its present perfection. The task of Sweden was to prevent Russia from attacking Prussia, but her troops were defeated, on the 3rd of September 1741, at Wilmanstrand by a greatly superior Russian army, and in 1742 another great reverse was sustained in the capitulation of Helsingfors. In central Italy an army of Neapolitans and Spaniards was collected for the conquest of the Milanese.

3. *The Allies in Bohemia.*—The French duly joined the elector's forces on the Danube and advanced on Vienna; but the objective was suddenly changed, and after many countermarches the allies advanced, in three widely-separated corps, on Prague. A French corps moved via Amberg and Pilsen. The elector marched on Budweis, and the Saxons (who had now joined the allies) invaded Bohemia by the Elbe valley. The Austrians could at first offer little resistance, but before long a considerable force intervened at Tabor between the Danube and the allies, and Neipperg was now on the march from Neisse to join in the campaign. He had made with Frederick the curious agreement of Klein Schnellendorf (9th October 1741), by which Neisse was surrendered after a mock siege, and the Austrians undertook to leave Frederick unmolested in return for his releasing Neipperg's army for service elsewhere. At the same time the Hungarians, moved to enthusiasm by the personal appeal of Maria Theresa, had put into the field a *levée en masse*, or "insurrection," which furnished the regular army with an invaluable force of light troops. A fresh army was collected under Field Marshal Khevenhüller at Vienna, and the Austrians planned an offensive winter campaign against the Franco-Bavarian forces in Bohemia and the small Bavarian army that remained on the Danube to defend the electorate. The French in the meantime had stormed Prague on the 26th of November, the grand-duke Francis, consort of Maria Theresa, who commanded the Austrians in Bohemia, moving too slowly to save the fortress. The elector of Bavaria, who now styled himself archduke of Austria, was crowned king of Bohemia (19th December 1741) and elected to the imperial throne as Charles VII. (24th January 1742), but no active measures were undertaken. In Bohemia the month of December was occupied in mere skirmishes. On the Danube, Khevenhüller, the best general in the Austrian service, advanced on the 27th of December, swiftly drove back the allies, shut them up in Linz, and pressed on into Bavaria. Munich itself surrendered to the Austrians on the coronation day of Charles VII. At the close of this first act of the campaign the French, under the old Marshal de Broglie, maintained a precarious foothold in central Bohemia, menaced by the main army of the

Austrians, and Khevenhüller was ranging unopposed in Bavaria, while Frederick, in pursuance of his secret obligations, lay inactive in Silesia. In Italy the allied Neapolitans and Spaniards had advanced towards Modena, the duke of which state had allied himself with them, but the vigilant Austrian commander Count Traun had outmarched them, captured Modena, and forced the duke to make a separate peace.

4. *Campaign of 1742.*—Frederick had hoped by the truce to secure Silesia, for which alone he was fighting. But with the successes of Khevenhüller and the enthusiastic "insurrection" of Hungary, Maria Theresa's opposition became firmer, and she divulged the provisions of the truce, in order to compromise Frederick with his allies. The war recommenced. Frederick had not rested on his laurels; in the uneventful summer campaign of 1741 he had found time to begin that reorganization of his cavalry which was before long to make it even more efficient than his infantry. Charles VII., whose territories were overrun by the Austrians, asked him to create a diversion by invading Moravia. In December 1741, therefore, Schwerin had crossed the border and captured Olmütz. Glatz also was invested, and the Prussian army was concentrated about Olmütz in January 1742. A combined plan of operations was made by the French, Saxons and Prussians for the rescue of Linz. But Linz soon fell; Broglie on the Moldau, weakened by the departure of the Bavarians to oppose Khevenhüller, and of the Saxons to join forces with Frederick, was in no condition to take the offensive, and large forces under Prince Charles of Lorraine lay in his front from Budweis to Iglau. Frederick's march was made towards Iglau in the first place. Brünn was invested about the same time (February), but the direction of the march was changed, and instead of moving against Prince Charles, Frederick pushed on southwards by Znaim and Nikolsburg. The extreme outposts of the Prussians appeared before Vienna. But Frederick's advance was a mere foray, and Prince Charles, leaving a screen of troops in front of Broglie, marched to cut off the Prussians from Silesia, while the Hungarian levies poured into Upper Silesia by the Jablunka Pass. The Saxons, discontented and demoralized, soon marched off to their own country, and Frederick with his Prussians fell back by Zwittau and Leutomischl to Kuttenberg in Bohemia, where he was in touch with Broglie on the one hand and (Glatz having now surrendered) with Silesia on the other. No defence of Olmütz was attempted, and the small Prussian corps remaining in Moravia fell back towards Upper Silesia. Prince Charles, in pursuit [v.03 p.0041] of the king marched by Iglau and Teutsch (Deutsch) Brod on Kuttenberg, and on the 17th of May was fought the battle of Chotusitz or Czaslau, in which after a severe struggle the king was victorious. His cavalry on this occasion retrieved its previous failure, and its conduct gave an earnest of its future glory not only by its charges on the battlefield, but its vigorous pursuit of the defeated Austrians. Almost at the same time Broglie fell upon a part of the Austrians left on the Moldau and won a small, but morally and politically important, success in the action of Sahay, near Budweis (May 24, 1742). Frederick did not propose another combined movement. His victory and that of Broglie disposed Maria Theresa to cede Silesia in order to make good her position elsewhere, and the separate peace between Prussia and Austria, signed at Breslau on the 11th of June, closed the First Silesian War. The War of the Austrian Succession continued.

5. *The French at Prague.*—The return of Prince Charles, released by the peace of Breslau, put an end to Broglie's offensive. The prince pushed back the French posts everywhere, and his army converged upon Prague, where, towards the end of June 1742, the French were to all intents and purposes surrounded. Broglie had made the best resistance possible with his inferior forces, and still displayed great activity, but his position was one of great peril. The French government realized at last that it had given its general inadequate forces. The French army on the lower Rhine, hitherto in observation of Hanover and other possibly hostile states, was hurried into Franconia. Prince Charles at once raised the siege of Prague (September 14), called up Khevenhüller with the greater part of the Austrian army on the Danube, and marched towards Amberg to meet the new opponent. Marshal Maillebois (1682-1762), its commander, then manœuvred from Amberg towards the Eger valley, to gain touch with Broglie. Marshal Belleisle, the political head of French affairs in Germany and a very capable general, had accompanied Broglie throughout, and it seems that Belleisle and Broglie believed that Maillebois' mission was to regain a permanent foothold for the army in Bohemia; Maillebois, on the contrary, conceived that his work was simply to disengage the army of Broglie from its dangerous position, and to cover its retreat. His operations were no more than a demonstration, and had so little effect that Broglie was sent for in haste to take over the command from him, Belleisle at the same time taking over charge of the army at Prague. Broglie's command was now on the Danube, east of Regensburg, and the imperial (chiefly Bavarian) army of Charles VII. under Seckendorf aided him to clear Bavaria of the Austrians. This was effected with ease, for Khevenhüller and most of his troops had gone to Bohemia. Prince Charles and Khevenhüller now took post between Linz and Passau, leaving a strong force to deal with Belleisle in Prague. This, under Prince Lobkowitz, was little superior in numbers or quality to the troops under Belleisle, under whom served Saxe and the best of the younger French generals, but its light cavalry swept the country clear of provisions. The French were quickly on the verge of starvation, winter had come, and the marshal resolved to retreat. On the night of the 16th of December 1742, the army left Prague to be defended by a small garrison under Chevert, and took the route of Eger. The retreat (December 16-26) was accounted a triumph of generalship, but the weather made it painful and costly. The brave Chevert displayed such confidence that the Austrians were glad to allow him freedom to join the main army. The cause of the new emperor was now sustained only in the valley of the Danube, where Broglie and Seckendorf opposed Prince Charles and Khevenhüller, who were soon joined by the force lately opposing Belleisle.

In Italy, Traun held his own with ease against the Spaniards and Neapolitans. Naples was forced by a British squadron to withdraw her troops for home defence, and Spain, now too weak to

advance in the Po valley, sent a second army to Italy via France. Sardinia had allied herself with Austria, and at the same time neither state was at war with France, and this led to curious complications, combats being fought in the Isère valley between the troops of Sardinia and of Spain, in which the French took no part.

6. *The Campaign of 1743* opened disastrously for the emperor. The French and Bavarian armies were not working well together, and Broglie and Seckendorf had actually quarrelled. No connected resistance was offered to the converging march of Prince Charles's army along the Danube, Khevenhüller from Salzburg towards southern Bavaria, and Prince Lobkowitz (1685-1755) from Bohemia towards the Naab. The Bavarians suffered a severe reverse near Braunau (May 9, 1743), and now an Anglo-allied army commanded by King George II., which had been formed on the lower Rhine on the withdrawal of Maillebois, was advancing southward to the Main and Neckar country. A French army, under Marshal Noailles, was being collected on the middle Rhine to deal with this new force. But Broglie was now in full retreat, and the strong places of Bavaria surrendered one after the other to Prince Charles. The French and Bavarians had been driven almost to the Rhine when Noailles and the king came to battle. George, completely outmanœuvred by his veteran antagonist, was in a position of the greatest danger between Aschaffenburg and Hanau in the defile formed by the Spessart Hills and the river Main. Noailles blocked the outlet and had posts all around, but the allied troops forced their way through and inflicted heavy losses on the French, and the battle of Dettingen is justly reckoned as a notable victory of the British arms (June 27). Both Broglie, who, worn out by age and exertions, was soon replaced by Marshal Coigny (1670-1759), and Noailles were now on the strict defensive behind the Rhine. Not a single French soldier remained in Germany, and Prince Charles prepared to force the passage of the great river in the Breisgau while the king of England moved forward via Mainz to co-operate by drawing upon himself the attention of both the French marshals. The Anglo-allied army took Worms, but after several unsuccessful attempts to cross, Prince Charles went into winter quarters. The king followed his example, drawing in his troops to the northward, to deal, if necessary, with the army which the French were collecting on the frontier of Flanders. Austria, England, Holland and Sardinia were now allied. Saxony changed sides, and Sweden and Russia neutralized each other (peace of Abo, August 1743). Frederick was still quiescent; France, Spain and Bavaria alone continued actively the struggle against Maria Theresa.

In Italy, the Spaniards on the Panaro had achieved a Pyrrhic victory over Traun at Campo Santo (February 8, 1743), but the next six months were wasted in inaction, and Lobkowitz, joining Traun with reinforcements from Germany, drove back the enemy to Rimini. The Spanish-Piedmontese war in the Alps continued without much result, the only incident of note being a combat at Casteldelfino won by the king of Sardinia in person.

7. *Campaign of 1744.*—With 1744 began the Second Silesian War. Frederick, disquieted by the universal success of the Austrian cause, secretly concluded a fresh alliance with Louis XV. France had posed hitherto as an auxiliary, her officers in Germany had worn the Bavarian cockade, and only with England was she officially at war. She now declared war direct upon Austria and Sardinia (April 1744). A corps was assembled at Dunkirk to support the cause of the Pretender in Great Britain, and Louis in person, with 90,000 men, prepared to invade the Austrian Netherlands, and took Menin and Ypres. His presumed opponent was the allied army previously under King George and now composed of English, Dutch, Germans and Austrians. On the Rhine, Coigny was to make head against Prince Charles, and a fresh army under the prince de Conti was to assist the Spaniards in Piedmont and Lombardy. This plan was, however, at once dislocated by the advance of Charles, who, assisted by the veteran Traun, skilfully manœuvred his army over the Rhine near Philipsburg (July 1), captured the lines of Weissenburg, and cut off the French marshal from Alsace. Coigny, however, cut his way through the enemy at Weissenburg and posted himself near Strassburg. Louis XV. now abandoned the invasion of Flanders, and his army
[v.03 p.0042] moved down to take a decisive part in the war in Alsace and Lorraine. At the same time Frederick crossed the Austrian frontier (August).

The attention and resources of Austria were fully occupied, and the Prussians were almost unopposed. One column passed through Saxony, another through Lusatia, while a third advanced from Silesia. Prague, the objective, was reached on the 2nd of September. Six days later the Austrian garrison was compelled to surrender, and the Prussians advanced to Budweis. Maria Theresa once again rose to the emergency, a new "insurrection" took the field in Hungary, and a corps of regulars was assembled to cover Vienna, while the diplomatists won over Saxony to the Austrian side. Prince Charles withdrew from Alsace, unmolested by the French, who had been thrown into confusion by the sudden and dangerous illness of Louis XV. at Metz. Only Seckendorf with the Bavarians pursued him. No move was made by the French, and Frederick thus found himself after all isolated and exposed to the combined attack of the Austrians and Saxons. Marshal Traun, summoned from the Rhine, held the king in check in Bohemia, the Hungarian irregulars inflicted numerous minor reverses on the Prussians, and finally Prince Charles arrived with the main army. The campaign resembled that of 1742; the Prussian retreat was closely watched, and the rearguard pressed hard. Prague fell, and Frederick, completely outmanœuvred by the united forces of Prince Charles and Traun, regained Silesia with heavy losses. At the same time, the Austrians gained no foothold in Silesia itself. On the Rhine, Louis, now recovered, had besieged and taken Freiburg, after which the forces left in the north were reinforced and besieged the strong places of Flanders. There was also a slight war of manœuvre on the middle Rhine.

In 1744 the Italian war became for the first time serious. A grandiose plan of campaign was formed, and as usual the French and Spanish generals at the front were hampered by the orders of their respective governments. The object was to unite the army in Dauphiné with that on the lower Po. The adhesion of Genoa was secured, and a road thereby obtained into central Italy. But Lobkowitz had already taken the offensive and driven back the Spanish army of Count de Gages towards the Neapolitan frontier. The king of Naples at this juncture was compelled to assist the Spaniards at all hazards. A combined army was formed at Velletri, and defeated Lobkowitz there on the 11th of August. The crisis past, Lobkowitz then went to Piedmont to assist the king against Conti, the king of Naples returned home, and de Gages followed the Austrians with a weak force. The war in the Alps and the Apennines was keenly contested. Villefranche and Montalban were stormed by Conti on the 20th of April, a desperate fight took place at Peyre-Longue on the 18th of July, and the king of Sardinia was defeated in a great battle at Madonna del Olmo (September 30) near Coni (Cuneo). Conti did not, however, succeed in taking this fortress, and had to retire into Dauphiné for his winter quarters. The two armies had, therefore, failed in their attempt to combine, and the Austro-Sardinians still lay between them.

8. *Campaign of 1745.*—The interest of the next campaign centres in the three greatest battles of the war—Hohenfriedberg, Kesselsdorf and Fontenoy. The first event of the year was the Quadruple Alliance of England, Austria, Holland and Saxony, concluded at Warsaw on the 8th of January. Twelve days previously, the death of Charles VII. submitted the imperial title to a new election, and his successor in Bavaria was not a candidate. The Bavarian army was again unfortunate; caught in its scattered winter quarters (action of Amberg, January 7), it was driven from point to point, and the young elector had to abandon Munich once more. The peace of Füssen followed on the 22nd of April, by which he secured his hereditary states on condition of supporting the candidature of the grand-duke Francis, consort of Maria Theresa. The "imperial" army ceased *ipso facto* to exist, and Frederick was again isolated. No help was to be expected from France, whose efforts this year were centred on the Flanders campaign. In effect, on the 10th of May, before Frederick took the field, Louis XV. and Saxe had besieged Tournay, and inflicted upon the relieving army of the duke of Cumberland the great defeat of Fontenoy (*q.v.*). In Silesia the customary small war had been going on for some time, and the concentration of the Prussian army was not effected without severe fighting. At the end of May, Frederick, with about 65,000 men, lay in the camp of Frankenstein, between Glatz and Neisse, while behind the Riesengebirge about Landshut Prince Charles had 85,000 Austrians and Saxons. On the 4th of June was fought the battle of Hohenfriedberg (*q.v.*) or Striegau, the greatest victory as yet of Frederick's career, and, of all his battles, excelled perhaps by Leuthen and Rossbach only. Prince Charles suffered a complete defeat and withdrew through the mountains as he had come. Frederick's pursuit was methodical, for the country was difficult and barren, and he did not know the extent to which the enemy was demoralized. The manœuvres of both leaders on the upper Elbe occupied all the summer, while the political questions of the imperial election and of an understanding between Prussia and England were pending. The chief efforts of Austria were directed towards the valleys of the Main and Lahn and Frankfort, where the French and Austrian armies manœuvred for a position from which to overawe the electoral body. Marshal Traun was successful, and the grand-duke became the emperor Francis I. on the 13th of September. Frederick agreed with England to recognize the election a few days later, but Maria Theresa would not conform to the treaty of Breslau without a further appeal to the fortune of war. Saxony joined in this last attempt. A new advance of Prince Charles quickly brought on the battle of Soor, fought on ground destined to be famous in the war of 1866. Frederick was at first in a position of great peril, but his army changed front in the face of the advancing enemy and by its boldness and tenacity won a remarkable victory (September 30). But the campaign was not ended. An Austrian contingent from the Main joined the Saxons under Marshal Rutowski, and a combined movement was made in the direction of Berlin by Rutowski from Saxony and Prince Charles from Bohemia. The danger was very great. Frederick hurried up his forces from Silesia and marched as rapidly as possible on Dresden, winning the actions of Katholisch-Hennersdorf (November 24) and Görlitz (November 25). Prince Charles was thereby forced back, and now a second Prussian army under the old Dessauer advanced up the Elbe from Magdeburg to meet Rutowski. The latter took up a strong position at Kesselsdorf between Meissen and Dresden, but the veteran Leopold attacked him directly and without hesitation (December 14). The Saxons and their allies were completely routed after a hard struggle, and Maria Theresa at last gave way. In the peace of Dresden (December 25) Frederick recognized the imperial election, and retained Silesia, as at the peace of Breslau.

9. *Operations in Italy, 1745-1747.*—The campaign in Italy this year was also no mere war of posts. In March 1745 a secret treaty allied the Genoese republic with France, Spain and Naples. A change in the command of the Austrians favoured the first move of the allies, De Gages moved from Modena towards Lucca, the French and Spaniards in the Alps under Marshal Maillebois advanced through the Riviera to the Tanaro, and in the middle of July the two armies were at last concentrated between the Scrivia and the Tanaro, to the unusually large number of 80,000. A swift march on Piacenza drew the Austrian commander thither, and in his absence the allies fell upon and completely defeated the Sardinians at Bassignano (September 27), a victory which was quickly followed by the capture of Alessandria, Valenza and Casale. Jomini calls the concentration of forces which effected the victory "le plus remarquable de toute la guerre." But the complicated politics of Italy brought it about that Maillebois was ultimately unable to turn his victory to account. Indeed, early in 1746, Austrian troops, freed by the peace with Frederick, passed through Tirol into Italy; the Franco-Spanish winter quarters were brusquely attacked, and a French garrison of 6000 men at Asti was forced to capitulate. At the same time Count Browne

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with an Austrian corps struck at the allies on the lower Po, and cut off their communication with the main body in Piedmont. A series of minor actions thus completely destroyed the great concentration. The allies separated, Maillebois covering Liguria, the Spaniards marching against Browne. The latter was promptly and heavily reinforced, and all that the Spaniards could do was to entrench themselves at Piacenza; the Spanish Infant as supreme commander calling up Maillebois to his aid. The French, skilfully conducted and marching rapidly, joined forces once more, but their situation was critical, for only two marches behind them the army of the king of Sardinia was in pursuit, and before them lay the principal army of the Austrians. The pitched battle of Piacenza (June 16) was hard fought, and Maillebois had nearly achieved a victory when orders from the Infant compelled him to retire. That the army escaped at all was in the highest degree creditable to Maillebois and to his son and chief of staff, under whose leadership it eluded both the Austrians and the Sardinians, defeated an Austrian corps in the battle of Rottofreddo (August 12), and made good its retreat on Genoa. It was, however, a mere remnant of the allied army which returned, and the Austrians were soon masters of north Italy, including Genoa (September). But they met with no success in their forays towards the Alps. Soon Genoa revolted from the oppressive rule of the victors, rose and drove out the Austrians (December 5-11), and the French, now commanded by Belleisle, took the offensive (1747). Genoa held out against a second Austrian siege, and after the plan of campaign had as usual been referred to Paris and Madrid, it was relieved, though a picked corps of the French army under the chevalier de Belleisle, brother of the marshal, was defeated in the almost impossible attempt (July 19) to storm the entrenched pass of Exiles (Col di Assietta), the chevalier, and with him the *élite* of the French nobility, being killed at the barricades. Before the steady advance of Marshal Belleisle the Austrians retired into Lombardy, and a desultory campaign was waged up to the conclusion of peace.

In North America the most remarkable incident of what has been called "King George's War" was the capture of the French Canadian fortress of Louisburg by a British expedition (April 20-June 16, 1745), of which the military portion was furnished by the colonial militia under Colonel (afterwards Lieutenant-General Sir William) Pepperell (1696-1759) of Maine. Louisburg was then regarded merely as a nest of privateers, and at the peace it was given up, but in the Seven Years' War it came within the domain of grand strategy, and its second capture was the preliminary step to the British conquest of Canada. For the war in India, see INDIA: *History*.

10. *Later Campaigns.*—The last three campaigns of the war in the Netherlands were illustrated by the now fully developed genius of Marshal Saxe. After Fontenoy the French carried all before them. The withdrawal of most of the English to aid in suppressing the 'Forty-Five rebellion at home left their allies in a helpless position. In 1746 the Dutch and the Austrians were driven back towards the line of the Meuse, and most of the important fortresses were taken by the French. The battle of Roucoux (or Raucourt) near Liége, fought on the 11th of October between the allies under Prince Charles of Lorraine and the French under Saxe, resulted in a victory for the latter. Holland itself was now in danger, and when in April 1747 Saxe's army, which had now conquered the Austrian Netherlands up to the Meuse, turned its attention to the United Provinces, the old fortresses on the frontier offered but slight resistance. The prince of Orange and the duke of Cumberland underwent a severe defeat at Lauffeld (Lawfeld, &c., also called Val) on the 2nd of July 1747, and Saxe, after his victory, promptly and secretly despatched a corps under (Marshal) Löwendahl to besiege Bergen-op-Zoom. On the 18th of September Bergen-op-Zoom was stormed by the French, and in the last year of the war Maestricht, attacked by the entire forces of Saxe and Löwendahl, surrendered on the 7th of May 1748. A large Russian army arrived on the Meuse to join the allies, but too late to be of use. The quarrel of Russia and Sweden had been settled by the peace of Abo in 1743, and in 1746 Russia had allied herself with Austria. Eventually a large army marched from Moscow to the Rhine, an event which was not without military significance, and in a manner preluded the great invasions of 1813-1814 and 1815. The general peace of Aix-la-Chapelle (Aachen) was signed on the 18th of October 1748.

11. *General Character of the War.*—Little need be said of the military features of the war. The intervention of Prussia as a military power was indeed a striking phenomenon, but her triumph was in a great measure due to her fuller application of principles of tactics and discipline universally recognized though less universally enforced. The other powers reorganized their forces after the war, not so much on the Prussian model as on the basis of a stricter application of known general principles. Prussia, moreover, was far ahead of all the other continental powers in administration, and over Austria, in particular, her advantage in this matter was almost decisive of the struggle. Added to this was the personal ascendancy of Frederick, not yet a great general, but energetic and resolute, and, further, opposed to generals who were responsible for their men to their individual sovereigns. These advantages have been decisive in many wars, almost in all. The special feature of the war of 1740 to 1748, and of other wars of the time, is the extraordinary disparity between the end and the means. The political schemes to be executed by the French and other armies were as grandiose as any of modern times; their execution, under the then conditions of time and space, invariably fell short of expectation, and the history of the war proves, as that of the Seven Years' War was to prove, that the small standing army of the 18th century could conquer by degrees, but could not deliver a decisive blow. Frederick alone, with a definite end and proportionate means wherewith to achieve it, succeeded completely. The French, in spite of their later victories, obtained so little of what they fought for that Parisians could say to each other, when they met in the streets, "You are as stupid as the Peace." And if, when fighting for their own hand, the governments of Europe could so fail of their purpose, even less was to be expected when the armies were composed of allied contingents, sent to the war each for a different object. The allied national armies of 1813 co-operated loyally, for they had

much at stake and worked for a common object; those of 1741 represented the divergent private interests of the several dynasties, and achieved nothing.

BIBLIOGRAPHY.—Besides general works on Frederick's life and reign, of which Carlyle, Preuss and v. Taysen are of particular importance, and Frederick's own works, see the Prussian official *Die I. und II. schlesischen Kriege* (Berlin, 1890-1895); Austrian official *Kriege der Kaiserin Maria Theresia; Gesch. des österr. Erbfolgekrieges* (Vienna, from 1895); Jomini, *Traité des grandes opérations militaires*, introduction to vol. i. (Paris, 4th edition, 1851); C. von B.-K., *Geist und Stoff im Kriege* (Vienna, 1895); v. Arneth, *Maria Teresias ersten Regierungsjahre* (1863); v. Schöning, *Die 5 erste Jahre der Regierung Friedrichs des Grossen*; Bernhardi, *Friedrich der Grosse als Feldherr* (Berlin, 1881); v. Canitz, *Nachrichten, &c., über die Taten und Schicksale der Reiterei, &c*. (Berlin, 1861); Grünhagen, *Gesch. des I. schlesischen Krieges* (Gotha, 1881-1882); Orlich, *Gesch. der schlesischen Kriege*; Deroy, *Beiträge zur Gesch. des österr. Erbfolgekrieges* (Munich, 1883); Crousse, *La Guerre de la succession dans les provinces belgiques* (Paris, 1885); Duncker, *Militärische, &c., Aktenstücke zur Gesch. des I. schles. Krieges*; *Militär-Wochenblatt* supplements 1875, 1877, 1878, 1883, 1891, 1901, &c. (Berlin); *Mitteilungen des k.k. Kriegsarchivs*, from 1887 (Vienna); Baumgart, *Die Litteratur, &c., über Friedrich d. Gr*. (Berlin, 1886); Fortescue, *History of the British Army*, vol. ii.; F. H. Skrine, *Fontenoy and the War of the Austrian Succession* (London, 1906); Francis Parkman, *A Half-Century of Conflict* (1892).

(C. F. A.)

Naval Operations.

The naval operations of this war were languid and confused. They are complicated by the fact that they were entangled with the Spanish war, which broke out in 1739 in consequence of the long disputes between England and Spain over their conflicting claims in America. Until the closing years they were conducted with small intelligence or spirit. The Spanish government was nerveless, and sacrificed its true interest to the family ambition of the king Philip V., who wished to establish his younger sons as ruling princes in Italy. French administration was corrupt, and the government was chiefly concerned in its political interests in Germany. The British navy was [v.03 p.0044] at its lowest point of energy and efficiency after the long administration of Sir Robert Walpole. Therefore, although the war contained passages of vigour, it was neither interesting nor decisive on the sea.

War on Spain was declared by Great Britain on the 23rd of October 1739. It was universally believed that the Spanish colonies would fall at once before attack. A plan was laid for combined operations against them from east and west. One force, military and naval, was to assault them from the West Indies under Admiral Edward Vernon. Another, to be commanded by Commodore George Anson, afterwards Lord Anson, was to round Cape Horn and to fall upon the Pacific coast. Delays, bad preparations, dockyard corruption, and the unpatriotic squabbles of the naval and military officers concerned caused the failure of a hopeful scheme. On the 21st of November 1739 Admiral Vernon did indeed succeed in capturing the ill-defended Spanish harbour of Porto Bello (in the present republic of Panama)—a trifling success to boast of. But he did nothing to prevent the Spanish convoys from reaching Europe. The Spanish privateers cruised with destructive effect against British trade, both in the West Indies and in European waters. When Vernon had been joined by Sir Chaloner Ogle with naval reinforcements and a strong body of troops, an attack was made on Cartagena in what is now Colombia (March 9-April 24, 1741). The delay had given the Spanish admiral, Don Bias de Leso, time to prepare, and the siege failed with a dreadful loss of life to the assailants. Want of success was largely due to the incompetence of the military officers and the brutal insolence of the admiral. The war in the West Indies, after two other unsuccessful attacks had been made on Spanish territory, died down and did not revive till 1748. The expedition under Anson sailed late, was very ill provided, and less strong than had been intended. It consisted of six ships and left England on the 18th of September 1740. Anson returned alone with his flagship the "Centurion" on the 15th of June 1744. The other vessels had either failed to round the Horn or had been lost. But Anson had harried the coast of Chile and Peru and had captured a Spanish galleon of immense value near the Philippines. His cruise was a great feat of resolution and endurance.

While Anson was pursuing his voyage round the world, Spain was mainly intent on the Italian policy of the king. A squadron was fitted out at Cadiz to convey troops to Italy. It was watched by the British admiral Nicholas Haddock. When the blockading squadron was forced off by want of provisions, the Spanish admiral Don José Navarro put to sea. He was followed, but when the British force came in sight of him Navarro had been joined by a French squadron under M. de Court (December 1741). The French admiral announced that he would support the Spaniards if they were attacked and Haddock retired. France and Great Britain were not yet openly at war, but both were engaged in the struggle in Germany—Great Britain as the ally of the queen of Hungary, Maria Theresa; France as the supporter of the Bavarian claimant of the empire. Navarro and M. de Court went on to Toulon, where they remained till February 1744. A British fleet watched them, under the command of admiral Richard Lestock, till Sir Thomas Mathews was sent out as commander-in-chief, and as minister to the court of Turin. Partial manifestations of hostility between the French and British took place in different seas, but avowed war did not begin till the French government issued its declaration of the 30th of March, to which Great Britain replied on the 31st. This formality had been preceded by French preparations for the invasion of England, and by a collision between the allies and Mathews in the Mediterranean (see TOULON, BATTLE OF). On the 11th of February a most confused battle was fought, in which the van and centre of the British fleet was engaged with the rear and centre of the allies. Lestock, who

was on the worst possible terms with his superior, took no part in the action. He endeavoured to excuse himself by alleging that the orders of Mathews were contradictory. Mathews, a puzzle-headed and hot-tempered man, fought with spirit but in a disorderly way, breaking the formation of his fleet, and showing no power of direction. The mismanagement of the British fleet in the battle, by arousing deep anger among the people, led to a drastic reform of the British navy which bore its first fruits before the war ended.

The French invasion scheme was arranged in combination with the Jacobite leaders, and soldiers were to be transported from Dunkirk. But though the British government showed itself wholly wanting in foresight, the plan broke down. In February 1744, a French fleet of twenty sail of the line entered the Channel under Jacques Aymar, comte de Roquefeuil, before the British force under admiral John Norris was ready to oppose him. But the French force was ill equipped, the admiral was nervous, his mind dwelt on all the misfortunes which might possibly happen, and the weather was bad. M. de Roquefeuil came up almost as far as the Downs, where he learnt that Sir John Norris was at hand with twenty-five sail of the line, and thereupon precipitately retreated. The military expedition prepared at Dunkirk to cross under cover of Roquefeuil's fleet naturally did not start. The utter weakness of the French at sea, due to long neglect of the fleet and the bankrupt state of the treasury, was shown during the Jacobite rising of 1745, when France made no attempt to profit by the distress of the British government. The Dutch having by this time joined Great Britain, made a serious addition to the naval power opposed to France, though Holland was compelled by the necessity for maintaining an army in Flanders to play a very subordinate part at sea. Not being stimulated by formidable attack, and having immediate interests both at home and in Germany, the British government was slow to make use of its latest naval strength. Spain, which could do nothing of an offensive character, was almost neglected. During 1745 the New England expedition which took Louisburg (April 30-June 16) was covered by a British naval force, but the operations were in a general way sporadic, subordinated to the supply of convoy, or to unimportant particular ends. In the East Indies, Mahé de la Bourdonnais made a vigorous use of a small squadron to which no effectual resistance was offered by the British naval forces. He captured Madras (July 24-September 9, 1746), a set-off for Louisburg, for which it was exchanged at the close of the war. In the same year a British combined naval and military expedition to the coast of France—the first of a long series of similar ventures which in the end were derided as "breaking windows with guineas"—was carried out during August and October. The aim was the capture of the French East India company's dockyard at L'Orient, but it was not attained.

From 1747 till the close of the war in October 1748 the naval policy of the British government, without reaching a high level, was yet more energetic and coherent. A closer watch was kept on the French coast, and effectual means were taken to intercept communication between France and her American possessions. In the spring information was obtained that an important convoy for the East and West Indies was to sail from L'Orient. In the previous year the British government had allowed a French expedition under M. d'Anville to fail mainly by its own weakness. In 1747 a more creditable line was taken. An overwhelming force was employed under the command of Anson to intercept the convoy in the Channel. It was met, crushed and captured, or driven back, on the 3rd of May. On the 14th of October another French convoy, protected by a strong squadron, was intercepted by a well-appointed and well-directed squadron of superior numbers—the squadrons were respectively eight French and fourteen British—in the Bay of Biscay. The French admiral Desherbiers de l'Étenduère made a very gallant resistance, and the fine quality of his ships enabled him to counteract to some extent the superior numbers of Sir Edward Hawke, the British admiral. While the war-ships were engaged, the merchant vessels, with the small protection which Desherbiers could spare them, continued on their way to the West Indies. Most of them were, however, intercepted and captured in those waters. This disaster convinced the French government of its helplessness at sea, and it made no further effort.

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The last naval operations took place in the West Indies, where the Spaniards, who had for a time been treated as a negligible quantity, were attacked on the coast of Cuba by a British squadron under Sir Charles Knowles. They had a naval force under Admiral Regio at Havana. Each side was at once anxious to cover its own trade, and to intercept that of the other. Capture was rendered particularly desirable to the British by the fact that the Spanish homeward-bound convoy would be laden with the bullion sent from the American mines. In the course of the movement of each to protect its trade, the two squadrons met on the 1st of October 1748 in the Bahama Channel. The action was indecisive when compared with the successes of British fleets in later days, but the advantage lay with Sir Charles Knowles. He was prevented from following it up by the speedy receipt of the news that peace had been made in Europe by the powers, who were all in various degrees exhausted. That it was arranged on the terms of a mutual restoration of conquests shows that none of the combatants could claim to have established a final superiority. The conquests of the French in the Bay of Bengal, and their military successes in Flanders, enabled them to treat on equal terms, and nothing had been taken from Spain.

The war was remarkable for the prominence of privateering on both sides. It was carried on by the Spaniards in the West Indies with great success, and actively at home. The French were no less active in all seas. Mahé de la Bourdonnais's attack on Madras partook largely of the nature of a privateering venture. The British retaliated with vigour. The total number of captures by French and Spanish corsairs was in all probability larger than the list of British—partly for the reason given by Voltaire, namely, that more British merchants were taken because there were many more British merchant ships to take, but partly also because the British government had

not yet begun to enforce the use of convoy so strictly as it did in later times.

See Beatson's *Naval and Military Memoirs* (London, 1804); *La Marine militaire de la France sous le règne de Louis XV*, by G. Lacour-Gayet (Paris, 1902); *The Royal Navy*, by Sir W. L. Clowes and others (London, 1891, &c.).

(D. H.)

AUTHENTIC (from Gr. αὐθέντης, one who does a thing himself), genuine, as opposed to counterfeit, true or original. In music it is one of the terms used for the ecclesiastical modes. The title of *Authentics* was also used for Justinian's *Novells*.

AUTOCEPHALOUS (from Gr. αὐτός, self, and κεφαλή head), of independent headship, a term used of certain ecclesiastical functionaries and organizations.

AUTOCHTHONES (Gr. αὐτός, and χθών, earth, *i.e.* people sprung from earth itself; Lat. *terrigenae*; see also under ABORIGINES), the original inhabitants of a country as opposed to settlers, and those of their descendants who kept themselves free from an admixture of foreign peoples. The practice in ancient Greece of describing legendary heroes and men of ancient lineage as "earthborn" greatly strengthened the doctrine of autochthony; for instance, the Athenians wore golden grasshoppers in their hair in token that they were born from the soil and had always lived in Attica (Thucydides i. 6; Plato, *Menexenus*, 245). In Thebes, the race of Sparti were believed to have sprung from a field sown with dragons' teeth. The Phrygian Corybantes had been forced out of the hill-side like trees by Rhea, the great mother, and hence were called δενδροφυεῖς. It is clear from Aeschylus (*Prometheus*, 447) that primitive men were supposed to have at first lived like animals in caves and woods, till by the help of the gods and heroes they were raised to a stage of civilization.

AUTOCLAVE, a strong closed vessel of metal in which liquids can be heated above their boiling points under pressure. Etymologically the word indicates a self-closing vessel (αὐτός, self, and *clavis*, key, or *clavus*, nail), in which the tightness of the joints is maintained by the internal pressure, but this characteristic is frequently wanting in the actual apparatus to which the name is applied. The prototype of the autoclave was the digester of Denis Papin, invented in 1681, which is still used in cooking, but the appliance finds a much wider range of employment in chemical industry, where it is utilized in various forms in the manufacture of candles, coal-tar colours, &c. Frequently an agitator, passing through a stuffing-box, is fitted so that the contents may be stirred, and renewable linings are provided in cases where the substances under treatment exert a corrosive action on metal.

AUTOCRACY (Gr. αὐτοκράτεια, absolute power), a term applied to that form of government which is absolute or irresponsible, and vested in one single person. It is a type of government usually found amongst eastern peoples; amongst more civilized nations the only example is that of Russia, where the sovereign assumes as a title "the autocrat of all the Russias."

AUTO-DA-FÉ, more correctly AUTO-DE-FÉ (act of faith), the name of the ceremony during the course of which the sentences of the Spanish inquisition were read and executed. The auto-da-fe was almost identical with the *sermo generalis* of the medieval inquisition. It never took place on a feast day of the church, but on some famous anniversary: the accession of a Spanish monarch, his marriage, the birth of an infant, &c. It was public: the king, the royal family, the grand councils of the kingdom, the court and the people being present. The ceremony comprised a procession in which the members of the Holy Office, with its familiars and agents, the condemned persons and the penitents took part; a solemn mass; an oath of obedience to the inquisition, taken by the king and all the lay functionaries; a sermon by the Grand Inquisitor; and the reading of the sentences, either of condemnation or acquittal, delivered by the Holy Office. The handing over of impenitent persons, and those who had relapsed, to the secular power, and their punishment, did not usually take place on the occasion of an auto-da-fé, properly so called. Sometimes those who were condemned to the flames were burned on the night following the ceremony. The first great auto-da-fés were celebrated when Thomas de Torquemada, was at the head of the Spanish inquisition (Seville 1482, Toledo 1486, &c.). The last, subsequent to the time of Charles III., were held in secret; moreover, they dealt with only a very small number of sentences, of which hardly any were capital. The isolated cases of the torturing of a revolutionary priest in Mexico in 1816, and of a relapsed Jew and of a Quaker in Spain during 1826, cannot really be considered as auto-da-fés.

(P. A.)

AUTOGAMY (from Gr. αὐτός, self, and γαμία, marriage), a botanical term for self-fertilization. (See ANGIOSPERMS.)

AUTOGENY, AUTOGENOUS (Gr. αὐτογενής), spontaneous generation, self-produced. Haeckel distinguished *autogeny* and *plasmogeny*, applying the former term when the formative fluid in which the first living matter was supposed to arise was inorganic and the latter when it was organic, *i.e.* contained the requisite fundamental substances dissolved in the form of complicated and fluid combinations of carbon. In "autogenous soldering" two pieces of metal are united by the melting of the opposing surfaces, without the use of a separate fusible alloy or solder as a cementing material.

AUTOGRAPHS. Autograph (Gr. αὐτός, self, γράφειν, to write) is a term applied by common usage either to a document signed by the person from whom it emanates, or to one written

entirely by the hand of such person (which, however, is also more technically described as *holograph*, from ὅλος, entire, γράφειν, to write), or simply to an independent signature.

The existence of autographs must necessarily have been coeval with the invention of letters. Documents in the handwriting of their composers may possibly exist among the early papyri of Egypt and the clay tablets of Babylonia and Assyria, and among the early examples of writing in the East. But the oriental practice of employing professional scribes in writing the body of documents and of using seals for the purpose of "signing" (the "signum" originally meaning the impression of the seal) almost precludes the idea. When we are told (1 Kings xxi. 8) that Jezebel wrote letters in Ahab's name and sealed them with his seal, we are, of course, to understand that the letters were written by the professional scribes and that the impression of the king's seal was the authentication, equivalent to the signature of western nations; and again, when King Darius "signed" the writing and the decree (Dan. vi. 9), he did so with his seal. To find documents which
[v.03 p.0046] we can recognize with certainty to be autographs, we must descend to the Ptolemaic and Roman periods of Egyptian history, which are represented by an abundance of papyrus documents of all kinds, chiefly in Greek. Among them are not a few original letters and personal documents, in which we may see the handwriting of many lettered and unlettered individuals who lived during the 3rd century B.C. and in succeeding times, and which prove how very widespread was the practice of writing in those days. We owe it to the dry and even atmosphere of Egypt that these written documents have been preserved in such numbers. On the other hand, in Italy and Greece ancient writings have perished, save the few charred papyrus rolls and waxen tablets which have been recovered from the ruins of Herculaneum and Pompeii. These tablets, however, have a special value, for many of them contain autograph signatures of principals and witnesses to legal deeds to which they were attached, together with impressions of seals, in compliance with the Roman law which required the actual subscriptions, or attested marks, of the persons concerned.

But, when we now speak of autographs and autograph collections, we use such terms in a restricted sense and imply documents or signatures written by persons of some degree of eminence or notoriety in the various ranks and professions of life; and naturally the only early autographs in this sense which could be expected to survive are the subscriptions and signatures of royal personages and great officials attached to important public deeds, which from their nature have been more jealously cared for than mere private documents.

Following the Roman practice, subscriptions and signatures were required in legal documents in the early centuries of our era. Hence we find them in the few Latin deeds on papyrus which have come to light in Egypt; we find them on the well-known Dacian waxen tablets of the 2nd century; and we find them in the series of papyrus deeds from Ravenna and other places in Italy between the 5th and 10th centuries. The same practice obtained in the Frankish empire. The Merovingian kings, or at least those of them who knew how to write, subscribed their diplomas and great charters with their own hands; and their great officers of state, chancellors and others, countersigned in autograph. The unlettered Merovingian kings made use of monograms composed of the letters of their names; and, curiously, the illiterate monogram was destined to supersede the literate subscriptions. For the monogram was adopted by Charlemagne and his successors as a recognized symbol of their subscription. It was their *signum manuale*, their sign manual. In courtly imitation of the royal practice, monograms and other marks were adopted by official personages, even though they could write. The notarial marks of modern times are a survival of the practice. By the illiterate other signs, besides the monogram, came to be employed, such as the cross, &c., as signs manual. The monogram was used by French monarchs from the reign of Charlemagne to that of Philip the Fair, who died in 1314. It is very doubtful, however, whether in any instance this sign manual was actually traced by the monarch's own hand. At the most, the earlier sovereigns appear to have drawn one or two strokes in their monograms, which, so far, may be called their autographs. But in the later period not even this was done; the monogram was entirely the work of the scribe. (See DIPLOMATIC.)

The employment of marks or signs manual went out of general use after the 12th century, in the course of which the affixing or appending of seals became the common method of executing deeds. But, as education became more general and the practice of writing more widely diffused, the usage grew up in the course of the 14th century of signing the name-signature as well as of affixing the seal; and by the 15th century it had become established, and it remains to the present time. Thus the *signum manuale* had disappeared, except among notaries; but the term survived, and by a natural process it was transferred to the signature. In the present day it is used to designate the "sign manual" or autograph signature of the sovereign.

The Anglo-Saxon kings of England did not sign their charters, their names being invariably written by the official scribes. After the Norman conquest, the sign manual, usually a cross, which sometimes accompanied the name of the sovereign, may in some instances be autograph; but no royal signature is to be found earlier than the reign of Richard II. Of the signatures of this king there are two examples, of the years 1386 and 1389, in the Public Record Office; and there is one, of 1397, in the British Museum. Of his father, the Black Prince, there is in the Record Office a motto-signature, *De par Homont* (high courage), *Ich dene*, subscribed to a writ of privy seal of 1370. The kings of the Lancastrian line were apparently ready writers. Of the handwriting of both Henry IV. and Henry V. there are specimens both in the Record Office and in the British Museum. But by their time writing had become an ordinary accomplishment.

Apart from the autographs of sovereigns, those of famous men of the early middle ages can hardly be said to exist, or, if they do exist, they are difficult to identify. For example, there is a charter at Canterbury bearing the statement that it was written by Dunstan; but, as there is a

duplicate in the British Museum with the same statement, it is probable that both the one and the other are copies. The autograph MSS. of the chronicles of Ordericus Vitalis, of Robert de Monte, and of Sigebert of Gembloux are in existence; and among the Cottonian MSS. there are undoubtedly autograph writings of Matthew of Paris, the English chronicler of Henry III.'s reign. There are certain documents in the British Museum in the hand of William of Wykeham; and among French archives there are autograph writings of the historian Joinville. These are a few instances. When we come to such a collection as the famous Paston Letters, the correspondence of the Norfolk family of Paston of the 15th century, we find therein numerous autographs of historical personages of the time.

From the 16th century onward, we enter the period of modern history, and autograph documents of all kinds become plentiful. And yet in the midst of this plenty, by a perverse fate, there is in certain instances a remarkable dearth. The instance of Shakespeare is the most famous. But for three signatures to the three sheets of his will, and two signatures to the conveyances of property in Blackfriars, we should be without a vestige of his handwriting. For certain other signatures, professing to be his, inscribed in books, may be dismissed as imitations. Such forgeries come up from time to time, as might be expected, and are placed upon the market. The Shakespearean forgeries, however, of W. H. Ireland were perpetrated rather with a literary intent than as an autographic venture.

Had autograph collecting been the fashion in Shakespeare's days, we should not have had to deplore the loss of his and of other great writers' autographs. But the taste had not then come into vogue, at least not in England. The series of autograph documents which were gathered in such a library as that of Sir Robert Cotton, now in the British Museum, found their way thither on account of their literary or historic interest, and not merely as specimens of the handwriting of distinguished men. Such a series also as that formed by Philippe de Béthune, Comte de Selles et Charost, and his son, in the reign of Louis XIV., consisting for the most part of original letters and papers, now in the Bibliothèque Nationale, might have been regarded as the result of autograph collecting did we not know that it was brought together for historical purposes. It was in Germany and the Low Countries that the practice appears to have originated, chiefly among students and other members of the universities, of collecting autograph inscriptions and signatures of one's friends in albums, *alba amicorum*, little oblong pocket volumes of which a considerable number have survived, a very fair collection being in the British Museum. The earliest album in the latter series is the Egerton MS. 1178, beginning with an entry of the year 1554. Once the taste was established, the collecting of autographs of living persons was naturally extended to those of former times; and many collections, famous in their day, have been formed, but in most instances only to be dispersed again as the owners tired of their fancy or as their heirs failed to inherit their tastes along with their possessions. The most celebrated collection formed in England in recent years is that of the late Mr Alfred Morrison, which still remains intact, and which is well known by means of the sumptuous catalogue, with its many facsimiles, compiled by the owner.

[v.03 p.0047]

The rivalry of collectors and the high prices which rare or favourite autographs realize have naturally given encouragement to the forger. False letters of popular heroes and of popular authors, of Nelson, of Burns, of Thackeray, and of others, appear from time to time in the market: in some instances clever imitations, but more generally too palpably spurious to deceive any one with experience. Like the Shakespearean forgeries of Ireland, referred to above, the forgeries of Chatterton were literary inventions; and both were poor performances. One of the cleverest frauds of this nature in modern times was the fabrication, in the middle of the 19th century, of a series of letters of Byron and Shelley, with postmarks and seals complete, which were even published as *bona fide* documents (Brit. Mus., Add. MS. 19,377).

There are many published collections of facsimiles of autographs of different nations. Among those published in England the following may be named:—*British Autography*, by J. Thane (1788-1793, with supplement by Daniell, 1854); *Autographs of Royal, Noble, Learned and Remarkable Personages in English History*, by J. G. Nichols (1829); *Facsimiles of Original Documents of Eminent Literary Characters*, by C. J. Smith (1852); *Autographs of the Kings and Queens and Eminent Men of Great Britain*, by J. Netherclift (1835); *One Hundred Characteristic Autograph Letters*, by J. Netherclift and Son (1849); *The Autograph Miscellany*, by F. Netherclift (1855); *The Autograph Souvenir*, by F. G. Netherclift and R. Sims (1865); *The Autographic Mirror* (1864-1866); *The Handbook of Autographs*, by F. G. Netherclift (1862); *The Autograph Album*, by L. B. Phillips (1866); *Facsimiles of Autographs* (British Museum publication), five series (1896-1900). Facsimiles of autographs also appear in the official publications, *Facsimiles of National MSS., from William the Conqueror to Queen Anne* (Master of the Rolls), 1865-1868; *Facsimiles of National MSS. of Scotland* (Lord Clerk Register), 1867-1871; and *Facsimiles of National MSS. of Ireland* (Public Record Office, Ireland), 1874-1884.

(E. M. T.)

AUTOLYCUS, in Greek mythology, the son of Hermes and father of Anticleia, mother of Odysseus. He lived at the foot of Mount Parnassus, and was famous as a thief and swindler. On one occasion he met his match. Sisyphus, who had lost some cattle, suspected Autolycus of being the thief, but was unable to bring it home to him, since he possessed the power of changing everything that was touched by his hands. Sisyphus accordingly burnt his name into the hoofs of his cattle, and, during a visit to Autolycus, recognized his property. It is said that on this occasion Sisyphus seduced Autolycus's daughter Anticleia, and that Odysseus was really the son of Sisyphus, not of Laertes, whom Anticleia afterwards married. The object of the story is to

establish the close connexion between Hermes, the god of theft and cunning, and the three persons—Sisyphus, Odysseus, Autolycus—who are the incarnate representations of these practices. Autolycus is also said to have instructed Heracles in the art of wrestling, and to have taken part in the Argonautic expedition.

Iliad, x. 267; *Odyssey*, xix. 395; Ovid, *Metam.* xi. 313; Apollodorus i. 9; Hyginus, *Fab.* 201.

AUTOLYCUS OF PITANE, Greek mathematician and astronomer, probably flourished in the second half of the 4th century B.C., since he is said to have instructed Arcesilaus. His extant works consist of two treatises; the one, Περὶ κινουμένης σφαίρας, contains some simple propositions on the motion of the sphere, the other, Περὶ ἐπιτολῶν καὶ δύσεων, in two books, discusses the rising and setting of the fixed stars. The former treatise is historically interesting for the light it throws on the development which the geometry of the sphere had already reached even before Autolycus and Euclid (see THEODOSIUS OF TRIPOLIS).

There are several Latin versions of Autolycus, a French translation by Forcadel (1572), and an admirable edition of the Greek text with Latin translation by F. Hultsch (Leipzig, 1885).

AUTOMATIC WRITING, the name given by students of psychical research to writing performed without the volition of the agent. The writing may also take place without any consciousness of the words written; but some automatists are aware of the word which they are actually writing, and perhaps of two or three words on either side, though there is rarely any clear perception of the meaning of the whole. Automatic writing may take place when the agent is in a state of trance, spontaneous or induced, in hystero-epilepsy or other morbid states; or in a condition not distinguishable from normal wakefulness. Automatic writing has played an important part in the history of modern spiritualism. The phenomenon first appeared on a large scale in the early days (*c.* 1850-1860) of the movement in America. Numerous writings are reported at that period, many of considerable length, which purported for the most part to have been produced under spirit guidance. Some of these were written in "unknown tongues." Of those which were published the most notable are Andrew J. Davis's *Great Harmonia*, Charles Linton's *The Healing of the Nations*, and J. Murray Spear's *Messages from the Spirit Life*.

In England also the early spiritualist newspapers were filled with "inspirational" writing,—*Pages of Ike Paraclete*, &c. The most notable series of English automatic writings are the *Spirit Teachings* of the Rev. W. Stainton Moses. The phenomenon, of course, lends itself to deception, but there seems no reason to doubt that in the great majority of the cases recorded the writing was in reality produced without deliberate volition. In the earlier years of the spiritualist movement, a "planchette," a little heart-shaped board running on wheels, was employed to facilitate the process of writing.

Of late years, whilst the theory of external inspiration as the cause of the phenomenon has been generally discredited, automatic writing has been largely employed as a method of experimentally investigating subconscious mental processes. Knowledge which had lapsed from the primary consciousness is frequently revealed by this means; *e.g.* forgotten fragments of poetry or foreign languages are occasionally given. An experimental parallel to this reproduction of forgotten knowledge was devised by Edmund Gurney. He showed that information communicated to a subject in the hypnotic trance could be subsequently reproduced through the handwriting, whilst the attention of the subject was fully employed in conversing or reading aloud; or an arithmetical problem which had been set during the trance could be worked out under similar conditions without the apparent consciousness of the subject.

Automatic writing for the most part, no doubt, brings to the surface only the debris of lapsed memories and half-formed impressions which have never reached the focus of consciousness—the stuff that dreams are made of. But there are indications in some cases of something more than this. In some spontaneous instances the writing produces anagrams, puns, nonsense verses and occasional blasphemies or obscenities; and otherwise exhibits characteristics markedly divergent from those of the normal consciousness. In the well-known case recorded by Th. Flournoy (*Des Indes à la planète Mars*) the automatist produced writing in an unknown character, which purported to be the Martian language. The writing generally resembles the ordinary handwriting of the agent, but there are sometimes marked differences, and the same automatist may employ two or three distinct handwritings. Occasionally imitations are produced of the handwriting of other persons, living or dead. Not infrequently the writing is reversed, so that it can be read only in a looking-glass (*Spiegelschrift*); the ability to produce such writing is often associated with the liability to spontaneous somnambulism. The hand and arm are often insensible in the act of writing. There are some cases on record in which the automatist has seemed to guide his hand not by sight, but by some special extension of the muscular sense (Carpenter, *Mental Physiology*, § 128; W. James, *Proceedings American S.P.R.* p. 554).

Automatic writing frequently exhibits indications of telepathy. The most remarkable series of automatic writings recorded in this connexion are those executed by the American medium, Mrs Piper, in a state of trance (*Proceedings S.P.R.*). These writings appear to exhibit remarkable telepathic powers, and are thought by some to indicate communication with the spirits of the dead.

[v.03 p.0048] The opportunities afforded by automatic writing for communicating with subconscious strata of the personality have been made use of by Pierre Janet and others in cases of hystero-epilepsy, and other forms of dissociation of consciousness. A patient in an attack of hysterical convulsions, to whom oral appeals are made in vain, can sometimes be induced to answer in writing questions

addressed to the hand, and thus to reveal the secret of the malady or to accept therapeutic suggestions.

See Edmonds and Dexter, *Spiritualism* (New York, 1853); Epes Sargent, *Planchette, the Despair of Science* (Boston, U.S.A., 1869); Mrs de Morgan, *From Matter to Spirit* (London, 1863); W. Stainton Moses, *Spirit Teachings* (London, 1883); *Proceedings S.P R. passim*; Th. Flournoy, *Des Indes à la planète Mars* (Geneva, 1900); F. Podmore, *Modern Spiritualism* (London, 1902); F. W. H. Myers, *Human Personality* (London, 1903); Pierre Janet, *L'Automatisme psychologique* (2nd ed., Paris, 1894); Morton Prince, *The Dissociation of a Personality* (London, 1906).

(F. P.)

AUTOMATISM. In philosophical terminology this word is used in two main senses: (1) in ethics, for the view that man is not responsible for his actions, which have, therefore, no moral value; (2) in psychology, for all actions which are not the result of conation or conscious endeavour. Certain actions being admittedly automatic, Descartes maintained that, in regard of the lower animals, all action is purely mechanical. The same theory has since been applied to man, with this difference that, accompanying the mechanical phenomena of action, and entirely disconnected with it, are the phenomena of consciousness. Thus certain physical changes in the brain result in a given action; the concomitant mental desire or volition is in no sense causally connected with, or prior to, the physical change. This theory, which has been maintained by T. Huxley (*Science and Culture*) and Shadworth Hodgson (*Metaphysic of Experience and Theory of Practice*), must be distinguished from that of the psychophysical parallelism, or the "double aspect theory" according to which both the mental state and the physical phenomena result from a so-called "mind stuff," or single substance, the material or cause of both.

Automatic acts are of two main kinds. Where the action goes on while the attention is focused on entirely different subjects (*e.g.* in cycling), it is purely automatic. On the other hand, if the attention is fixed on the end or on any particular part of a given action, and the other component parts of the action are performed unconsciously, the automatism may be called relative.

See G. F. Stout, *Anal. Psych*, i. 258 foll.; Win. James, *Princ. of Psych.* i. chap. 5; also the articles PSYCHOLOGY, SUGGESTION, &c.

Sensory Automatism is the term given by students of psychical research to a centrally initiated hallucination. Such hallucinations are commonly provoked by crystal-gazing (*q.v.*), but auditory hallucinations may be caused by the use of a shell (shell-hearing), and the other senses are occasionally affected.

Motor Automatism, on the other hand, is a non-reflex movement of a voluntary muscle, executed in the waking state but not controlled by the ordinary waking consciousness. Phenomena of this kind play a large part in primitive ceremonies of divination (*q.v.*) and in our own day furnish much of the material of Psychical Research. At the lowest level we have vague movements of large groups of muscles, as in "bier-divination," where the murderer or his residence is inferred from the actions of the bearers; of a similar character but combined with more specialized action are many kinds of witch seeking. These more specialized actions are most typically seen in the Divining Rod (*q.v.*; see also TABLE-TURNING), which indicates the presence of water and is used among the uncivilized to trace criminals. At a higher stage still we have the delicate movements necessary for Automatic Writing (*q.v.*) or Drawing. A parallel case to Automatic Writing is the action of the speech centres, resulting in the production of all kinds of utterances from trance speeches in the ordinary language of the speaker to mere unintelligible babblings. An interesting form of speech automatism is known as Glossolalia; in the typical case of Helène Smith, Th. Flournoy has shown that these utterances may reach a higher plane and form a real language, which is, however, based on one already known to the speaker.

See *Man* (1904), No. 68; *Folklore*, xiii. 134; Myers in *Proc. S.P.R.* ix. 26, xii. 277, xv. 403; Flournoy, *Des Indes à la planète Mars* and in *Arch. de Psychologie*; Myers, *Human Personality*.

(N. W. T.)

AUTOMATON (from αὐτός, self, and μάω, to seize), a self-moving machine, or one in which the principle of motion is contained within the mechanism itself. According to this description, clocks, watches and all machines of a similar kind, are automata, but the word is generally applied to contrivances which simulate for a time the motions of animal life. If the human figure and actions be represented, the automaton has sometimes been called specially an *androides*. We have very early notices of the construction of automata, *e.g.* the tripods of Vulcan, and the moving figures of Daedalus. In 400 B.C., Archytas of Tarentum is said to have made a wooden pigeon that could fly, and during the middle ages numerous instances of the construction of automata are recorded. Regiomontanus is said to have made of iron a fly, which would flutter round the room and return to his hand, and also an eagle, which flew before the emperor Maximilian when he was entering Nuremberg. Roger Bacon is said to have forged a brazen head which spoke, and Albertus Magnus to have had an androides, which acted as doorkeeper, and was broken to pieces by Aquinas. Of these, as of some later instances, *e.g.* the figure constructed by Descartes and the automata exhibited by Dr Camus, not much is accurately known. But in the 18th century, Jacques de Vaucanson, the celebrated mechanician, exhibited three admirable figures,—the flute-player, the tambourine-player, and the duck, which was capable of eating, drinking, and imitating exactly the natural voice of that fowl. The means by which these results had been produced were clearly seen, and a great impulse was given to the construction of

similar figures. Knauss exhibited at Vienna an automaton which wrote; a father and son named Droz constructed several ingenious mechanical figures which wrote and played music; Frederick Kaufmann and Leonard Maelzel made automatic trumpeters who could play several marches. The Swiss have always been celebrated for their mechanical ingenuity, and they construct most of the curious toys, such as flying and singing birds, which are frequently met with in industrial exhibitions. The greatest difficulty has generally been experienced in devising any mechanism which shall successfully simulate the human voice (not to be compared with the gramophone, which reproduces mechanically a real voice). No attempt has been thoroughly successful, though many have been made. A figure exhibited by Fabermann of Vienna remains the best. Kempelen's famous chess-player for many years astonished and puzzled Europe. This figure, however, was no true automaton, although the mechanical contrivances for concealing the real performer and giving effect to his desired movements were exceedingly ingenious. J. N. Maskelyne, in more recent times (1875-1880), has been prominent in exhibiting his automata, Psycho (who played cards) and Zoe (who drew pictures), at the Egyptian Hall, London, but the secret of these contrivances was well kept. (See CONJURING.)

AUTOMORPHISM (from Gr. αὐτός, self, and μορφή, form), the conception and interpretation of other people's habits and ideas on the analogy of one's own.

AUTONOMY (Gr. αὐτός, self, and νόμος, law), in general, freedom from external restraint, self-government. The term is usually coupled with a qualifying adjective. Thus, political autonomy is self-government in its widest sense, independence of all control from without. Local autonomy is a freedom of self-government within a sphere marked out by some superior authority; *e.g.* municipal corporations in England have their administrative powers marked out for them by acts of parliament, and in so far as they govern themselves within these limits exercise local autonomy. Administrative or constitutional autonomy, such as exists in the British colonies, implies an extent of self-government which falls short only of complete independence. The term is used loosely even in the case of *e.g.* religious bodies, individual churches and other communities which enjoy a measure of self-government in certain specified respects.

[v.03 p.0049]

In philosophy, the term (with its antithesis "heteronomy") was applied by Kant to that aspect of the rational will in which, *qua* rational, it is a law to itself, independently alike of any external authority, of the results of experience and of the impulses of pleasure and pain. In the sphere of morals, the ultimate and only authority which the mind can recognize is the law which emerges from the pure moral consciousness. This is the only sense in which moral freedom can be understood. (See ETHICS; KANT.) Though the term "autonomy" in its fullest sense implies entire freedom from causal necessity, it can also be used even in determinist theories for relative independence of particular conditions, theological or conventional.

AUTOPSY (Gr. αὐτός, self, and ὄψις, sight, investigation), a personal examination, specifically a *post-mortem* ("after death") examination of a dead body, to ascertain the cause of death, &c. The term "necropsy" (Gr. νεκρός, corpse) is sometimes used in this sense. (See CORONER and MEDICAL JURISPRUDENCE.)

AUTRAN, JOSEPH (1813-1877), French poet, was born at Marseilles on the 20th of June 1813. In 1832 he addressed an ode to Lamartine, who was then at Marseilles on his way to the East. The elder poet persuaded the young man's father to allow him to follow his poetic bent, and Autran remained from that time a faithful disciple of Lamartine. His best known work is *La Mer* (1835), remodelled in 1852 as *Les Poèmes de la mer. Ludibria ventis* (1838) followed, and the success of these two volumes gained for Autran the librarianship of his native town. His other most important work is his *Vie rurale* (1856), a series of pictures of peasant life. The Algerian campaigns inspired him with verses in honour of the common soldier. *Milianah* (1842) describes the heroic defence of that town, and in the same vein is his *Laboureurs et soldats* (1854). Among his other works are the *Paroles de Salomon* (1868), *Épîtres rustiques* (1861), *Sonnets capricieux*, and a tragedy played with great success at the Odéon in 1848, *La Fille d'Eschyle*. A definitive edition of his works was brought out between 1875 and 1881. He became a member of the French Academy in 1868, and died at Marseilles on the 6th of March 1877.

AUTUN, a town of east-central France, capital of an arrondissement in the department of Saône-et-Loire, 62 m. S.W. of Dijon on the Paris-Lyon railway to Nevers. Pop. (1906) 11,927. Autun is pleasantly situated on the slope of a hill at the foot of which runs the Arroux. Its former greatness is attested by many Roman remains, the chief of which are two well-preserved stone gateways, the Porte d' Arroux and the Porte St André, both pierced with four archways and surmounted by arcades. There are also remains of the old ramparts and aqueducts, of a square tower called the Temple of Janus, of a theatre and of an amphitheatre. A pyramid in the neighbouring village of Couhard was probably a sepulchral monument. The chapel of St Nicolas (12th century) contains many of the remains discovered at Autun. The cathedral of St Lazare, once the chapel attached to the residence of the dukes of Burgundy, is in the highest part of the town. It belongs mainly to the 12th century, but the Gothic central tower and the chapels were added in the 15th century by Nicolas Rolin, chancellor of Burgundy, born at Autun. The chief artistic features of the church are the group of the Last Judgment sculptured on the tympanum above the west door, and the painting by Ingres representing the martyrdom of St Symphorien, which took place at Autun in 179. In the cathedral square stands the fountain of St Lazare, a work of the Renaissance. The hôtel Rolin, a house of the 15th century, contains the collections of the "Aeduan literary and scientific society." The hôtel de ville, containing a museum of paintings, the law-court and the theatre are modern buildings. Autun is the seat of a bishopric, of tribunals of first instance and of commerce, and has an ecclesiastical seminary, a communal college and a cavalry school. Among

the industries of the town are the extraction of oil from the bituminous schist obtained in the neighbourhood, leather manufacture, metal-founding, marble-working, and the manufacture of machinery and furniture. Autun is the commercial centre for a large part of the Morvan, and has considerable trade in timber and cattle.

Autun (*Augustodunum*) succeeded Bibracte as capital of the Aedui when Gaul was reorganized by Augustus. Under the Romans, it was a flourishing town, covering double its present extent and renowned for its schools of rhetoric. In the succeeding centuries its prosperity drew upon it the attacks of the barbarians, the Saracens and the Normans. The counts of Autun in 880 became dukes of Burgundy, and the town was the residence of the latter till 1276. It was ravaged by the English in 1379, and, in 1591, owing to its support of the League, had to sustain a siege conducted by Marshal Jean d'Aumont, general of Henry IV.

See H. de Fontenay, *Autun et ses monuments* (Autun, 1889).

AUTUNITE, or Calco-uranite, a mineral which is one of the "uranium micas," differing from the more commonly occurring torbernite (*q.v.*) or cupro-uranite in containing calcium in place of copper. It is a hydrous uranium and calcium phosphate, $Ca(UO_2)_2(PO_4)_2 + 8(\text{or } 12)H_2O$. Though closely resembling the tetragonal torbernite in form, it crystallizes in the orthorhombic system and is optically biaxial. The crystals have the shape of thin plates with very nearly square outline (89° 17′ instead of 90°). An important character is the perfect micaceous cleavage parallel to the basal plane, on which plane the lustre is pearly. The colour is sulphur-yellow, and this enables the mineral to be distinguished at a glance from the emerald-green torbernite. Hardness 2-2½; specific gravity 3.05-3.19. Autunite is usually found with pitchblende and other uranium minerals, or with ores of silver, tin and iron; it sometimes coats joint-planes in gneiss and pegmatite. Falkenstein in Saxony, St Symphorien near Autun (hence the name of the species), and St Day in Cornwall are well-known localities for this mineral.

(L. J. S.)

AUVERGNE, formerly a province of France, corresponding to the departments of Cantal and Puy-de-Dôme, with the arrondissement of Brioude in Haute-Loire. It contains many mountains volcanic in origin (Plomb du Cantal, Puy de Dôme, Mont Dore), fertile valleys such as that of Limagne, vast pasture-lands, and numerous medicinal springs. Up to the present day the population retains strongly-marked Celtic characteristics. In the time of Caesar the *Arverni* were a powerful confederation, the Arvernian Vercingetorix being the most famous of the Gallic chieftains who fought against the Romans. Under the empire *Arvernia* formed part of *Prima Aquitania*, and the district shared in the fortunes of Aquitaine during the Merovingian and Carolingian periods. Auvergne was the seat of a separate countship before the end of the 8th century; the first hereditary count was William the Pious (886). By the marriage of Eleanor of Aquitaine with Henry Plantagenet, the countship passed under the suzerainty of the kings of England, but at the same time it was divided, William VII., called the Young (1145-1168), having been despoiled of a portion of his domain by his uncle William VIII., called the Old, who was supported by Henry II. of England, so that he only retained the region bounded by the Allier and the Coux. It is this district that from the end of the 13th century was called the *Dauphiné d'Auvergne*. This family quarrel occasioned the intervention of Philip Augustus, king of France, who succeeded in possessing himself of a large part of the country, which was annexed to the royal domains under the name of *Terre d'Auvergne*. As the price of his concurrence with the king in this matter, the bishop of Clermont, Robert I. (1195-1227), was granted the lordship of the town of Clermont, which subsequently became a countship. Such was the origin of the four great historic lordships of Auvergne. The *Terre d'Auvergne* was first an appanage of Count Alphonse of Poitiers (1241-1271), and in 1360 was erected into a duchy in the peerage of France (duché-pairie) by King John II. in favour of his son John, through whose daughter the new title passed in 1416 to the house of Bourbon. The last duke, the celebrated constable Charles of Bourbon, united
[v.03 p.0050] the domains of the *Dauphiné* to those of the duchy, but all were confiscated by the crown in consequence of the sentence which punished the constable's treason in 1527. The countship, however, had passed in 1422 to the house of La Tour, and was not annexed to the domain until 1615. The administration of the royal province of Auvergne was organized under Louis XIV. At the time of the revolution it formed what was called a "government," with two divisions: Upper Auvergne (Aurillac), and Lower Auvergne (Clermont).

Bibliography.—Baluze, *Histoire généalogique de la maison d'Auvergne* (1708); André Imberdis, *Histoire générale de l'Auvergne* (1867); J. B. M. Bielawski, *Histoire de la comté d'Auvergne et de sa capitale Vic-le-Comte* (1868); B. Gonot, *Catalogue des ouvrages imprimés et manuscrits concernant l'Auvergne* (1849). See further Chevalier, *Répertoire des sources hist., Topobibliographie*, s.v.

AUXANOMETER (Gr. αὐξάνειν, to increase, μέτρον, measure), an apparatus for measuring increase or rate of growth in plants.

AUXENTIUS (fl. *c.* 370), of Cappadocia, an Arian theologian of some eminence (see Arius). When Constantine deposed the orthodox bishops who resisted, Auxentius was installed into the seat of Dionysius, bishop of Milan, and came to be regarded as the great opponent of the Nicene doctrine in the West. So prominent did he become, that he was specially mentioned by name in the condemnatory decree of the synod which Damasus, bishop of Rome, urged by Athanasius, convened in defence of the Nicene doctrine (A.D. 369). When the orthodox emperor Valentinian ascended the throne, Auxentius was left undisturbed in his diocese, but his theological doctrines

were publicly attacked by Hilary of Poitiers.

The chief source of information about him is the *Liber contra Auxentium* in the Benedictine edition of the works of Hilary.

AUXERRE, a town of central France, capital of the department of Yonne, 38 m. S.S.E. of Sens on the Paris-Lyon railway, between Laroche and Nevers. Pop. (1906) 16,971. It is situated on the slopes and the summit of an eminence on the left bank of the Yonne, which is crossed by two bridges leading to suburbs on the right bank. The town is irregularly built and its streets are steep and narrow, but it is surrounded by wide tree-lined boulevards, which have replaced the ancient fortifications, and has some fine churches. That of St Étienne, formerly the cathedral, is a majestic Gothic building of the 13th to the 16th centuries. It is entered by three richly sculptured portals, over the middle and largest of which is a rose window; over the north portal rises a massive tower, but that which should surmount the south portal is unfinished. The lateral entrances are sheltered by tympana and arches profusely decorated with statuettes. The plan consists of a nave, with aisles and lateral chapels, transept and choir, with a deambulatory at a slightly lower level. Beneath the choir, which is a fine example of early Gothic architecture, extends a crypt of the 11th century with mural paintings of the 12th century. The church has some fine stained glass and many pictures and other works of art. The ancient episcopal palace, now used as prefecture, stands behind the cathedral; it preserves a Romanesque gallery of the 12th century. The church of St Eusèbe belongs to the 12th, 13th and 16th centuries. Of the abbey church of St Germain, built in the 13th and 14th centuries, most of the nave has disappeared, so that its imposing Romanesque tower stands apart from it; crypts of the 9th century contain the tombs of bishops of Auxerre. The abbey was once fortified and a high wall and cylindrical tower remain. The buildings (18th century) are partly occupied by a hospital and a training college. The church of St Pierre, in the Renaissance style of the 16th and 17th centuries, is conspicuous for the elaborate ornamentation of its west façade. The old law-court contains the museum, with a collection of antiquities and paintings, and a library. In the middle of the town is a gateway surmounted by a belfry, dating from the 15th century. Auxerre has statues of Marshal Davout, J. B. J. Fourier and Paul Bert, the two latter natives of the town. The town is the seat of a court of assizes and has tribunals of first instance and of commerce, and a branch of the Bank of France. A lycée for girls, a communal college and training colleges are among its educational establishments. Manufactures of ochre, of which there are quarries in the vicinity, and of iron goods are carried on. The canal of Nivernais reaches as far as Auxerre, which has a busy port and carries on boat-building. Trade is principally in the choice wine of the surrounding vineyards, and in timber and coal.

Auxerre (*Autessiodurum*) became the seat of a bishop and a civitas in the 3rd century. Under the Merovingian kings the abbey of St Germain, named after the 6th bishop, was founded, and in the 9th century its schools had made the town a seat of learning. The bishopric was suppressed in 1790.

The countship of Auxerre was granted by King Robert I. to his son-in-law Renaud, count of Nevers. It remained in the house of Nevers until 1184, when it passed by marriage to that of Courtenay. Other alliances transferred it successively to the families of Donzy, Châtillon, Bourbon and Burgundy. Alice of Burgundy, countess of Auxerre, married John of Châlons (d. 1309), and several counts of Auxerre belonging to the house of Châlons distinguished themselves in the wars against the English during the 14th century. John II., count of Auxerre, was killed at the battle of Crécy (1346), and his grandson, John IV., sold his countship to King Charles V. in 1370.

AUXILIARY (from Lat. *auxilium*, help), that which gives aid or support; the term is used in grammar of a verb which completes the tense, mood or voice of another verb; in engineering, *e.g.* of the low steam power used to supplement the sail-power in sailing ships, still occasionally used in yachts, sealers or whalers; and in military use, of foreign or allied troops, more properly of any troops not permanently maintained under arms. In the British army the term "Auxiliary Forces" was employed formerly to include the Militia, the Imperial Yeomanry and the Volunteers.

AUXIMUM (mod. *Osimo*), an ancient town in Picenum, situated on an isolated hill 8 m. from the Adriatic, on the road from Ancona to Nuceria. It was selected by the Romans as a fortress to protect their settlements in northern Picenum, and strongly fortified in 174 B.C. The walls erected at that period, of large rectangular blocks of stone, still exist in great part. Auximum became a colony at latest in 157 B.C. It often appears in the history of the civil wars, owing to its strong position. Pompey was its patron, and intended that Caesar should find resistance here in 49 B.C. It appears to have been a place of some importance in imperial times, as inscriptions and the monuments of its forum (the present piazza) show. In the 6th century it is called by Procopius the chief town of Picenum, Ancona being spoken of as its harbour.

(T. As.)

AUXONNE, a town of eastern France, in the department of Côte d'Or, 19 m. E.S.E. of Dijon on the Paris-Lyon railway to Belfort. Pop. (1906) 2766 (town); 6307 (commune). Auxonne is a quiet town situated in a wide plain on the left bank of the Saône. It preserves remains of ramparts, a stronghold of the 16th century flanked by cylindrical towers, and a sculptured gateway of the 15th century. Vauban restored these works in the latter half of the 17th century, and built the arsenal now used as a market. The church of Notre-Dame dates from the 14th century. Of the two towers surmounting its triple porch only that to the south is finished. A lofty spire rises above

a third tower over the crossing. The hôtel de ville (15th century) and some houses of the Renaissance period are also of architectural interest. A statue of Napoleon I. as a sub-lieutenant commemorates his sojourns in the town from 1788 to 1791. Auxonne has a tribunal of commerce and a communal college. Its industries are unimportant, but it has a large trade in the vegetables produced by the numerous market gardens in the vicinity.

Auxonne, the name of which is derived from its position on the Saône (*ad Sonam*), was in the middle ages chief place of a countship, which in the first half of the 13th century passed to the dukes of Burgundy. The town received a charter in 1229 and derived some importance from the mint which the dukes of Burgundy founded in it. It was invested by the allies in 1814, and surrendered to an Austrian force in the following year.

[v.03 p.0051]

AVA, the ancient capital of the Burman empire, now a subdivision of the Sagaing district in the Sagaing division of Upper Burma. It is situated on the Irrawaddy on the opposite bank to Sagaing, with which it was amalgamated in 1889. Amarapura, another ancient capital, lies 5 m. to the north-east of Ava, and Mandalay, the present capital, 6 m. to the north. The classical name of Ava is Yadanapura, "the city of precious gems." It was founded by Thadomin Payā in A.D. 1364 as successor to Pagan, and the religious buildings of Pagan were to a certain extent reproduced here, although on nothing like the same scale as regards either size or splendour. It remained the seat of government for about four centuries with a succession of thirty kings. In 1782 a new capital, Amarapura, was founded by Bodaw Payā, but was deserted again in favour of Ava by King Baggidaw in 1823. On his deposition by King Tharawaddi in 1837, the capital reverted to Amarapura; but finally in 1860 the last capital of Mandalay was occupied by King Mindōn. For picturesque beauty Ava is unequalled in Burma, but it is now more like a park than the site of an old capital. Traces of the great council chamber and various portions of the royal palace are still visible, but otherwise the secular buildings are completely destroyed; and most of the religious edifices are also dilapidated.

AVADĀNA, the name given to a type of Buddhist romance literature represented by a large number of Sanskrit (Nepalese) collections, of which the chief are the Avadānasataka (Century of Legends), and the Divyāvadāna (The Heavenly Legend). Though of later date than most of the canonical Buddhist books, they are held in veneration by the orthodox, and occupy much the same position with regard to Buddhism that the Purānas do towards Brahminism.

AVAHI, the native name of a Malagasy lemur (*Avahis laniger*) nearly allied to the indri (*q.v.*), and the smallest representative of the subfamily *Indrisinae*, characterized by its woolly coat, and measuring about 28 in. in length, of which rather more than half is accounted for by the tail. Unlike the other members of the group, the avahi is nocturnal, and does not associate in small troops, but is met with either alone or in pairs. Very slow in its movements, it rarely descends to the ground, but, when it does, walks upright like the other members of the group. It is found throughout the forests which clothe the mountains on the east coast of Madagascar, and also in a limited district on the northwest coast, the specimens from the latter locality being of smaller size and rather different in colour. The eastern phase is generally rusty red above, with the inner sides of the limbs white; while the predominant hue in the western form is usually yellowish brown. (See PRIMATES.)

(R. L.*)

AVALANCHE (adopted from a French dialectic form, *avalance*, descent), a mass of snow and ice mingled with earth and stones, which rushes down a mountain side, carrying everything before it, and producing a strong wind which uproots trees on each side of its course. Where the supply of snow exceeds the loss by evaporation the surplus descends the mountain sides, slowly in the form of glaciers, or suddenly in ice-falls or in avalanches. A mass of snow may accumulate upon a steep slope and become compacted into ice by pressure, or remain loosely aggregated. When the foundation gives way, owing to the loosening effect of spring rains or from any other cause, the whole mass slides downward. A very small cause will sometimes set a mass of overloaded snow in motion. Thunder or even a loud shout is said to produce this effect when the mass is just poised, and Swiss guides often enjoin absolute silence when crossing dangerous spots.

AVALLON, a town of central France, capital of an arrondissement in the department of Yonne, 34 m. S.S.E. of Auxerre on a branch of the Paris-Lyon railway. Pop. (1906) 5197. The town, with wide streets and picturesque promenades, is finely situated on a promontory, the base of which is washed on the south by the Cousin, on the east and west by small streams. Its chief building, the church of St Lazare, dates from the 12th century. The two western portals are adorned with sculpture in the ornate Romanesque style; the tower on the left of the façade was rebuilt in the 17th century. The Tour de L'Horloge, pierced by a gateway through which passes the Grande Rue, is a 15th century structure containing a museum on its second floor. Remains of the ancient fortifications, including seven of the flanking towers, are still to be seen. Avallon has a statue of Vauban, the military engineer. The public institutions include the subprefecture, a tribunal of first instance, and a communal college. The manufacture of biscuits and gingerbread, and of leather and farm implements is carried on, and there is considerable traffic in wood, wine, and the live-stock and agricultural produce of the surrounding country.

Avallon (*Aballo*) was in the middle ages the seat of a viscounty dependent on the duchy of Burgundy, and on the death of Charles the Bold passed under the royal authority.

AVALON (also written AVALLON, AVOLLON, AVILION and AVELION), in Welsh mythology the kingdom of the dead, afterwards an earthly paradise in the western seas, and finally, in the Arthurian

romances, the abode of heroes to which King Arthur was conveyed after his last battle. In Welsh the name is Ynys yr Afallon, usually interpreted "Isle of Apples," but possibly connected with the Celtic tradition of a king over the dead named Avalloc (in Welsh Afallach). If the traditional derivation is correct, the name is derived from the Welsh *afal*, an apple, and, as no other large fruit was well known to the races of northern Europe, is probably intended to symbolize the feasting and enjoyments of elysium. Other forms of the name are Ynysvitrin and Ynysgutrin, "Isle of Glass"—which appear to be identical with Glasberg, the Teutonic kingdom of the dead. Perhaps owing to a confusion between Glasberg or Ynysvitrin and the Anglo-Saxon Glaestinga-burh, Glastonbury, the name "Isle of Avalon" was given to the low ridge in central Somersetshire which culminates in Glastonbury Tor, while Glastonbury itself came to be called Avalon. Attempts have also been made to identify Avalon with other places in England and Wales.

See *Studies in the Arthurian Legend*, by J. Rhys (Oxford, 1891); also ARTHUR (KING); ATLANTIS.

AVARAY, a French territorial title belonging to a family some of whose members have been conspicuous in history. The Béarnaise family named Bésiade moved into the province of Orléanais in the 17th century, and there acquired the estate of Avaray. In 1667 Théophile de Bésiade, marquis d'Avaray, obtained the office of grand bailiff of Orleans, which was held by several of his descendants after him. Claude Antoine de Bésiade, marquis d'Avaray, was deputy for the bailliage of Orleans in the states-general of 1789, and proposed a *Declaration of the Duties of Man* as a pendant to the *Declaration of the Rights of Man*; he subsequently became a lieutenant-general in 1814, a peer of France in 1815, and duc d'Avaray in 1818. Antoine Louis François, comte d'Avaray, son of the above, distinguished himself during the Revolution by his devotion to the comte de Provence, afterwards Louis XVIII., whose emigration he assisted. Having nominally become king in 1799, that prince created the estate of Ile-Jourdain a duchy, under the title of Avaray, in favour of the comte d'Avaray, whom he termed his "liberator."

(M. P.*)

AVARS, or AVARI, an East Caucasian people, the most renowned of the Lesghian tribes, inhabiting central Daghestan (see LESGHIANS). They are the only Lesghian tribe who possess a written language, for which they make use of the Arabic characters. They are often confused with the Avars whose empire on the Danube was broken by Charlemagne; but Komarov asserts that they are of more recent origin as a tribe, their name being Lowland Turki for "vagrant" or "refugee."

AVATAR, a Sanskrit word meaning "descent," specially used in Hindu mythology (and so in English) to express the incarnation of a deity visiting the earth for any purpose. The ten Avatars of Vishnu are the most famous. The Hindus believe he has appeared (1) as a fish, (2) as a tortoise, (3) as a hog, (4) as a monster, half man half lion, to destroy the giant Iranian, (5) as a dwarf, (6) as Rāma, (7) again as Rāma for the purpose of killing the thousand-armed giant Cartasuciriargunan, (8) as Krishna, (9) as Buddha. They allege that the tenth Avatar has yet to occur and will be in the form of a white-winged horse (Kalki) who will destroy the earth.

[v.03 p.0052]

AVEBURY, JOHN LUBBOCK, 1ST BARON (1834-), English banker, politician and naturalist, was born in London on the 30th of April 1834, the son of Sir John William Lubbock, 3rd baronet, himself a highly distinguished man of science. John Lubbock was sent to Eton in 1845; but three years later was taken into his father's bank, and became a partner at twenty-two. In 1865 he succeeded to the baronetcy. His love of science kept pace with his increasing participation in public affairs. He served on commissions upon coinage and other financial questions; and at the same time acted as president of the Entomological Society and of the Anthropological Institute. Early in his career several banking reforms of great importance were due to his initiative, while such works as *Prehistoric Times* (1865) and *The Origin of Civilization* (1870) were proceeding from his pen. In 1870, and again in 1874, he was elected a member of parliament for Maidstone. He lost the seat at the election of 1880; but was at once elected member for London University, of which he had been vice-chancellor since 1872. He carried numerous enactments in parliament, including the Bank Holidays Act 1871, and bills dealing with absconding debtors, shop hours regulations, public libraries, open spaces, and the preservation of ancient monuments, and he proved himself an indefatigable and influential member of the Unionist party. A prominent supporter of the Statistical Society, he took an active part in criticizing the encroachment of municipal trading and the increase of the municipal debt. He was elected the first president of the Institute of Bankers in 1879; in 1881 he was president of the British Association, and from 1881 to 1886 president of the Linnaean Society. He received honorary degrees from the universities of Oxford, Cambridge (where he was Rede lecturer in 1886), Edinburgh, Dublin and Würzburg; and in 1878 was appointed a trustee of the British Museum. From 1888 to 1892 he was president of the London Chamber of Commerce; from 1889 to 1890 vice-chairman and from 1890 to 1892 chairman of the London County Council. During the same period he served on royal commissions on education and on gold and silver. In 1890 he was appointed a privy councillor; and was chairman of the committee of design on the new coinage in 1891. In 1900 he was raised to the peerage, under the title of Baron Avebury, and he continued to play a leading part in public life, not only by the weight of his authority on many subjects, but by the readiness with which he lent his support to movements for the public benefit. Among other matters he was a prominent advocate of proportional representation. As an original author and a thoughtful popularizer of natural history and philosophy he had few rivals in his day, as is evidenced by the number of editions issued of many of his writings, among which the most widely-read have been: *The Origin and Metamorphoses of Insects* (1873), *British Wild Flowers* (1875), *Ants, Bees and Wasps* (1882), *Flowers, Fruit and Leaves* (1886), *The Pleasures of Life* (1887), *The Senses, Instincts and Intelligence of Animals* (1888), *The Beauties of Nature* (1892), *The Use of Life* (1894).

AVEBURY, a village in the Devizes parliamentary division of Wiltshire, England, on the river Kennet, 8 m. by road from Marlborough. The fine church of St James contains an early font with Norman carving, a rich Norman doorway, a painted reredos, and a beautiful old roodstone in good preservation. Avebury House is Elizabethan, with a curious stone dovecot. The village has encroached upon the remains of a huge stone circle (not quite circular), surrounded by a ditch and rampart of earth, and once approached by two avenues of monoliths. Within the larger circle were two smaller ones, placed not in the axis of the great one but on its north-eastern side, each of which consisted of a double concentric ring of stones; the centre being in one case a menhir or pillar, in the other a dolmen or tablestone resting on two uprights. Few traces remain, as the monoliths have been largely broken up for building purposes. The circle is the largest specimen of primitive stone monuments in Britain, measuring on the average 1200 ft. in diameter. The stones are all the native Sarsens which occur everywhere in the district, and show no evidence of having been hewn. Those still remaining vary in size from 5 to 20 ft. in height above ground, and from 3 to 12 ft. in breadth. As in the case of Stonehenge, the purpose for which the Avebury monument was erected has been the source of much difference of opinion among antiquaries, Dr Stukely (*Stonehenge a Temple restored to the British Druids*, 1740) regarding it as a Druidical temple, while Fergusson (*Rude Stone Monuments*, 1872) believed that it, as well as Silbury Hill, marks the site of the graves of those who fell in the last Arthurian battle at Badon Hill (A.D. 520). The majority of antiquaries, however, see no reason for dissociating its chronological horizon from that of the numerous other analogous monuments found in Great Britain, many of which have been shown to be burial places of the Bronze Age. Excavations were carried out here in 1908, but without throwing any important new light on the monument.

There are many barrows on the neighbouring downs, besides traces of a double oval of monoliths on Hackpen hill, and the huge mound of Silbury Hill. Waden Hill, to the south, has been, like Badbury, identified with Badon Hill, which was the traditional scene of the twelfth and last great battle of King Arthur in 520. The Roman road from Winchester to Bath skirts the south side of Silbury Hill.

At the time of the Domesday Survey, the church of Avebury (Avreberie, Abury), with two hides attached, was held in chief by Rainbold, a priest, and was bestowed by Henry III. on the abbot and monks of Cirencester, who continued to hold it until the reign of Henry VIII. The manor of Avebury was granted in the reign of Henry I. to the Benedictine monks of St George of Boucherville in Normandy, and a cell from that abbey was subsequently established here. In consequence of the war with France in the reign of Edward III., this manor was annexed by the crown, and was conferred on the newly founded college of New College, Oxford, together with all the possessions, spiritual and temporal, of the priory.

AVEIA, an ancient town of the Vestini, on the Via Claudia Nova, 6 m. S.E. of Aquila, N.E. of the modern village of Fossa. Some remains of ancient buildings still exist, and the name Aveia still clings to the place. The identification was first made by V. M. Giovenazzi, *Della Città di Aveia ne' Vestini* (Rome, 1773). Paintings in the church of S. Maria ad Cryptas, of the 12th to 15th centuries, are important in the history of art. An inscription of a *stationarius* of the 3rd century, sent here on special duty (no doubt for the suppression of brigandage), was found here in 1902 (A. von Domaszewski, *Röm. Mitt.*, 1902, 330).

AVEIRO, a seaport, episcopal see, and the capital of an administrative district, formerly included in the province of Beira, Portugal; on the river Vouga, and the Lisbon-Oporto railway. Pop. (1900) 9979. Aveiro is built on the southern shore of a marshy lagoon, containing many small islands, and measuring about 15 m. from north to south, with an average breadth of about 1 m. The Barra Nova, an artificial canal about 33 ft. deep, was constructed between 1801 and 1808, and gives access to the Atlantic ocean. The local industries include the preparation of sea-salt, the catching and curing of fish, especially sardines and oysters, and the gathering of aquatic plants (*moliço*). There is also a brisk trade in wine, oil and fruit; while the Aveiro district contains copper and lead mines, besides much good pasture-land.

Aveiro is probably the Roman Talabriga. In the 16th century it was the birthplace of João Affonso, one of the first navigators to visit the fishing-grounds of Newfoundland; and it soon became famous for its fleet of more than sixty vessels, which sailed yearly to that country, and returned laden with dried codfish. During the same century the cathedral was built, and the city was made a duchy. The title "duke of Aveiro" became extinct when its last holder, Dom José Mascarenhas e Lancaster, was burned alive for high treason, in 1759. The administrative district of Aveiro coincides with the north-western part of the province of Beira; pop. (1900) 303,169; area, 1065 sq. m.

AVELLA (anc. *Abella*), a city of Campania, Italy, in the province of Avellino, 23 m. N.E. of Naples by rail. Pop. (1901) 4107. It is finely situated in fertile territory and its nuts (*nuces Abellanae*) and fruit were renowned in Roman days. About 2 m. to the north-east lies Avella Vecchia, the ancient Abella, regarded by the ancients as a Chalcidian colony. An important Oscan inscription relates to a treaty with Nola, regarding a joint temple of Hercules, attributable to the 2nd century B.C. Under the early empire it had already become a colony and had perhaps been one since the time of Sulla. It has remains of the walls of the citadel and of an amphitheatre, and lay on the road from Nola to Abellinum, which was here perhaps joined by a branch from Suessula.

[v.03 p.0053]

See J. Beloch, *Campanien* (2nd ed., Breslau, 1890), 411 seq.

(T. As.)

AVELLINO, a city and episcopal see of Campania, Italy, the capital of the province of Avellino, 1150 ft. above sea-level, 28 m. direct and 59 m. by rail E.N.E. of Naples, at the foot of Monte Vergine. Pop. (1901) 23,760. There are ruins of the castle constructed in the 9th or 10th century, in which the antipope Anacletus II. crowned Count Roger II. king of Sicily and Apulia. Avellino is the junction of lines to Benevento and Rocchetta S. Antonio. The name is derived from the ancient Abellinum, the ruins of which lie 2½ m. north-east, close to the village of Atripalda, and consist of remains of city walls and an amphitheatre in *opus reticulatum*, *i.e.* of the early imperial period, when Abellinum appears to have been the chief place of a tribe, to which belonged also the independent communities of the *Abellinates cognomine Protropi* among the Hirpini, and the *Abellinates cognominati Marsi* among the Apulians (Nissen, *Italische Landeskunde*, ii. 822). It lay on the boundary of Campania and the territory of the Hirpini, at the junction of the roads from Nola (and perhaps also from Suessula) and Salernum to Beneventum.

The Monte Vergine (4165 ft.) lies 4 m. to the N.W. of Avellino; upon the summit is a sanctuary of the Virgin, founded in 1119, which contains a miraculous picture attributed to S. Luke (the greatest festival is on the 8th of September). The present church is baroque in style, but contains some works of art of earlier periods. The important archives have been transported to Naples.

(T. As.)

AVEMPACE [Abu Bakr Muḥammad ibn Yaḥya, known as Ibn Bājja or Ibn Ṣaʿigh, *i.e.* son of the goldsmith, the name being corrupted by the Latins into Avempace, Avenpace or Aben Pace], the earliest and one of the most distinguished of the Arab philosophers of Spain. Little is known of the details of his life. He was born probably at Saragossa towards the close of the 11th century. According to Ibn Khāqān, a contemporary writer, he became a student of the exact sciences and was also a musician and a poet. But he was a philosopher as well, and apparently a sceptic. He is said to have rejected the Koran, to have denied the return to God, and to have regarded death as the end of existence. But even in that orthodox age he became vizier to the amir of Murcia. Afterwards he went to Valencia, then to Saragossa. After the fall of Saragossa (1119) he went to Seville, then to Xativa, where he is said to have returned to Islam to save his life. Finally he retired to the Almoravid court at Fez, where he was poisoned in 1138. Ibn ʻUsaibiʻa gives a list of twenty-five of his works, but few of these remain. He had a distinct influence upon Averroes (see Arabian Philosophy).

For his life see M^{c}G. de Slane's trans. of Ibn Khallikān's *Biographical Dictionary* (Paris and London, 1842), vol. iii. pp. 130 ff., and Ibn ʻUsaibiʻa's biography translated in P. de Gayangos' edition of the *History of the Mohammedan Dynasties in Spain*, by al-Maqqari (London, 1840), vol. ii., appendix, p. xii. List of extant works in C. Brockelmann's *Geschichte der arabischen Litteratur*, vol. i. p. 460. For his philosophy cf. T. J. de Boer's *The History of Philosophy in Islām* (London, 1903), ch. vi.

(G. W. T.)

AVENARIUS, RICHARD HEINRICH LUDWIG (1843-1896), German philosopher, was born in Paris on the 19th of November 1843. His education, begun in Zürich and Berlin, was completed at the university of Leipzig, where he graduated in 1876. In 1877 he became professor of philosophy in Zürich, where he died on the 18th of August 1896. At Leipzig he was one of the founders of the *Akademisch-philosophische Verein*, and was the first editor of the *Vierteljahrsschrift für wissenschaftliche Philosophie*. In 1868 he published an essay on the Pantheism of Spinoza. His chief works are *Philosophie als Denken der Welt gemäss dem Princip des kleinsten Kraftmasses* (1876) and the *Kritik der reinen Erfahrung* (1888-1890). In these works he made an attempt to co-ordinate thought and action. Like Mach, he started from the principle of economy of thinking, and in the *Kritik* endeavoured to explain pure experience in relation to knowledge and environment. He discovers that statements dependent upon environment constitute pure experience. This philosophy, called Empirio-criticism, is not, however, a realistic but an idealistic dualism, nor can it be called materialism.

See Wundt, *Philos. Stud.* xiii. (1897); Carstanjen and Willy in *Zeitsch. f. wiss. Philos*. xx. (1896), 361 ff.; xx. 57 ff.; xxii. 53 ff.; J. Petzoldt's *Einführung in d. Philos. d. reinen Erfahrung* (1900).

AVENGER OF BLOOD, the person, usually the nearest kinsman of the murdered man, whose duty it was to avenge his death by killing the murderer. In primitive societies, before the evolution of settled government, or the uprise of a systematized criminal law, crimes of violence were regarded as injuries of a personal character to be punished by the sufferer or his kinsfolk. This right of vengeance was common to most countries, and in many was the subject of strict regulations and limitations. It was prevented from running into excesses by the law of sanctuary (*q.v.*) and in many lands the institution of blood-money, and the wergild offered the wrong-doer a mode of escaping from his enemies' revenge. The Mosaic law recognized the right of vengeance, but not the money-compensation. The Koran, on the contrary, while sanctioning the vengeance, also permits pecuniary commutation for murder.

AVENGERS, or Vendicatori, a secret society formed about 1186 in Sicily to avenge popular wrongs. The society was finally suppressed by King William II., the Norman, who hanged the grand master and branded the members with hot irons.

AVENTAIL, or Avantaille (O. Fr. *esventail*, presumably from a Latin word *exventaculum*, air-hole), the mouthpiece of an old-fashioned helmet, movable to admit the air.

AVENTINUS (1477-1534), the name taken by JOHANN TURMAIR, author of the *Annales Boiorum*, or *Annals of Bavaria*, from Aventinum, the Latin name of the town of Abensberg, where he was born on the 4th of July 1477. Having studied at Ingolstadt, Vienna, Cracow and Paris, he returned to Ingolstadt in 1507, and in 1509 was appointed tutor to Louis and Ernest, the two younger sons of Albert the Wise, the late duke of Bavaria-Munich. He retained this position until 1517, wrote a Latin grammar, and other manuals for the use of his pupils, and in 1515 travelled in Italy with Ernest. Encouraged by William IV., duke of Bavaria, he began to write the *Annales Boiorum*, about 1517, and finishing this book in 1521, undertook a German version of it, entitled *Bayersche Chronik*, which he completed some years later. He assisted to found the *Sodalitas litteraria Angilostadensis*, under the auspices of which several old manuscripts were brought to light. Although Aventinus did not definitely adopt the reformed faith, he sympathized with the reformers and their teaching, and showed a strong dislike for the monks. On this account he.was imprisoned in 1528, but his friends soon effected his release. The remainder of his life was somewhat unsettled, and he died at Regensburg on the 9th of January 1534. The *Annales*, which are in seven books, deal with the history of Bavaria in conjunction with general history from the earliest times to 1460, and the author shows a strong sympathy for the Empire in its struggle with the Papacy. He took immense pains with his work, and to some degree anticipated the modern scientific method of writing history. The *Annales* were first published in 1554, but many important passages were omitted in this edition, as they reflected on the Roman Catholics. A more complete edition was published at Basel in 1580 by Nicholas Cisner. Aventinus, who has been called the "Bavarian Herodotus," wrote other books of minor importance, and a complete edition of his works was published at Munich (1881-1886). More recently a new edition (six vols.) has appeared.

See T. Wiedemann, *Johann Turmair gen. Aventinus* (Freising, 1858); W. Dittmar, *Aventin* (Nördlingen, 1862); J. von Döllinger, *Aventin und seine Zeit* (Munich, 1877); S. Riezler, *Zum Schutze der neuesten Edition von Aventins Annalen* (Munich, 1886); F. X. von Wegele, *Aventin* (Bamberg, 1890).

[v.03 p.0054] **AVENTURINE,** or AVANTURINE, a variety of quartz containing spangles of mica or scales of iron-oxide, which confer brilliancy on the stone. It is found chiefly in the Ural Mountains, and is cut for ornamental purposes at Ekaterinburg. Some of the Siberian aventurine, like that of the vase given by Nicholas I. to Sir R. Murchison, in 1843, is a micaceous iron-stained quartz, of but little beauty. Most aventurine is of reddish brown or yellow colour, but a green variety, containing scales of fuchsite or chrome-mica, is also known. This green aventurine, highly valued by the Chinese, is said to occur in the Bellary district in India.

Aventurine felspar, known also as Sun-stone (*q.v.*) is found principally at Tvedestrand in south Norway, and is a variety of oligoclase enclosing micaceous scales of haematite. Other kinds of felspar, even orthoclase, may however also show the aventurine appearance. Both plagioclastic and orthoclastic aventurine occur at several localities in the United States.

The mineral aventurine takes its name from the well-known aventurine-glass of Venice. This is a reddish brown glass with gold-like spangles, more brilliant than most of the natural stone. The story runs that this kind of glass was originally made accidentally at Murano by a workman, who let some copper filings fall into the molten "metal," whence the product was called *avventurino*. From the Murano glass the name passed to the mineral, which displayed a rather similar appearance.

(F. W. R.*)

AVENUE (the past participle feminine of Fr. *avenir*, to come to), a way of approach; more particularly, the chief entrance-road to a country house, with rows of trees on each side; the trees themselves are said to form the avenue. In modern times the word has been much used as a name for streets in towns, whether with or without trees, such as Fifth Avenue in New York, or Shaftesbury Avenue in London.

AVENZOAR, or ABUMERON [Abū Merwān ʻAbdal-Malik ibn Zuhr], Arabian physician, who flourished at the beginning of the 12th century, was born at Seville, where he exercised his profession with great reputation. His ancestors had been celebrated as physicians for several generations, and his son was afterwards held by the Arabians to be even more eminent in his profession than Avenzoar himself. He was a contemporary of Averroes, who, according to Leo Africanus, heard his lectures, and learned physic of him. He belonged, in many respects, to the *Dogmatists* or *Rational School*, rather than to the *Empirics*. He was a great admirer of Galen; and in his writings he protests emphatically against quackery and the superstitious remedies of the astrologers. He shows no inconsiderable knowledge of anatomy in his remarkable description of inflammation and abscess of the mediastinum in his own person, and its diagnosis from common pleuritis as well as from abscess and dropsy of the pericardium. In cases of obstruction or of palsy of the gullet, his three modes of treatment are ingenious. He proposes to support the strength by placing the patient in a tepid bath of nutritious liquids, that might enter by cutaneous imbibition, but does not recommend this. He speaks more favourably of the introduction of food into the stomach by a silver tube; and he strongly recommends the use of nutritive enemata. From his writings it would appear that the offices of physician, surgeon and apothecary were already considered as distinct professions. He wrote a book entitled *The Method of Preparing Medicines and Diet*, which was translated into Hebrew in the year 1280, and thence into Latin by Paravicius, whose version, first printed at Venice, 1490, has passed through several editions.

AVERAGE, a term found in two main senses. (1) The first, which occurs in old law, is from a Law-Latin *averagium*, and is connected with the Domesday Book *avera*, the "day's work which the king's tenants gave to the sheriff"; it is supposed to be a form of the O. Fr. *ovre* (*œuvre*), work, affected by *aver*, the O. Eng. word for cattle or property, but the etymology is uncertain. As meaning some form of feudal service rendered by tenants to their superiors, it survived for a long time in the Scottish phrase "arriage and carriage," this form of the word being due to a contraction into "arage." (2) The second word, which represents the modern usages, is also uncertain in its derivation, but corresponded with the Fr. *avarie*, and was early spelt "averays," recurring also as "avaria," "averia," and meaning a certain tax on goods, and then more precisely in maritime law any charge additional to "freight" (see AFFREIGHTMENT), payable by the owner of goods sent by ship. Hence the modern employment of the term for *particular* and *general* average (see below) in marine insurance. The essential of equitable distribution, involved in this sense, was transferred to give the word "average" its more colloquial meaning of an equalization of amount, or medium among various quantities, or nearest common rate or figure. (For a discussion of the etymology, see the *New English Dictionary*, especially the concluding note with reference to authorities.)

In Shipping.—Average, in modern law, is the term used in maritime commerce to signify damages or expenses resulting from the accidents of navigation. Average is either *general* or *particular*. General average arises when sacrifices have been made, or expenditures incurred, for the preservation of the ship, cargo and freight, from some peril of the sea or from its effects. It implies a subsequent contribution, from all the parties concerned, rateably to the values of their respective interests, to make good the loss thus occasioned. Particular average signifies the damage or partial loss happening to the ship, goods, or freight by some fortuitous or unavoidable accident. It is borne by the parties to whose property the misfortune happens or by their insurers. The term average originally meant what is now distinguished as general average; and the expression "particular average," although not strictly accurate, came to be afterwards used for the convenience of distinguishing those damages or partial losses for which no general contribution could be claimed.

Although nothing can be more simple than the fundamental principle of general average, that a loss incurred for the advantage of all the coadventurers should be made good by them all in equitable proportion to their stakes in the adventure, the application of this principle to the varied and complicated cases which occur in the course of maritime commerce has given rise to many diversities of usage at different periods and in different countries. It is soon discovered that the principle cannot be applied in any settled or consistent manner unless by the aid of rules of a technical and sometimes of a seemingly arbitrary character. The difficulty, which at one time seemed nearly insuperable, of bringing together the rules in force in the several maritime countries, has been to a large extent overcome—not by legislation but by framing a set of rules covering the principal points of difference in such a manner as to satisfy, on the whole, those who are practically concerned, and to lead them to adopt these rules in their contracts of affreightment and contracts of insurance (see INSURANCE: *Marine*). The honour of the achievement belongs to a small number of men who recognized the need of uniformity. The work began in May 1860 at the congress held at Glasgow, under the presidency of Lord Brougham, assisted by Lord Neaves. Further congresses were held in London (1862), and at York (1864), when a body of rules known as the "York Rules" was agreed to. There the matter stood, until it was taken up by the "Association for the Reform and Codification of the Law of Nations" at conferences held at the Hague (1875), Bremen (1876) and Antwerp (1877). Some changes were made in the "York Rules"; and so altered, the body of rules was adopted at the last-named conference, and was styled the "York and Antwerp (or York-Antwerp) Rules." The value of these rules was quickly perceived, and practical use of them followed. But they proved to be insufficient, or unsatisfactory, on some points; and again, in the autumn of 1890, a conference on the subject was held, this time at Liverpool, by the same Association, under the able presidency of Dr F. Sieveking, president of the Hanseatic High Court of Appeal at Hamburg. Important changes were then made, carrying further certain departures from English law, already apparent in the earlier rules, in favour of views prevailing upon the continent of Europe and in the United States. The new rules were styled the York-Antwerp Rules 1890. In practice they quickly displaced those of 1877; and in 1892, at a conference of the same Association held at Genoa, it was formally declared that the only international rules of general average having the sanction and authority of the association were the York-Antwerp Rules as revised in 1890, and that the original rules were rescinded. It is this later body of rules which is now known as the York-Antwerp Rules. Reference is now to be found in most English contracts of carriage and contracts of insurance, to these rules, as intended to govern the adjustment of G.A. between the parties; with the result that (so far as the rules cover the ground) adjustments do not depend upon the law of the place of destination, and so do not vary according to the destination, or the place at which the voyage may happen to be broken up, as used formerly to be the case.

History of the York-Antwerp rules.

[v.03 p.0055]

The rules are as follows:—

RULE I.—JETTISON OF DECK CARGO

No jettison of deck cargo shall be made good as G.A.

Every structure not built in with the frame of the vessel shall be considered to be a part of the deck of the vessel.

Rule II.—Damage by Jettison and Sacrifice for the Common Safety

Damage done to a ship and cargo, or either of them, by or in consequence of a sacrifice made for the common safety, and by water which goes down a ship's hatches opened, or other opening made for the purpose of making a jettison for the common safety, shall be made good as G.A.

Rule III.—Extinguishing Fire on Shipboard

Damage done to a ship and cargo, or either of them, by water or otherwise, including damage by beaching or scuttling a burning ship, in extinguishing a fire on board the ship, shall be made good as G.A.; except that no compensation shall be made for damage to such portions of the ship and bulk cargo, or to such separate packages of cargo, as have been on fire.

Rule IV.—Cutting away Wreck

Loss or damage caused by cutting away the wreck or remains of spars, or of other things which have previously been carried away by sea-peril, shall not be made good as G.A.

Rule V.—Voluntary Stranding

When a ship is intentionally run on shore, and the circumstances are such that if that course were not adopted she would inevitably sink, or drive on shore or on rocks, no loss or damage caused to the ship, cargo and freight, or any of them, by such intentional running on shore, shall be made good as G.A. But in all other cases where a ship is intentionally run on shore for the common safety, the consequent loss or damage shall be allowed as G.A.

Rule VI.—Carrying Press of Sail—Damage to or Loss of Sails

Damage to or loss of sails and spars, or either of them, caused by forcing a ship off the ground or by driving her higher up the ground, for the common safety, shall be made good as G.A.; but where a ship is afloat, no loss or damage caused to the ship, cargo and freight, or any of them, by carrying a press of sail, shall be made good as G.A.

Rule VII.—Damage to Engines in Refloating a Ship

Damage caused to machinery and boilers of a ship which is ashore and in a position of peril, in endeavouring to refloat, shall be allowed in G.A., when shown to have arisen from an actual intention to float the ship for the common safety at the risk of such damage.

Rule VIII.—Expenses of Lightening a Ship when Ashore, and Consequent Damage

When a ship is ashore, and, in order to float her, cargo, bunker coals and ship's stores, or any of them, are discharged, the extra cost of lightening, lighter hire, and reshipping (if incurred), and the loss or damage sustained thereby, shall be admitted as G.A.

Rule IX.—Cargo, Ship's Materials, and Stores Burnt for Fuel

Cargo, ship's materials and stores, or any of them, necessarily burnt for fuel for the common safety at a time of peril, shall be admitted as G.A., when and only when an ample supply of fuel had been provided; but the estimated quantity of coals that would have been consumed, calculated at the price current at the ship's last port of departure at the date of her leaving, shall be charged to the shipowner and credited to the G.A.

Rule X.—Expenses at Port of Refuge, &c.

(*a*) When a ship shall have entered a port or place of refuge, or shall have returned to her port or place of loading, in consequence of accident, sacrifice, or other extraordinary circumstances, which render that necessary for the common safety, the expenses of entering such port or place shall be admitted as G.A.; and when she shall have sailed thence with her original cargo, or a part of it, the corresponding expenses of leaving such port or place, consequent upon such entry or return, shall likewise be admitted as G.A.

(*b*) The cost of discharging cargo from a ship, whether at a port or place of loading, call or refuge, shall be admitted as G.A., when the discharge was necessary for the common safety or to enable damage to the ship, caused by sacrifice or accident during the voyage, to be repaired, if the repairs were necessary for the safe prosecution of the voyage.

(*c*) Whenever the cost of discharging cargo from a ship is admissible as G.A., the cost of reloading and storing such cargo on board the said ship, together with all storage charges on such cargo, shall likewise be so admitted. But when the ship is condemned or does not proceed on her original voyage, no storage expenses incurred after the date of the ship's condemnation or of the abandonment of the voyage shall be admitted as G.A.

(*d*) If a ship under average be in a port or place at which it is practicable to repair her, so as to enable her to carry on the whole cargo, and if, in order to save expenses, either she is towed thence to some other port or place of repair or to her destination, or the cargo or a portion of it is transhipped by another ship, or otherwise forwarded, then the extra cost of such towage, transhipment and forwarding, or any of them (up to the amount of the extra expense saved), shall be payable by the several parties to the adventure in proportion to the extraordinary expense saved.

Rule XI.—Wages and Maintenance of Crew in Port of Refuge, &c.

When a ship shall have entered or shall have been detained in any port or place under the circumstances, or for the purposes of the repairs, mentioned in Rule X., the wages payable to the master, officers and crew, together with the cost of maintenance of the same, during the extra period of detention in such port or place until the ship shall or should have been made ready to proceed upon her voyage, shall be admitted as G.A. But when this ship is condemned or does not proceed on her original voyage, the wages and maintenance of the master, officers and crew, incurred after the date of the ship's condemnation or of the abandonment of the voyage, shall not be admitted as G.A.

Rule XII.—Damage to Cargo in Discharging, &c.

Damage done to or loss of cargo necessarily caused in the act of discharging, storing, reloading and stowing shall be made good as G.A. when and only when the cost of those measures respectively is admitted as G.A.

Rule XIII.—Deductions from Cost of Repairs

In adjusting claims for G.A., repairs to be allowed in G.A. shall be subject to the following deductions in respect of "new for old," viz.:—

In the case of *iron or steel ships*, from date of original register to the date of accident:—

Up to 1 year old (A.)

All repairs to be allowed in full, except painting or coating of bottom, from which one-third is to be deducted.

Between 1 and 3 years (B.)

One-third to be deducted off repairs to and renewal of woodwork of hull, masts and spars, furniture, upholstery, crockery, metal and glassware, also sails, rigging, ropes, sheets and hawsers (other than wire and chain), awnings, covers and painting.

One-sixth to be deducted off wire rigging, wire ropes and wire hawsers, chain cables and chains, donkey engines, steam winches and connexions, steam cranes and connexions; other repairs in full.

Between 3 and 6 years (C.)

Deductions as above under clause B, except that one-sixth be deducted off ironwork of masts and spars, and machinery (inclusive of boilers and their mountings).

Between 6 and 10 years (D.)

Deductions as above under clause C, except that one-third be deducted off ironwork of masts and spars, repairs to and renewal of all machinery (inclusive of boilers and their mountings), and all hawsers, ropes, sheets and rigging.

Between 10 & 15 years (E.)

One-third to be deducted off all repairs and renewals, except ironwork of hull and cementing and chain cables, from which one-sixth to be deducted. Anchors to be allowed in full.

Over 15 years (F.)

One-third to be deducted off all repairs and renewals. Anchors to be allowed in full. One-sixth to be deducted off chain cables.

Generally (G.)

The deductions (except as to provisions and stores, machinery and boilers) to be regulated by the age of the ship, and not the age of the particular part of her to which they apply. No painting bottom to be allowed if the bottom has not been painted within six months previous to the date of accident. No deduction to be made in respect of old material which is repaired without being replaced by new, and provisions and stores which have not been in use.

[v.03 p.0056] In the case of *wooden or composite ships*:—

When a ship is under one year old from date of original register, at the time of accident, no deduction "new for old" shall be made. After that period a deduction of one-third shall be made, with the following exceptions:—

Anchors shall be allowed in full. Chain cables shall be subject to a deduction of one-sixth only.

No deduction shall be made in respect of provisions and stores which had not

been in use.

Metal sheathing shall be dealt with, by allowing in full the cost of a weight equal to the gross weight of metal sheathing stripped off, minus the proceeds of the old metal. Nails, felt and labour metalling are subject to a deduction of one-third.

In the case of *ships generally*:—

In the case of all ships, the expense of straightening bent ironwork, including labour of taking out and replacing it, shall be allowed in full.

Graving dock dues, including expenses of removals, cartages, use of shears, stages and graving dock materials, shall be allowed in full.

Rule XIV.—Temporary Repairs

No deductions "new for old" shall be made from the cost of temporary repairs of damage allowable as G.A.

Rule XV.—Loss of Freight

Loss of freight arising from damage to or loss of cargo shall be made good as G.A., either when caused by a G.A. act or when the damage to or loss of cargo is so made good.

Rule XVI.—Amount to be made good for Cargo Lost or Damaged by Sacrifice

The amount to be made good as G.A. for damage or loss of goods sacrificed shall be the loss which the owner of the goods has sustained thereby, based on the market values at the date of the arrival of the vessel or at the termination of the adventure.

Rule XVII.—Contributory Values

The contribution to a G.A. shall be made upon the actual values of the property at the termination of the adventure, to which shall be added the amount made good as G.A. for property sacrificed; deduction being made from the shipowner's freight and passage-money at risk, of such port charges and crew's wages as would not have been incurred had the ship and cargo been totally lost at the date of the G.A. act or sacrifice, and have not been allowed as G.A.; deduction being also made from the value of the property of all charges incurred in respect thereof subsequently to the G.A. act, except such charges as are allowed in G.A.

Passengers' luggage and personal effects, not shipped under bill of lading, shall not contribute to G.A.

Rule XVIII.—Adjustment

Except as provided in the foregoing rules, the adjustment shall be drawn up in accordance with the law and practice that would have governed the adjustment had the contract of affreightment not contained a clause to pay G.A. according to these rules.

The above rules differ in some important respects from English common law, and from former English practice. They follow ideas upon the subject of G.A. which have prevailed in practice in foreign countries (though often in apparent opposition to the language of the codes), in preference to the more strict principle of the common law applied by English courts. That principle requires that, in order to have the character of G.A. a sacrifice or expenditure must be made for the common *safety* of the several interests in the adventure and under the pressure of a common risk. It is not enough that the sacrifice or expenditure is prudent, or even necessary to enable the common adventure to be completed. G.A., on the English view, only arises where the *safety* of the several interests is at stake. "The idea of a common commercial adventure, as distinguished from the common safety from the sea," is not recognized. It is not sufficient "that an expenditure should have been made to benefit both cargo owner and shipowner."[1]

Port of refuge expenses.

Thus expenses incurred after ship and cargo are in safety, say at a port of refuge, are not generally, by English law, to be treated as G.A.; although the putting into port may have been for safety, and therefore a G.A. act. If the putting into port has been necessitated by a G.A. sacrifice, as by cutting away the ship's masts, the case is different; the port expenses, the expenses of repairing the G.A. damage, and the incidental expenses of unloading, storing and reloading the cargo are, in such a case, treated as consequences of the original sacrifice, and therefore subjects for contribution. But where the reason for putting in is to avoid some danger, such as a storm or hostile cruiser, or to effect repairs necessitated by some *accidental* damage to the ship, the G.A. sacrifice is considered to be at an end when the port has been reached, if the ship and cargo are then in physical safety. The subsequent expenditure in the port is said not to flow from that sacrifice, but from the necessity of completing the voyage, and is incurred in performance of the shipowner's obligation under his contract. The practice of English average adjusters has indeed modified this strict view by treating the expense of *unloading* as G.A.; but it may well be doubted whether that practice can be legally supported. Moreover, expenditure in the port which is incurred in protecting the cargo as in warehousing it, is by English practice treated as a charge to be borne by the cargo for whose benefit it was incurred.

If we turn now to York-Antwerp Rule X., it will be seen that a much broader view is adopted.

Whatever the reason for putting into the port of refuge, provided it was necessary for the common safety, the expenses of going in, and the consequent expenses of getting out (if she sails again with all or part of her original cargo), are allowed as G.A., Rule X. (*a*). Further, the cost of discharging the cargo to enable damage to the ship to be repaired, whether caused by sacrifice or by accident during the voyage, is to be allowed as G.A., "if the repairs were necessary for the safe prosecution of the voyage," Rule X. (*b*). And that is to be so even where such repairs are done at a port of *call*, as well as where done at a port of *refuge*. Again, when the cost of discharging is treated as G.A., so also are to be the expenses of storing the cargo on shore, and of reloading and stowing it on board, after the repairs have been done (Rule X. (*c*)), together with any damage or loss incidental to those operations (Rule XII.).

Further, by Rule XI. the wages of the master, officers and crew, and the cost of their maintenance, during the detention of a ship under the circumstances, or for the purpose of the repairs mentioned in Rule X., are to be allowed in G.A. It is questionable whether English law allows the wages and maintenance of the crew at a port of refuge in any case. Where the detention is to repair *accidental* damage it seems clear that they are not allowed. And in practice under common law, the allowance is never made; so that Rule XI. is an important concession to the shipowner. Like the changes introduced by Rule X., it is a change towards the practice in foreign countries.

It may be noted that the rules do not afford equal protection to a shipper in the comparatively infrequent case of his being put to expense by the delay at a port of refuge. Thus a shipper of cattle is not entitled to have the extra wages and provisions of his cattlemen on board, nor the extra fodder consumed by the cattle during the stay at a repairing port, made as good as G.A. under Rules XI. and X. (*Anglo-Argentine &c. Agency* v. *Temperley Shipping Co.*, 1899, 2 Q.B. 403).

General average sacrifices.

As to the acts which amount to G.A. sacrifices, as distinguished from expenditures, the York-Antwerp Rules do not much alter English common law. They do, however, make definite provisions upon some points on which authority was scanty or doubtful. (See Rules I.-IX.) And in Rule I., as to jettison of deck cargo, a change is made from the common law rule, for the jettison is not allowed as G.A. even though the cargo be carried on deck in accordance with an established custom of the particular trade.

Rule III. deals with damage done in extinguishing fire on board a ship. Modern decisions have cleared away the old doubts whether such damage to ship or cargo should, at law, be allowed in G.A. But recent cases in the United States have raised the question whether the allowance should be made where the fire occurs in port, and is extinguished, not by the master, but by a public authority acting in the interests of the public. The Supreme Court of the United States decided against the allowance in 1894 in a case of *Ralli* v. *Troup* (157 U.S. 386). The ship had there been scuttled to put out a fire on board, by the port authority, acting upon their own judgment, but with the assent of the master. It was held that the damage suffered by ship and cargo ought not to be made good by G.A. contributions; for the sacrifice had not been made "by some one specially charged with the control and safety of that adventure," but was the compulsory act of a public authority. On the other hand, in the English case of *Papayanni* v. *Grampian S.S. Co.* (I. Com. Ca. 448), Mathew, J., held that the scuttling of a ship at a port of refuge in Algeria, by orders of the captain of the port, was a G.A. act. It had been done in the interest of ship and cargo, and there was no evidence of any other motive.

Rule V. deals with the question whether, and under what conditions, a voluntary stranding of the ship is a G.A. act, in a manner which will probably be held to express the law in England when the matter comes up for decision.

Rules VI. and VII. deal with the damage sustained by the ship, or her appliances, in efforts to force her off the ground when she has stranded. Such efforts involve an abnormal use which is likely to cause damage to sails and spars, or to engines and boilers; and they are treated as acts of sacrifice. The case of "The Bona," 1895 (P. 125) shows that the rules are in accord with English law upon the point. The court of appeal held that both the damage sustained by the engines while worked to get the ship off, and the coal and stores consumed, were subjects for G.A. contribution at common law.

[v.03 p.0057] Rule VIII. allows as G.A. any damage sustained by cargo when discharged and, say, lightered for the purpose of getting the ship off a strand. And the corresponding damage in the case of cargo discharged at a port of refuge to enable repairs to be done to the ship is allowed by Rule XII. But in the latter case the allowance does not expressly extend to damage sustained while stored on land. Whether the law would require contribution to a loss of goods, say, by thieves or by fire, while landed for repairs, is not clear. Where the landing has been necessitated by a G.A. act, as cutting away masts, it would seem that the loss ought to be made good, as being a result of the special risks to which those goods have thereby been exposed. The risks which they would have run if they had remained on board throughout are taken into account, as will presently appear, in estimating *how much* of the damage is to be made good.

Where cattle were taken into a port of refuge in Brazil, owing to accidental damage to the ship, with the result that they could not legally be landed at their destination (Deptford), and had to be taken to another port (Antwerp), at which they were of much less value, this loss of value was allowed in G.A. (*Anglo-Argentine &c. Agency* v. *Temperley Shipping Co.*, 1899, 2 Q.B. 403).

The case of a stranded ship and cargo often gives rise to difficulty as to whether the cost of operations to lighten the ship, and afterwards to get her floated, should be treated as G.A. expenditure, or as expenses separately incurred in saving the separate interests. The true conclusion seems to be that either the whole operation should be treated as one for the common safety, and the whole expense be contributed to by all the interests saved, or else the several parts of the operation should be kept distinct, debiting the cost of each to the interests thereby saved. Which of these two views should be adopted in any case seems to depend upon the motives with which the earlier operations (usually the discharge of the cargo) were presumably undertaken. It may, however, happen that this test cannot be applied once for all. Take the case of a stranded ship carrying a bulky cargo of hemp and grain, but carrying also some bullion. Suppose this last to be rescued and taken to a place of safety at small expense in comparison with its value. It may well be that that operation must be regarded as done in the interest simply of the bullion itself, but that the subsequent operations of lightening the ship and floating her can only be properly regarded as undertaken in the common interest of ship, hemp, grain and freight. In such a case there will be a G.A. contribution towards those later operations by those interests. But the bullion will not contribute; it will merely bear the expense of its own rescue (*Royal Mail S. P. Co.* v. *English Bank of Rio de Janeiro*, 1887, 19 Q.B.D. 362).

The York-Antwerp Rules have not only had the valuable result of introducing uniformity where there had been great variety, and corresponding certainty as to the principles which will be acted upon in adjusting any G.A. loss, but also they have introduced greater clearness and definiteness on points where there had been a want of definition. Thus Rule XIII. has laid down a careful and definite scale to regulate the deductions from the cost of repairs, in respect of "new for old," in place of the former somewhat uncertain customary rules which varied according to the place of adjustment; while at the same time the opportunity has been taken of adapting the scale of deductions to modern conditions of shipbuilding. And Rule XVII. lays down a rule as to contributory values in place of the widely varying rules of different countries as to the amounts upon which ship and freight shall contribute (cf. Gow, *Marine Insurance*, 305).

It may be of interest to refer briefly to one or two main principles which govern the *adjustment* (*q.v.*) of general average, *i.e.* the calculation of the amounts to be made good and paid by the several interests, which is a complicated matter. The fundamental idea is that the several interests at risk shall contribute in proportion to the benefits they have severally received by the completion of the adventure. Contributions are not made in proportion to the amounts at stake when the sacrifice was made, but in proportion to the results when the adventure has come to an end. An interest which has become lost after the sacrifice, during the subsequent course of the voyage, will pay nothing; an interest which has become depreciated will pay in proportion to the diminished value. The liability to contribute is inchoate only when the sacrifice has been made. It becomes complete when the adventure has come to an end, either by arrival at the destination, or by having been broken up at some intermediate point, while the interest in question still survives. To this there is one exception, in the case of G.A. *expenditure*. Where such expenditure has been incurred by the owner of one interest, generally by the shipowner, the repayment to him by the other interests ought not to be wholly dependent upon the subsequent safety of those interests at the ultimate destination. If those other interests or some of them arrive, or are realized, as by being landed at an intermediate port, the rule (as in the case of G.A. sacrifices) is that the contributions are to be in proportion to the arrived or realized values. But if all are lost the burden of the expenditure ought not to remain upon the interest which at first bore it; and the proper rule seems to be that contributions must be made by all the interests which were at stake when it was made, in proportion to their *then* values.

Again, the object of the law of G.A. is to put one whose property is sacrificed upon an equal footing with the rest, not upon a better footing. Thus, if goods to the value of £100 have been thrown overboard for the general safety, the owner of those goods must not receive the full £100 in contribution. He himself must bear a part of it, for those goods formed part of the adventure for whose safety the jettison was made; and it is owing to the partial safety of the adventure that any contribution at all is received by him. He, therefore, is made to contribute with the other saved interests towards his own loss, in respect of the amount "made good" to him for that. The full £100 is treated as the amount to be made good, but the owner of the goods is made to contribute towards that upon the sum of £100 thus saved to him.

The same principle has a further consequence. The amount to be made good will not necessarily be the value of the goods or other property in their condition at the time they were sacrificed; so to calculate it would in effect be to withdraw those goods from the subsequent risks of the voyage, and thus to put them in a better position than those which were not sacrificed. Hence, in estimating the amount to be made good, the value of the goods or property sacrificed must be estimated *as on arrival*, with reference to the condition in which they would probably have arrived had they remained on board throughout the voyage.

The liability to pay G.A. contributions falls primarily upon the owner of the contributing interest, ship, goods or freight. But in practice the contributions are paid by the insurers of the several interests. Merchants seldom have to concern themselves with the subject. And yet in an ordinary policy of insurance there is no express provision requiring the underwriter to indemnify the assured against this liability. The policy commonly contains clauses which recognize such an obligation, *e.g.* a warranty against average "unless general," or an agreement that G.A. shall be payable "as per foreign statement," or "according to York-Antwerp Rules"; but it does not directly state the obligation. It assumes that. The explanation seems to be that the practice of the

underwriter to pay the contribution has been so uniform, and his liability has been so fully recognized, that express provisions were needless. But one result has been that very differing views of the ground of the obligation have been held. One view has been that it is covered by the sue and labour clause of an ordinary policy, by which the insurer agrees to bear his proportion of expenses voluntarily incurred "in and about the defence, safeguard and recovery" of the insured subject. But that has been held to be mistaken by the House of Lords (*Aitchison* v. *Lohre*, 1879, 4 A.C. 755). Another view is that the underwriter impliedly undertakes to repay sums which the law may require the assured to pay towards averting losses which would, by the contract, fall upon the underwriter. Expenses voluntarily incurred by the assured with that object are expressly made repayable by the sue and labour clause of the policy. It might well be implied that payments compulsorily required from the assured by law for contributions to G.A., or as salvage for services by salvors, will be undertaken or repaid by the underwriter, the service being for his benefit. But the decision in *Aitchison* v. *Lohre* negatives this ground also. The claim was against underwriters on a ship which had been so damaged that the cost of repairs had exceeded her insured value. A claim for the ship's contribution to certain salvage and G.A. expenses which had been incurred, over and above the cost of repairs, was disallowed. The view seems to have been that the insurer is liable for salvage and G.A. payments as losses of the subject insured, and therefore included in the sum insured, not as collateral payments made on his behalf. This bases
[v.03 p.0058] the claim against the insurer upon a fiction, for there has been no loss of the subject insured; in fact, the payment has been for averting such a loss. And it suggests that the insurer is not liable for salvage where the policy is free of particular average, which does not accord with practice.

An important question as to an insurer's liability for G.A. arose in the case of the *Brigella* (1893, P. 189), where a shipowner had incurred expenses which would have been the subject of G.A. contributions, but that he alone was interested in the voyage. There were no contributories. He claimed from the insurers of the ship what would have been the ship's G.A. contribution had there been other persons to contribute in respect of freight or cargo. The claim was disallowed on the ground that there could be no G.A. in such circumstances, and therefore no basis for a claim against the insurer. The liability of the insurer was thus made to depend, not upon the character of the loss, but upon the fact or possibility of contribution. But this was not followed in *Montgomery* v. *Indemnity Mutual M. I. Co.* (1901, 1 K.B. 147). There ship, freight and cargo all belonged to the same person. He had insured the cargo but not the ship. The cargo underwriters were held liable to pay a contribution to damage done to the ship by cutting away masts for the general safety. The loss was in theory spread over all the interests at risk, and they had undertaken to bear the cargo's share of such losses. Their liability did not depend upon the accident of whether the interests all belonged to one person or not. This agrees with the view taken in the United States.

As to *Particular Average*, see under Insurance: *Marine*.

Authorities.—Lowndes on *General Average* (4th ed., London, 1888); Abbott's *Merchant Ships and Seamen* (14th ed., London, 1901); Arnould's *Marine Insurance* (7th ed., London, 1901); Carver's *Carriage by Sea* (4th ed., London, 1905).

(T. G. C.)

[1] Per Bowen, L.J., in *Svensden* v. *Wallace*, 1883, 13 Q.B.D. at p. 84.

AVERNUS, a lake of Campania, Italy, about 1½ m. N. of Baiae. It is an old volcanic crater, nearly 2 m. in circumference, now, as in Roman times, filled with water. Its depth is 213 ft., and its height above sea-level 3½ ft.; it has no natural outlet. In ancient times it was surrounded by dense forests, and was the centre of many legends. It was represented as the entrance by which both Odysseus and Aeneas descended to the infernal regions, and as the abode of the Cimmerii. Its Greek name, Ἄορνος, was explained to mean that no bird could fly across it. Hannibal made a pilgrimage to it in 214 B.C. Agrippa in 37 B.C. converted it into a naval harbour, the *Portus Iulius*; joining it to the Lacus Lucrinus by a canal, and connecting the latter with the sea, he reduced the distance to Cumae by boring a tunnel over ½ m. in length, now called Grotta della Pace, through the hill on the north-west side of Lake Avernus. After Sextus Pompeius had been subdued, the chief naval harbour was transferred to Misenum. Nero's works for his proposed canal from Baiae to the Tiber (A.D. 64) seem to have begun near Lake Avernus; indeed, according to one theory, the Grotta della Pace would be a portion of this canal. On the east side of the lake are remains of baths, including a great octagonal hall known as the Temple of Apollo, built of brickwork, and belonging to the 1st century. The so-called Grotto of the Cumaean Sibyl, on the south side, is a rock-cut passage, ventilated by vertical apertures, possibly a part of the works connected with the naval harbour. To the south-east of the lake is the Monte Nuovo, a volcanic hill upheaved in 1538, with a deep extinct crater in the centre. To the south is the Lacus Lucrinus.

See J. Beloch, *Campanien* (2nd ed., Breslau, 1890), pp. 168 seq.

(T. As.)

AVERROES [Abūl-Walīd Muḥammad ibn-Aḥmad Ibn-Muḥammad ibn-Rushd] (1126-1198), Arabian philosopher, was born at Cordova. His early life was occupied in mastering the curriculum of theology, jurisprudence, mathematics, medicine and philosophy, under the approved teachers of the time. The years of his prime fell during the last period of Mahommedan rule in Spain under the Almohades (*q.v.*). It was Ibn-Tufail (Abubacer), the philosophic vizier of Yusef, who introduced Averroes to that prince, and Avenzoar (Ibn-Zuhr), the greatest of Moslem physicians, was his friend. Averroes, who was versed in the Malekite system of law, was made

cadi of Seville (1169), and in similar appointments the next twenty-five years of his life were passed. We find him at different periods in Seville, Cordova and Morocco, probably as physician to Yusef al-Mansur, who took pleasure in engaging him in discussions on the theories of philosophy and their bearings on the faith of Islam. But science and free thought then, as now, in Islam, depended almost solely on the tastes of the wealthy and the favour of the monarch. The ignorant fanaticism of the multitude viewed speculative studies with deep dislike and distrust, and deemed any one a Zendik (infidel) who did not rest content with the natural science of the Koran. These smouldering hatreds burst into open flame about the year 1195. Averroes was accused of heretical opinions and pursuits, stripped of his honours, and banished to a place near Cordova, where his actions were closely watched. At the same time efforts were made to stamp out all liberal culture in Andalusia, so far as it went beyond the little medicine, arithmetic and astronomy required for practical life. But the storm soon passed. Averroes was recalled to Morocco when the transient passion of the people had been satisfied, and for a brief period survived his restoration to honour. He died in the year before his patron, al-Mansur, with whom (in 1199) the political power of the Moslems came to an end, as did the culture of liberal science with Averroes. The philosopher left several sons, some of whom became jurists like his own grandfather. One of them has left an essay, expounding his father's theory of the intellect. The personal character of Averroes is known to us only in a general way, and as we can gather it from his writings. His clear, exhaustive and dignified style of treatment evidences the rectitude and nobility of the man. In the histories of his own nation he has little place; the renown which spread in his lifetime to the East ceased with his death, and he left no school. Yet, from a note in a manuscript, we know that he had intelligent readers in Spain more than a century afterwards. His historic fame came from the Christian Schoolmen, whom he almost initiated into the system of Aristotle, and who, but vaguely discerning the expositors who preceded, admired in his commentaries the accumulated results of two centuries of labours.

The literary works of Averroes include treatises on jurisprudence, grammar, astronomy, medicine and philosophy. In 1859 a work of Averroes was for the first time published in Arabic by the Bavarian Academy, and a German translation appeared in 1873 by the editor, J. Müller. It is a treatise entitled *Philosophy and Theology*, and, with the exception of a German version of the essay on the conjunction of the intellect with man, is the first translation which enables the non-Semitic scholar to form any adequate idea of Averroes. The Latin translations of most of his works are barbarous and obscure. A great part of his writings, particularly on jurisprudence and astronomy, as well as essays on special logical subjects, prolegomena to philosophy, criticisms on Avicenna and Alfarabius (Fārābī), remain in manuscript in the Escorial and other libraries. The Latin editions of his medical works include the *Colliget* (*i.e. Kulliyyat*, or summary), a *résumé* of medical science, and a commentary on Avicenna's poem on medicine; but Averroes, in medical renown, always stood far below Avicenna. The Latin editions of his philosophical works comprise the *Commentaries on Aristotle*, the *Destructio Destructionis* (against Ghazāli), the *De Substantia Orbis* and a double treatise *De Animae Beatitudine*. The Commentaries of Averroes fall under three heads:—the larger commentaries, in which a paragraph is quoted at large, and its clauses expounded one by one; the medium commentaries, which cite only the first words of a section; and the paraphrases or analyses, treatises on the subjects of the Aristotelian books. The larger commentary was an innovation of Averroes; for Avicenna, copied by Albertus Magnus, gave under the rubrics furnished by Aristotle works in which, though the materials were borrowed, the grouping was his own. The great commentaries exist only for the *Posterior Analytics*, *Physics*, *De Caelo*, *De Anima* and *Metaphysics*. On the *History of Animals* no commentary at all exists, and Plato's *Republic* is substituted for the then inaccessible *Politics*. The Latin editions of these works between 1480 and 1580 number about 100. The first appeared at Padua (1472); about fifty were published at Venice, the best-known being that by the Juntas (1552-1553) in ten volumes folio.

[v.03 p.0059]

See E. Renan, *Averroès et l'Averroïsme* (2nd ed., Paris, 1861); S. Munk, *Mélanges*, 418-458; G. Stöckl, *Phil. d. Mittelalters*, ii. 67-124; *Averroes (Vater und Sohn), Drei Abhandl. über d. Conjunction d. separaten Intellects mit d. Menschen*, trans. into German from the Arabic version of Sam. Ben-Tibbon, by Dr J. Hercz (Berlin, 1869); T. J. de Boer, *History of Philosophy in Islam* (London, 1903), ch. vi.; A. F. M. Mehren in *Muséon*, vii. 613-627; viii. 1-20; Carl Brockelmann, *Geschichte der arabischen Litteratur* (Weimar, 1898), vol. i. pp. 461 f. See also Arabian Philosophy.

(W. W.; G. W. T.)

AVERRUNCATOR, a form of long shears used in arboriculture for "averruncating" or pruning off the higher branches of trees, &c. The word "averruncate" (from Lat. *averruncare*, to ward off, remove mischief) glided into meaning to "weed the ground," "prune vines," &c., by a supposed derivation from the Lat. *ab*, off, and *eruncare*, to weed out, and it was spelt "aberuncate" to suit this; but the *New English Dictionary* regards such a derivation as impossible.

AVERSA, a town and episcopal see of Campania, Italy, in the province of Caserta, 15½ m. S.S.W. by rail from Caserta, and 12½ m. N. by rail from Naples, from which there is also an electric tramway. Pop. (1901) 23,477. Aversa was the first place in which the Normans settled, it being granted to them in 1027 for the help which they had given to Duke Sergius of Naples against Pandulf IV. of Capua. The Benedictine abbey of S. Lorenzo preserves a portal of the 11th century. There is also a large lunatic asylum, founded by Joachim Murat in 1813.

AVESNES, a town of northern France, capital of an arrondissement in the department of Nord, on the Helpe, 28 m. S.E. of Valenciennes by rail. Pop. (1906) 5076. The town is the seat of a sub-prefect, and has a tribunal of first instance, a chamber of commerce and a communal college. Its church of St Nicholas (16th century) has a tower 200 ft. high, with a fine chime of bells. The chief

industry of the town is wool-spinning, and there is trade in wood. Avesnes was founded in the 11th century, and formed a countship which in the 15th century passed to the house of Burgundy and afterwards to that of Habsburg. In 1477 it was destroyed by Louis XI. By the treaty of the Pyrenees (1659) it came into the possession of the French, and was fortified by Vauban. It was captured by the Prussians in 1815.

AVEYRON, a department of southern France, bounded N. by Cantal, E. by Lozère and Card, S.W. by Tarn and W. by Tarn-et-Garonne and Lot. Area, 3386 sq. m. Pop. (1906) 377,299. It corresponds nearly to the old district of Rouergue, which gave its name to a countship established early in the 9th century, and united with that of Toulouse towards the end of the 11th century. The earliest known natives of this region were the Celtic Rutheni, to whom the numerous megalithic monuments found in the department are attributed. Aveyron lies on the southern border of the central plateau of France. Its chief rivers are the Lot in the north, the Aveyron in the centre and the Tarn in the south, all tributaries of the Garonne. They flow from east to west, following the general slope of the department, and divide it into four zones. In the north-east, between the Lot and its tributary the Truyère, lies the lonely pastoral plateau of the Viadène, dominated by the volcanic mountains of Aubrac, which form the north-eastern limit of the department and include its highest summit (4760 ft.). Entraygues, at the confluence of the Lot and the Truyère, is one of the many picturesque towns of the department. Between the Lot and the Aveyron is a belt of *causses* or monotonous limestone table-lands, broken here and there by profound and beautiful gorges—a type of scenery characteristic of Aveyron. This zone is also watered by the Dourdou du Nord, a tributary of the Lot. The salient feature of the region between the Tarn and the Aveyron is the plateau of the Ségala, bordered on the east by the heights of Lévezou and Palanges and traversed from east to west by the deep valley of the Viaur, a tributary of the Aveyron. The country south of the Tarn is occupied in great part by the huge plateau of Larzac, which lies between the Causse Noir and the Causse St Affrique, the three forming the south-western termination of the Cévennes. On the Causse Noir is found the fantastic chaos of rocks and precipices known as Montpellier-le-Vieux, resembling the ruins of a huge city. The climate of Aveyron varies from extreme rigour in the mountains to mildness in the sheltered valleys; the south wind is sometimes of great violence. Wheat, rye and oats are the chief cereals cultivated, the soil of Aveyron being naturally poor. Other crops are potatoes, colza, hemp and flax. The mainstay of the agriculture of the department is the raising of live-stock, especially of cattle of the Aubrac breed, for which Laguiole is an important market. The wines of Entraygues, St Georges, Bouillac and Najac have some reputation; in the Ségala chestnuts form an important element in the food of the peasants, and the walnut, cider-apple, mulberry (for the silk-worm industry), and plum are among the fruit trees grown. The production of Roquefort cheeses is prominent among the agricultural industries. They are made from the milk of the large flocks of the plateau of Larzac, and the choicest are ripened in the even temperature of the caves in the cliff which overhangs Roquefort. The minerals found in the department include the coal of the basins of Aubin and Rodez as well as iron, zinc and lead. Quarries of various kinds of stone are also worked. The chief industrial centres are Decazeville, which has metallurgical works, and Millau, where leather-dressing and the manufacture of gloves have attained considerable importance. Wool-weaving and the manufacture of woollen goods, machinery, chemicals and bricks are among the other industries.

There are five arrondissements, of which the chief towns are Rodez, capital of the department, Espalion, Millau, St Affrique and Villefranche, with 43 cantons and 304 communes. Rodez is the seat of a bishopric, the diocese of which comprises the department. Aveyron belongs to the 16th military region, and to the *académie* or educational circumscription of Toulouse. Its court of appeal is at Montpellier. The department is traversed by the lines both of the Orléans and Southern railways. The more important towns are Rodez, Millau, St Affrique, Villefranche-de-Rouergue and Decazeville. The following are also of interest:—Sauveterre, founded in 1281, a striking example of the bastide (*q.v.*) of that period; Conques, which has a remarkable abbey-church of the 11th century like St Sernin of Toulouse in plan and possessing a rich treasury of reliquaries, &c.; Espalion, where amongst other old buildings there are the remains of a feudal stronghold and a church of the Romanesque period; Najac, which has the ruins of a magnificent château of the 13th century; and Sylvanès, with a church of the 12th century, once attached to a Cistercian abbey.

AVEZZANO, a town of the Abruzzi, Italy, in the province of Aquila, 67 m. E. of Rome by rail and 38 m. S. of Aquila by road. Pop. (1901) 9442. It has a fine and well-preserved castle, built in 1490 by Gentile Virginio Orsini; it is square, with round towers at the angles. Avezzano is on the main line from Rome to Castellammare Adriatico; a branch railway diverges to Roccasecca, on the line from Naples to Rome. The Lago Fucino lies 1½ m. to the east.

AVIANUS, a Latin writer of fables, placed by some critics in the age of the Antonines, by others as late as the 6th century A.D. He appears to have lived at Rome and to have been a heathen. The 42 fables which bear his name are dedicated to a certain Theodosius, whose learning is spoken of in most flattering terms. He may possibly be Macrobius Theodosius, the author of the *Saturnalia*; some think he may be the emperor of that name. Nearly all the fables are to be found in Babrius, who was probably Avianus's source of inspiration, but as Babrius wrote in Greek, and Avianus speaks of having made an elegiac version from a rough Latin copy, probably a prose paraphrase, he was not indebted to the original. The language and metre are on the whole correct, in spite of deviations from classical usage, chiefly in the management of the pentameter. The fables soon became popular as a school-book. Promythia and epimythia (introductions and morals) and paraphrases, and imitations were frequent, such as the *Novus Avianus* of Alexander Neckam

(12th century).

[v.03 p.0060] EDITIONS.—Cannegieter (1731), Lachmann (1845), Fröhner (1862), Bahrens in *Poetae Latini Minores*, Ellis (1887). See Müller, *De Phaedri et Aviani Fabulis* (1875); Unrein, *De Aviani Aetate* (1885); Hervieux, *Les Fabulistes latins* (1894); *The Fables of Avian translated into Englyshe ... by William Caxton at Westmynstre* (1483).

AVIARY (from Lat. *avis*, a bird), called by older writers "volary," a structure in which birds are kept in a state of captivity. While the habit of keeping birds in cages dates from a very remote period, it is probable that structures worthy of being termed aviaries were first used by the ancient Romans, chiefly for the process of fattening birds for the table. In Varro's time, 116-127 B.C., aviaries or "ornithones" (from Gr. ὄρνις, ὄρνιθος, bird) were common. These consisted of two kinds, those constructed for pleasure, in which were kept nightingales and other song-birds, and those used entirely for keeping and fattening birds for market or for the tables of their owners. Varro himself had an aviary for song-birds exclusively, while Lucullus combined the two classes, keeping birds both for pleasure and as delicacies for his table. The keeping of birds for pleasure, however, was very rarely indulged in, while it was a common practice with poulterers and others to have large ornithones either in the city or at Sabinum for the fattening of thrushes and other birds for food.

Ornithones consisted merely of four high walls and a roof, and were lighted with a few very small windows, as the birds were considered to pine less if they could not see their free companions outside. Water was introduced by means of pipes, and conducted in narrow channels, and the birds were fed chiefly upon dried figs, carefully peeled, and chewed into a pulp by persons hired to perform this operation.

Turtle-doves were fattened in large numbers for the market on wheat and millet, the latter being moistened with sweet wine; but thrushes were chiefly in request, and Varro mentions one ornithon from which no less than five thousand of these birds were sold for the table in one season.

The habit of keeping birds in aviaries, as we understand the term, for the sake of the pleasure they afford their owners and for studying their habits is, however, of comparatively recent date. The beginning of geographical research in the 15th century brought with it the desire to keep and study at home some of the beautiful forms of bird-life which the explorers came across, and hence it became the custom to erect aviaries for the reception of these creatures. In the 16th century, in the early part of which the canary-bird was introduced into Europe, aviaries were not uncommon features of the gardens of the wealthy, and Bacon refers to them in his essay on gardening (1597). Elizabeth of Bohemia, the daughter of James I. of England, when a child, had an outdoor aviary at Coombe Abbey near Coventry, the back and roof of which were formed of natural rock, in which were kept birds of many species from many countries.

Within recent years the method of keeping birds in large aviaries has received considerable attention, and it is fully recognized that by so doing, not only do we derive great pleasure, but our knowledge of avian habits and mode of living can thereby be very considerably increased.

An aviary may be of almost any size, from the large cage known, on account of its shape, as the "Crystal Palace aviary," to a structure as large as a church; and the term is sometimes applied to the room of a house with the windows covered with wire-netting; but as a rule it is used for outdoor structures, composed principally of wire-netting supported on a framework of either iron or woodwork. For quite hardy birds little more than this is necessary, providing that protection is given in the form of growing trees and shrubs, rock-work or rough wooden shelters. For many of the delicate species, however, which hail from tropical countries, warmth must be provided during the inclement months of the year, and thus a part at least of an aviary designed for these birds must be in the form of a wooden or brick house which can be shut up in cold weather and artificially warmed.

The ideal aviary, probably, is that which is constructed in two parts, viz. a well-built house for the winter, opening out into a large wire enclosure for use in the summer months. The doors between the two portions may be of wood or glazed. The part intended as the winter home of the birds is best built in brick or stone, as these materials are practically vermin-proof and the temperature in such a building is less variable than that in a thin wooden structure. The floor should be of concrete or brick, and the house should be fitted with an efficient heating apparatus from which the heat is distributed by means of hot-water pipes. Any arrangement which would permit the escape into the aviary of smoke or noxious fumes is to be strongly condemned. Such a house must be well lighted, preferably by means of skylights; but it is a mistake to have the whole roof glazed, at least half of it should be of wood, covered with slates or tiles. Perches consisting of branches of trees with the bark adhering should be fixed up, and, if small birds are to be kept, bundles of bushy twigs should be securely fixed up in corners under the roofs.

The outer part, which will principally be used during the summer, though it will do most birds good to be let out for a few hours on mild winter days also, should be as large as possible, and constructed entirely of wire-netting stretched on a framework of wood or iron. If the latter material is selected, stout gas-piping is both stronger and more easily fitted together than solid iron rods.

If the framework be of wood, this should be creosoted, preferably under pressure, or painted with three coats of good lead paint, the latter preservative also being used if iron is the material

selected.

The wire-netting used may be of almost any sized mesh, according to the sized birds to be kept, but as a general rule the smallest mesh, such as half or five-eighths of an inch, should be used, as it is practically vermin-proof, and allows of birds of any size being kept. Wire-netting for aviaries should be of the best quality, and well galvanized. The new interlinked type is less durable than the old mesh type, though perhaps it looks somewhat neater when fixed.

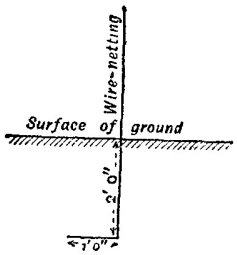


FIG. 1.

Provision must be made for the entire exclusion of such vermin as rats, stoats and weasels, which, if they were to gain access, would commit great havoc amongst the birds. The simplest and most effectual method of doing this is by sinking the wire-netting some 2 ft. into the ground all round the aviary, and then turning it outwards for a distance of another foot as shown in the annexed cut (fig. 1).

The outer part of the aviary should be turfed and planted with evergreen and deciduous shrubs, and be provided with some means of supplying an abundance of pure water for the birds to drink and bathe in; a gravel path should not be forgotten.

Perhaps the most useful type of aviary is that built as above described, but with several compartments, and a passage at the back by which any compartment may be visited without the necessity of passing through and disturbing the birds in other compartments. Fig. 2 represents a ground plan of an aviary of this type divided into four compartments, each with an inner house 10 ft. square, and an outer flight of double that area. The outer flights are intended to be turfed, and planted with shrubs, and the gravel path has a glazed roof above it by which it is kept dry in wet weather. Shallow water-basins are shown, which should be supplied by means of an underground pipe and a cock which can be turned on from outside the aviary; and they must be connected with a properly laid drain by means of a waste plug and an overflow pipe.

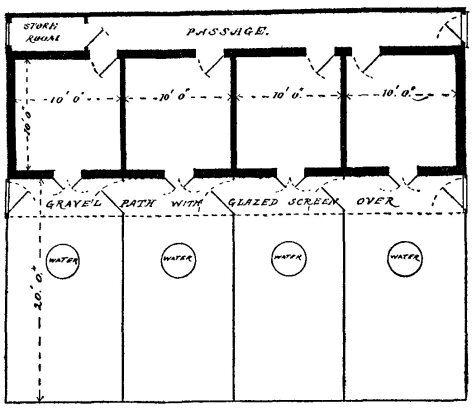


FIG. 2.—Plan of 4-compartment Aviary for Foreign Birds.

An aviary should always be built with a southern or southeastern aspect, and, where possible, should be sheltered from the north, north-east and north-west by a belt of fir-trees, high wall or bank, to protect the birds from the biting winds from these quarters.

[v.03 p.0061] When parrots of any kind are to be kept it is useless to try to grow any kind of vegetation except grass, and even this will be demolished unless the aviary is of considerable size. The larger parrots will, in fact, bite to pieces not only living trees but also the woodwork of their abode, and the only really suitable materials for the construction of an aviary for these birds are brick or stone and iron; and the wire-netting used must be of the stoutest gauge or it will be torn to pieces by their strong bills.

The feeding of birds in aviaries is, obviously, a matter of the utmost importance, and, in order that they may have what is most suitable, the aviculturist should find out as much as possible of the wild life of the species he wishes to keep, or if little or nothing is known about their mode of living, as is often the case with rare forms, of nearly related species whose habits and food are probably much the same, and he should endeavour to provide food as nearly as possible resembling that which would be obtained by the birds when wild. It is often, however, impossible to supply precisely the same food as would be obtained by the birds had they their liberty, but a substitute which suits them well can generally be obtained. The majority of the parrot tribe subsist principally upon various nuts, seed and fruit, while some of the smaller parrakeets or paroquets appear to feed almost exclusively upon the seeds of various grasses. Almost all of these are comparatively easy to treat in captivity, the larger ones being fed on maize, sunflower-seed, hemp, dari, oats, canary-seed, nuts and various ripe fruits, while the grass-parrakeets thrive remarkably well on little besides canary-seed and green food, the most suitable of which is grass in flower, chickweed, groundsel and various seed-bearing weeds. But there is another large group of parrots, the *Loriidae* or brush-tongued parrots, some of the most interesting and brightly coloured of the tribe, which, when wild, subsist principally upon the pollen and nectar of flowers, notably the various species of *Eucalyptus*, the filamented tongues of these parrots being

peculiarly adapted for obtaining this. In captivity these birds have been found to live well upon sweetened milk-sop, which is made by pouring boiling milk upon crumbled bread or biscuit. They frequently learn to eat seed like other parrots, but, if fed exclusively upon this, are apt, especially if deprived of abundance of exercise, to suffer from fits which are usually fatal. Fruit is also readily eaten by the lories and lorikeets, and should always be supplied.

The foreign doves and pigeons form a numerous and beautiful group which are mostly hardy and easily kept and bred in captivity. They are for the most part grain-feeders and require only small corn and seeds, though a certain group, known as the fruit-pigeons, are fed in captivity upon soft fruits, berries, boiled potato and soaked grain.

The various finches and finch-like birds form an exceedingly large group and comprise perhaps the most popular of foreign aviary birds. The weaver-birds of Africa are mostly quite hardy and very easily kept, their food consisting, for the most part, of canary-seed. The males of these birds are, as a rule, gorgeously attired in brilliant colours, some having long flowing tail-feathers during the nuptial season, while in the winter their showy dress is replaced by one of sparrow-like sombreness. The grass-finches of Australasia contain some of the most brilliantly coloured birds, the beautiful grass-finch (*Poëphila mirabilis*) being resplendent in crimson, green, mauve, blue and yellow. Most of these birds build their nests, and many rear their young, successfully in outdoor aviaries, their food consisting of canary and millet seeds, while flowering grasses provide them with an endless source of pleasure and wholesome food. The same treatment suits the African waxbills, many of which are extremely beautiful, the crimson-eared waxbill or "cordon-bleu" being one of the most lovely and frequently imported. These little birds are somewhat delicate, especially when first imported, and during the winter months require artificial warmth.

There is a very large group of insectivorous and fruit-eating birds very suitable for aviculture, but their mode of living necessarily involves considerable care on the part of the aviculturist in the preparation of their food. Many birds are partially insectivorous, feeding upon insects when these are plentiful, and upon various seeds at other times. Numbers of species again which, when adult, feed almost entirely upon grain, feed their young, especially during the early stages of their existence, upon insects; while others are exclusively insect-eaters at all times of their lives. All of these points must be considered by those who would succeed in keeping and breeding birds in aviaries.

It would be almost an impossibility to keep the purely insectivorous species, were it not for the fact that they can be gradually accustomed to feed on what is known as "insectivorous" or "insectile" food, a composition of which the principal ingredients generally consist of dried ants' cocoons, dried flies, dried powdered meat, preserved yolk of egg,[1] and crumb of bread or biscuit. This is moistened with water or mixed with mashed boiled potato, and forms a diet upon which most of the insectivorous birds thrive. The various ingredients, or the food ready made, can be obtained at almost any bird-fancier's shop. Although it is a good staple diet for these birds, the addition of mealworms, caterpillars, grubs, spiders and so forth is often a necessity, especially for purely insectivorous species.

The fruit-eating species, such as the tanagers and sugar-birds of the New World, require ripe fruit in abundance in addition to a staple diet such as that above described, while for such birds as feed largely upon earth-worms, shredded raw meat is added with advantage.

Many of the waders make very interesting aviary birds, and require a diet similar to that above recommended, with the addition of chopped raw meat, mealworms and any insects that can be obtained.

Birds of prey naturally require a meat diet, which is best given in the form of small, freshly killed mammals and birds, the fur or feathers of which should not be removed, as they aid digestion.

The majority of wild birds, from whatever part of the world they may come, will breed successfully in suitable aviaries providing proper nesting sites are available. Large bundles of brushwood, fixed up in sheltered spots, will afford accommodation for many kinds of birds, while some will readily build in evergreen shrubs if these are grown in their enclosure. Small boxes and
[v.03 p.0062] baskets, securely fastened to the wall or roof of the sheltered part of an aviary, will be appropriated by such species as naturally build in holes and crevices. Parrots, when wild, lay their eggs in hollow trees, and occasionally in holes in rocks, making no nest,[2] but merely scraping out a slight hollow in which to deposit the eggs. For these birds hollow logs, with small entrance holes near the top, or boxes, varying in size according to the size of the parrots which they are intended for, should be supplied. In providing nesting accommodation for his birds the aviculturist must endeavour to imitate their natural surroundings and supply sites as nearly as possible similar to those which the birds, to whatever order they may belong, would naturally select.

Aviculture is a delightful pastime, but it is also far more than this; it is of considerable scientific importance, for it admits of the living birds being studied in a way that would be quite impossible otherwise. There are hundreds of species of birds, from all parts of the world, the habits of which are almost unknown, but which may be kept without difficulty in suitable aviaries. Many of these birds cannot be studied satisfactorily in a wild state by reason of their shy nature and retiring habits, not to mention their rarity and the impossibility, so far as most people are concerned, of visiting their native haunts. In suitable large aviaries, however, their nesting habits, courtship, display, incubation, moult and so forth can be accurately observed and recorded. The keeping of

birds in aviaries is therefore a practice worthy of every encouragement, so long as the aviaries are of sufficient size and suitable design to allow of the birds exhibiting their natural habits; for in a large aviary they will reveal the secrets of their nature as they never would do in a cage or small aviary.

(D. S.-S.)

[1] It has recently been stated by certain medical men that egg-food in any form is an undesirable diet for birds, owing to its being peculiarly adapted to the multiplication of the bacillus of septicaemia, a disease which is responsible for the death of many newly imported birds. It is a significant fact, however, that insectivorous species, which are those principally fed upon this substance, are not nearly so susceptible to this disease as seed-eating birds which rarely taste egg; and in spite of what has been written concerning its harmfulness, the large majority of aviculturists use it, in both the fresh and the preserved state, with no apparent ill effects, but rather the reverse.

[2] There is, however, one true nest-building parrot, the grey-breasted parrakeet (*Myopsittacus monachus*), which constructs a huge nest of twigs. The true love-birds (*Agapornis*) may also be said to build nests, for they line their nest-hole with strips of pliant bark.

AVICENNA [Abū ʿAlī al-Husain ibn ʿAbdallāh ibn Sīnā] (980-1037), Arabian philosopher, was born at Afshena in the district of Bokhara. His mother was a native of the place; his father, a Persian from Balkh, filled the post of tax-collector in the neighbouring town of Harmaitin, under Nūh II. ibn Mansur, the Samanid amir of Bokhara. On the birth of Avicenna's younger brother the family migrated to Bokhara, then one of the chief cities of the Moslem world, and famous for a culture which was older than its conquest by the Saracens. Avicenna was put in charge of a tutor, and his precocity soon made him the marvel of his neighbours,—as a boy of ten who knew by rote the Koran and much Arabic poetry besides. From a greengrocer he learnt arithmetic; and higher branches were begun under one of those wandering scholars who gained a livelihood by cures for the sick and lessons for the young. Under him Avicenna read the *Isagoge* of Porphyry and the first propositions of Euclid. But the pupil soon found his teacher to be but a charlatan, and betook himself, aided by commentaries, to master logic, geometry and the Almagest. Before he was sixteen he not merely knew medical theory, but by gratuitous attendance on the sick had, according to his own account, discovered new methods of treatment. For the next year and a half he worked at the higher philosophy, in which he encountered greater obstacles. In such moments of baffled inquiry he would leave his books, perform the requisite ablutions, then hie to the mosque, and continue in prayer till light broke on his difficulties. Deep into the night he would continue his studies, stimulating his senses by occasional cups of wine, and even in his dreams problems would pursue him and work out their solution. Forty times, it is said, he read through the *Metaphysics* of Aristotle, till the words were imprinted on his memory; but their meaning was hopelessly obscure, until one day they found illumination from the little commentary by Fārābī (*q.v.*), which he bought at a bookstall for the small sum of three dirhems. So great was his joy at the discovery, thus made by help of a work from which he had expected only mystery, that he hastened to return thanks to God, and bestowed an alms upon the poor. Thus, by the end of his seventeenth year his apprenticeship of study was concluded, and he went forth to find a market for his accomplishments.

His first appointment was that of physician to the amir, who owed him his recovery from a dangerous illness (997). Avicenna's chief reward for this service was access to the royal library of the Samanids (*q.v.*), well-known patrons of scholarship and scholars. When the library was destroyed by fire not long after, the enemies of Avicenna accused him of burning it, in order for ever to conceal the sources of his knowledge. Meanwhile, he assisted his father in his financial labours, but still found time to write some of his earliest works.

At the age of twenty-two Avicenna lost his father. The Samanid dynasty came to its end in December 1004. Avicenna seems to have declined the offers of Mahmūd the Ghaznevid, and proceeded westwards to Urjensh in the modern Khiva, where the vizier, regarded as a friend of scholars, gave him a small monthly stipend. But the pay was small, and Avicenna wandered from place to place through the districts of Nishapur and Merv to the borders of Khorasan, seeking an opening for his talents. Shams al-Maʿālī Qābūs, the generous ruler of Dailam, himself a poet and a scholar, with whom he had expected to find an asylum, was about that date (1012) starved to death by his own revolted soldiery. Avicenna himself was at this season stricken down by a severe illness. Finally, at Jorjān, near the Caspian, he met with a friend, who bought near his own house a dwelling in which Avicenna lectured on logic and astronomy. For this patron several of his treatises were written; and the commencement of his *Canon of Medicine* also dates from his stay in Hyrcania.

He subsequently settled at Rai, in the vicinity of the modern Teheran, where a son of the last amir, Majd Addaula, was nominal ruler, under the regency of his mother. At Rai about thirty of his shorter works are said to have been composed. But the constant feuds which raged between the regent and her second son, Shams Addaula, compelled the scholar to quit the place, and after a brief sojourn at Kazwīn, he passed southwards to Hamadān, where that prince had established himself. At first he entered into the service of a high-born lady; but ere long the amir, hearing of his arrival, called him in as medical attendant, and sent him back with presents to his dwelling. Avicenna was even raised to the office of vizier; but the turbulent soldiery, composed of Kurds and Turks, mutinied against their nominal sovereign, and demanded that the new vizier should

be put to death. Shams Addaula consented that he should be banished from the country. Avicenna, however, remained hidden for forty days in a sheik's house, till a fresh attack of illness induced the amir to restore him to his post. Even during this perturbed time he prosecuted his studies and teaching. Every evening extracts from his great works, the *Canon* and the *Sanatio*, were dictated and explained to his pupils; among whom, when the lesson was over, he spent the rest of the night in festive enjoyment with a band of singers and players. On the death of the amir Avicenna ceased to be vizier, and hid himself in the house of an apothecary, where, with intense assiduity, he continued the composition of his works. Meanwhile, he had written to Abu Yaʿfar, the prefect of Isfahan, offering his services; but the new amir of Hamadān getting to hear of this correspondence, and discovering the place of Avicenna's concealment, incarcerated him in a fortress. War meanwhile continued between the rulers of Isfahan and Hamadān; in 1024 the former captured Hamadān and its towns, and expelled the Turkish mercenaries. When the storm had passed Avicenna returned with the amir to Hamadān, and carried on his literary labours; but at length, accompanied by his brother, a favourite pupil, and two slaves, made his escape out of the city in the dress of a Sufite ascetic. After a perilous journey they reached Isfahan, and received an honourable welcome from the prince. The remaining ten or twelve years of Avicenna's life were spent in the service of Abu Yaʿfar ʿAlā Addaula, whom he accompanied as physician and general literary and scientific adviser, even in his numerous campaigns. During these years he began to study literary matters and philology, instigated, it is asserted, by criticisms on his style. But amid his restless study Avicenna never forgot his love of enjoyment. Unusual bodily vigour enabled him to combine severe devotion to work with facile indulgence in sensual pleasures. His passion for wine and women was almost as well known as his learning. Versatile, light-hearted, boastful and pleasure-loving, he contrasts with the nobler and more intellectual character of Averroes. His bouts of pleasure gradually weakened his constitution; a severe colic, which seized him on the march of the army against Hamadān, was checked by remedies so violent that Avicenna could scarcely stand. On a similar occasion the disease returned; with difficulty he reached Hamadān, where, finding the disease gaining ground, he refused to keep up the regimen imposed, and resigned himself to his fate. On his deathbed remorse seized him; he bestowed his goods on the poor, restored unjust gains, freed his slaves, and every third day till his death listened to the reading of the Koran. He died in June 1037, in his fifty-eighth year, and was buried in Hamadān.

It was mainly accident which determined that from the 12th to the 17th century Avicenna should be the guide of medical study in European universities, and eclipse the names of Rhazes, Ali ibn al-Abbas and Avenzoar. His work is not essentially different from that of his predecessors Rhazes and Ali; all present the doctrine of Galen, and through Galen the doctrine of Hippocrates, modified by the system of Aristotle. But the *Canon* of Avicenna is distinguished from the *Al-Hawi* (*Continens*) or *Summary* of Rhazes by its greater method, due perhaps to the logical studies of the former, and entitling him to his surname of Prince of the Physicians. The work has been variously appreciated in subsequent ages, some regarding it as a treasury of wisdom, and others, like Avenzoar, holding it useful only as waste paper. In modern times it has been more criticized than read. The vice of the book is excessive classification of bodily faculties, and over-subtlety in the discrimination of diseases. It includes five books; of which the first and second treat of physiology, pathology and hygiene, the third and fourth deal with the methods of treating disease, and the fifth describes the composition and preparation of remedies. This last part contains some contingent of personal observation. He is, like all his countrymen, ample in the enumeration of symptoms, and is said to be inferior to Ali in practical medicine and surgery. He introduced into medical theory the four causes of the Peripatetic system. Of natural history and botany he pretends to no special knowledge. Up to the year 1650, or thereabouts, the *Canon* was still used as a text-book in the universities of Louvain and Montpellier.

About 100 treatises are ascribed to Avicenna. Some of them are tracts of a few pages, others are works extending through several volumes. The best-known amongst them, and that to which Avicenna owed his European reputation, is the *Canon of Medicine*; an Arabic edition of it appeared at Rome in 1593, and a Hebrew version at Naples in 1491. Of the Latin version there were about thirty editions, founded on the original translation by Gerard of Cremona. The 15th century has the honour of composing the great commentary on the text of the *Canon*, grouping around it all that theory had imagined, and all that practice had observed. Other medical works translated into Latin are the *Medicamenta Cordialia*, *Canticum de Medicina*, *Tractatus de Syrupo Acetoso*. Scarcely any member of the Arabian circle of the sciences, including theology, philology, mathematics, astronomy, physics and music, was left untouched by the treatises of Avicenna, many of which probably varied little, except in being commissioned by a different patron and having a different form or extent. He wrote at least one treatise on alchemy, but several others have been falsely attributed to him. His book on animals was translated by Michael Scot. His *Logic*, *Metaphysics*, *Physics*, *De Caelo*, are treatises giving a synoptic view of Aristotelian doctrine. The *Logic* and *Metaphysics* have been printed more than once, the latter, *e.g.*, at Venice in 1493, 1495 and 1546. Some of his shorter essays on medicine, logic, &c., take a poetical form (the poem on logic was published by Schmoelders in 1836). Two encyclopaedic treatises, dealing with philosophy, are often mentioned. The larger, *Al-Shifā'* (*Sanatio*), exists nearly complete in manuscript in the Bodleian library and elsewhere; part of it on the *De Anima* appeared at Pavia (1490) as the *Liber Sextus Naturalium*, and the long account of Avicenna's philosophy given by Shahrastani seems to be mainly an analysis, and in many places a reproduction, of the *Al-Shifā'*, A shorter form of the work is known as the *An-najāt* (*Liberatio*). The Latin editions of part of these works have been modified by the corrections which the monkish editors confess that they applied. There is also a *Philosophia Orientalis*, mentioned by Roger Bacon, and now lost, which

according to Averroes was pantheistic in tone.

For Avicenna's life, see Ibn Khallikan's *Biographical Dictionary*, translated by McG. de Slane (1842); F. Wüstenfeld's *Geschichte der arabischen Aerzte und Naturforscher* (Göttingen, 1840). For his medicine, see Sprengel, *Histoire de la Médecine*; and for his philosophy, see Shahrastani, German trans. vol. ii. 213-332; K. Prantl, *Geschichte der Logik*, ii. 318-361; A. Stöckl, *Phil. d. Mittelalters*, ii. 23-58; S. Munk, *Mélanges*, 352-366; B. Haneberg in the *Abhandlungen der philos.-philolog. Class. der bayerischen Academie* (1867); and Carra de Vaux, *Avicenne* (Paris, 1900). For list of extant works see C. Brockelmann's *Geschichte der arabischen Litteratur* (Weimar, 1898), vol. i. pp. 452-458.

(W. W.; G. W. T.)

AVIENUS, RUFIUS FESTUS, a Roman aristocrat and poet, of Vulsinii in Etruria, who flourished during the second half of the 4th century A.D. He was probably proconsul of Africa (366) and of Achaia (372). Avienus was a pagan and a staunch supporter of the old religion. He translated the Φαινόμενα of Aratus and paraphrased the Περιήγησις of Dionysius under the title of *Descriptio Orbis Terrarum*, both in hexameters. He also compiled a description, in iambic trimeters, of the coasts of the Mediterranean, Caspian and Black Seas in several books, of which only a fragment of the first is extant. He also epitomized Livy and Virgil's *Aeneid* in the same metre, but these works are lost. Some minor poems are found under his name in anthologies, *e.g.* a humorous request to one Favianus for some pomegranates for medicinal purposes.

AVIGLIANA, a town of Piedmont, Italy, in the province of Turin, 14 m. W. by rail from the town of Turin. Pop. (1901) 4629. It has medieval buildings of some interest, but is mainly remarkable for its large dynamite factory, employing over 500 workman.

AVIGNON, a city of south-eastern France, capital of the department of Vaucluse, 143 m. S. of Lyons on the railway between that city and Marseilles. Pop. (1906) 35,356. Avignon, which lies on the left bank of the Rhone, a few miles above its confluence with the Durance, occupies a large oval-shaped area not fully populated, and covered in great part by parks and gardens. A suspension bridge leads over the river to Villeneuve-lès-Avignon (*q.v.*), and a little higher up, a picturesque ruined bridge of the 12th century, the Pont Saint-Bénézet, projects into the stream. Only four of the eighteen piles are left; on one of them stands the chapel of Saint-Bénézet, a small Romanesque building. Avignon is still encircled by the ramparts built by the popes in the 14th century, which offer one of the finest examples of medieval fortification in existence. The walls, which are of great strength, are surmounted by machicolated battlements, flanked at intervals by thirty-nine massive towers and pierced by several gateways, three of which date from the 14th century. The whole is surrounded by a line of pleasant boulevards. The life of the town is almost confined to the Place de l'Hôtel de Ville and the Cours de la République, which leads out of it and extends to the ramparts. Elsewhere the streets are narrow, quiet, and, for the most part, badly paved. At the northern extremity of the town a precipitous rock, the Rocher des Doms, rises from the river's edge and forms a plateau stretching southwards nearly to the Place de l'Hôtel de Ville. Its summit is occupied by a public garden and, to the south of this, by the cathedral of Notre-Dame des Doms and the Palace of the Popes. The cathedral is a Romanesque building, mainly of the 12th century, the most prominent feature of which is the gilded statue of the Virgin which surmounts the western tower. Among the many works of art in the interior, the most beautiful is
[v.03 p.0064] the mausoleum of Pope John XXII., a masterpiece of Gothic carving of the 14th century. The cathedral is almost dwarfed by the Palace of the Popes, a sombre assemblage of buildings, which rises at its side and covers a space of more than 1¼ acres. Begun in 1316 by John XXII., it was continued by succeeding popes until 1370, and is in the Gothic style; in its construction everything has been sacrificed to strength, and though the effect is imposing, the place has the aspect rather of a fortress than of a palace. It was for long used as a barracks and prison, to the exigencies of which the fine apartments were ruthlessly adapted, but it is now municipal property. Among the minor churches of the town are St Pierre, which has a graceful façade and richly carved doors, St Didier and St Agricol, all three of Gothic architecture. The most notable of the civil buildings are the hôtel de ville, a modern building with a belfry of the 14th century, and the old Hôtel des Monnaies, the papal mint which was built in 1610 and is now used as a music-school. The Calvet Museum, so named after F. Calvet, physician, who in 1810 left his collections to the town, is rich in inscriptions, bronzes, glass and other antiquities, and in sculptures and paintings. The library has over 140,000 volumes. The town has a statue of a Persian, Jean Althen, who in 1765 introduced the culture of the madder plant, which long formed the staple and is still an important branch of local trade. In 1873 John Stuart Mill died at Avignon, and is buried in the cemetery. For the connexion of Petrarch with the town see PETRARCH.

Avignon is subject to violent winds, of which the most disastrous is the *mistral*. The popular proverb is, however, somewhat exaggerated, *Avenio ventosa, sine vento venenosa, cum vento fastidiosa* (windy Avignon, pest-ridden when there is no wind, wind-pestered when there is).

Avignon is the seat of an archbishop and has tribunals of first instance and of commerce, a council of trade-arbitrators, a lycée, and training college, a chamber of commerce and a branch of the Bank of France. It is in the midst of a fertile district, in the products of which it has a large trade, and has flour-mills, distilleries, oil-works and leather-works, manufactures soap, chemicals and liquorice, and is well known for its sarsanet and other fabrics.

Avignon (*Avenio*) was an important town of the Gallic tribe of the Cavares, and under the Romans one of the leading cities of Gallia Narbonensis. Severely harassed during the barbarian invasions

and by the Saracens, it was, in later times, attached successively to the kingdoms of Burgundy and of Arles and to the domains of the counts of Provence and of Toulouse and of Forcalquier. At the end of the 12th century it became a republic, but in 1226 was taken and dismantled by Louis VIII. as punishment for its support of the Albigenses, and in 1251 was forced to submit to the counts of Toulouse and Provence. In 1309 the city was chosen by Clement V. as his residence, and from that time till 1377 was the papal seat. In 1348 the city was sold by Joanna, countess of Provence, to Clement VI. After Gregory XI. had migrated to Rome, two antipopes, Clement VII. and Benedict XIII., resided at Avignon, from which the latter was expelled in 1408. The town remained in the possession of the popes, who governed it by means of legates, till its annexation by the National Assembly in 1791, though during this interval several kings of France made efforts to unite it with their dominions. In 1791 conflicts between the adherents of the Papacy and the Republicans led to much bloodshed. In 1815 Marshal Brune was assassinated in the town by the adherents of the royalist party. The bishopric, founded in the 3rd century, became an archbishopric in 1475.

See Fantoni Castrucci, *Istoria della città d'Avignone e del Contado Venesino* (Venice, 1678); J. B. Joudou, *Histoire des souverains pontifes qui ont siégé à Avignon* (Avignon, 1855); A. Canron, *Guide de l'étranger dans la ville d'Avignon et ses environs* (Avignon, 1858); J. F. André, *Histoire de la Papauté à Avignon* (Avignon, 1887).

ÁVILA, GIL GONZALEZ DE (*c.* 1577-1658), Spanish biographer and antiquary, was born and died at Ávila. He was made historiographer of Castile in 1612, and of the Indies in 1641. Of his numerous works, the most valuable are his *Teatro de las Grandezas des Madrid* (Madrid, 1623, sqq.), and his *Teatro Eclesiastico*, descriptive of the metropolitan churches and cathedrals of Castile, with lives of the prelates (Madrid, 1645-1653, 4 vols. 4to).

ÁVILA, a province of central Spain, one of the modern divisions of the kingdom of Old Castile; bounded on the N. by Valladolid, E. by Segovia and Madrid, S. by Toledo and Cáceres, and W. by Salamanca. Pop. (1900) 200,457; area, 2570 sq. m. Ávila is naturally divided into two sections, differing completely in soil, climate, productions and social economy. The northern portion is generally level; the soil is of indifferent quality, strong and marly in a few places, but rocky in all the valleys of the Sierra de Ávila; and the climate alternates from severe cold in winter to extreme heat in summer. The population of this part is mainly agricultural. The southern division is one mass of rugged granitic sierras, interspersed, however, with sheltered and well-watered valleys, abounding with rich vegetation. The winter here, especially in the elevated region of the Paramera and the waste lands of Ávila, is long and severe, but the climate is not unhealthy. In this region stock-breeding is an important industry. The principal mountain chains are the Guadarrama, separating this province from Madrid; the Paramera and Sierra de Ávila, west of the Guadarrama; and the vast wall of the Sierra de Gredos along the southern frontier, where its outstanding peaks rise to 6000 or even 8000 ft. The ridges which ramify from the Paramera are covered with valuable forests of beeches, oaks and firs, presenting a striking contrast to the bare peaks of the Sierra de Gredos. The principal rivers are the Alberche and Tietar, belonging to the basin of the Tagus, and the Tórmes, Trabáncos and Adaja, belonging to that of the Douro. The mountains contain silver, copper, iron, lead and coal, but their mineral wealth has been exaggerated, and at the beginning of the 20th century mining had practically been abandoned. Quarries of fine marble and jasper exist in the district of Arenas. The province declined in wealth and population during the 18th and 19th centuries, a result due less to the want of activity on the part of the inhabitants than to the oppressive manorial and feudal rights and the strict laws of entail and mortmain, which acted as barriers to progress.

Towards the close of this period many improvements were introduced, although the want of irrigation is still keenly felt. Wide tracts of waste land were planted with pinewoods by the ducal house of Medina Sidonia. The main roads are fairly good; and Ávila, the capital, is connected by rail with Salamanca, Valladolid and Madrid; but in many parts of the province the means of communication are defective. Except Ávila there are no important towns. The principal production is the wool of the merino sheep, which at one time yielded an immense revenue. Game is plentiful, and the rivers abound in fish, specially trout. Olives, chestnuts and grapes are grown, and silk-worms are kept. There is little trade, and the manufactures are few, consisting chiefly of copper utensils, lime, soap, cloth, paper and combs. The state of elementary education is comparatively good, rather more than two-thirds of the population being able to read and write, and the ratio of crime is proportionately low.

ÁVILA (anc. *Abula* or *Avela*), the capital of the province described above; on the right bank of the river Adaja, 54 m. W. by N. of Madrid, by the Madrid-Valladolid railway. Pop. (1900) 11,885. The city is built on the flat summit of a rocky hill, which rises abruptly in the midst of a veritable wilderness; a brown, arid, treeless table-land, strewn with immense grey boulders, and shut in by lofty mountains. The ancient walls of Ávila, constructed of brown granite, and surmounted by a breastwork, with eighty-six towers and nine gateways, are still in excellent repair; but a large part of the city lies beyond their circuit. Ávila is the seat of a bishop, and contains several ecclesiastical buildings of high interest. The Gothic cathedral, said by tradition to date from 1107, but probably of 13th or 14th century workmanship, has the appearance of a fortress, with embattled walls and two solid towers. It contains many interesting sculptures and paintings, besides one especially fine silver pyx, the work of Juan de Arphe, dating from 1571. The churches of San Vicente, San Pedro, Santo Tomás and San Segundo are, in their main features, Romanesque of the 15th century, although parts of the beautiful San Vicente, and of San Pedro, may be as old as the 12th century. Especially noteworthy is the marble monument in Santo

Tomás, carved by the 15th-century Florentine sculptor Domenico Fancelli, over the tomb of Prince John (d. 1497), the only son of Ferdinand and Isabella. The convent and church of Santa Teresa mark the supposed birthplace of the saint whose name they bear (*c.* 1515-1582) Ávila also possesses an old Moorish castle (*alcázar*) used as barracks, a foundling hospital, infirmary, military academy, and training schools for teachers of both sexes. From 1482 to 1807 it was also the seat of a university. It has a considerable trade in agricultural products, leather, pottery, hats, linen and cotton goods.

For the local history see V. Picatoste, *Tradiciones de Ávila* (Madrid, 1888); and L. Ariz, *Historia de las grandezas de ... Ávila* (Alcalá de Henares, 1607).

AVILA Y ZUNIGA, LUIS DE (*c.* 1490-*c.* 1560), Spanish historian, was born at Placentia. He was probably of low origin, but married a wealthy heiress of the family of Zuniga, whose name he added to his own. He rose rapidly in the favour of the emperor Charles V., served as ambassador to Rome, and was made grand commander of the order of the Knights of Alcantara. He accompanied the emperor to Africa in 1541, and having served during the war of the league of Schmalkalden, wrote a history of this war entitled *Commentarios de la guerra de Alemaña, hecha de Carlos V en el año de 1546 y 1547.* This was first printed in 1548, and becoming very popular was translated into French, Dutch, German, Italian and Latin. As may be expected from the author's intimacy with Charles, the book is very partial to the emperor, and its misrepresentations have been severely criticized.

AVILÉS, PEDRO MENÉNDEZ DE (1519-1574), Spanish seaman, founder of St Augustine, Florida, was born at Avilés in Asturias on the 15th of February 1519. His family were gentry, and he was one of nineteen brothers and sisters. At the age of fourteen he ran away to sea, and was engaged till he was thirty in a life of adventure as a corsair. In 1549 during peace between France and Spain he was commissioned by the emperor Charles V. to clear the north coast of Spain and the Canaries of French pirates. In 1554 he was appointed captain-general of the "flota" or convoy which carried the trade between Spain and America. The appointment was made by the emperor over the head and against the will of the Casa de Contratacion, or governing board of the American trade. In this year, and before he sailed to America, Avilés accompanied the prince of Spain, afterwards Philip II., to England, where he had gone to marry Queen Mary. As commander of the flota he displayed a diligence, and achieved a degree of success in bringing back treasure, which earned him the hearty approval of the emperor. But his devotion to the imperial service, and his steady refusal to receive bribes as the reward for permitting breaches of the regulations, made him unpopular with the merchants, while his high-handed ways offended the Casa de Contratacion. Reappointed commander in 1557, and knowing the hostility of the Casa, he applied for service elsewhere. The war with France in which Spain and England were allies was then in progress, and until the close of 1559 ample occupation was found for Avilés in bringing money and recruits from Spain to Flanders. When peace was restored he commanded the fleet which brought Philip II. back from the Low Countries to Spain. In 1560 he was again appointed to command the flota, and he made a most successful voyage to America and back, in that and the following year. His relations with the Casa de Contratacion were, however, as strained as ever. On his return from another voyage in 1563 he was arrested by order of the Casa, and was detained in prison for twenty months. What the charges brought against him were is not known. Avilés in a letter to the king avows his innocence, and he was finally discharged by the judges, but not until they had received two peremptory orders from the king to come to a decision.

On his release he prepared to sail to the Bermudas to seek for his son Juan, who had been shipwrecked in the previous year. At that time the French Huguenots were engaged in endeavouring to plant a colony in Florida. As the country had been explored by the Spaniards they claimed it as theirs, and its position on the track of the home-coming trade of Mexico rendered its possession by any other power highly dangerous. Philip II. endeavoured to avert the peril by making an "*asiento*" or contract with Avilés, by which he advanced 15,000 ducats to the seaman, and constituted him proprietor of any colony which he could establish in Florida, on condition that the money was repaid. The contract was signed on the 20th of March 1565. Avilés sailed on the 28th of July of the same year with one vessel of 600 tons, ten sloops and 1500 men. On the 28th of August he entered and named the Bay of St Augustine, and began a fort there. He took the French post of Fort Caroline on the 20th of September 1565, and in October exterminated a body of Frenchmen who, under the Huguenot Jean Ribault, had arrived on the coast of Florida to relieve their colony. The Spanish commander, after slaying nearly all his prisoners, hung their bodies on trees, with the inscription, "Not as Frenchmen but as Lutherans." A French sea-captain named Dominique de Gourgues revenged the massacre by capturing in 1568 Fort San Mateo (as the Spanish had renamed Fort Caroline), and hanging the garrison, with the inscription, "Not as Spaniards but as murderers." Till 1567 Avilés remained in Florida, busy with his colony. In that year he returned to Spain. He made one more voyage to Florida, and died on the 17th of September 1574. Avilés married Maria de Solis, when very young, and left three daughters. His letters prove him to have been a pious and high-minded officer, who never imagined that he could be supposed by any honest man to have gone too far in massacring the Frenchmen, whom he regarded as pirates and heretics.

See *The Spanish Settlements within the Present Limits of the United States, Florida, 1562-1574*, by Woodbury Lowery (New York, 1905).

(D. H.)

AVILÉS, or San Nicolás de Avilés (the Roman *Flavionavia*), a seaport of northern Spain, in the province of Oviedo; on the Bay of Avilés, a winding inlet of the Bay of Biscay, 24 m. by rail W. of Gijón. Pop. (1900) 12,763. Avilés is a picturesque and old-fashioned town, containing several ancient palaces and Gothic churches. The bay, which is crossed by a fine bridge at its narrow landward extremity, is the headquarters of a fishing fleet, and a port of call for many coasting vessels. Coal from the Oviedo mines is exported coastwise, and in 1904 the shipments from Avilés for the first time exceeded those from Gijón, reaching a total of more than 290,000 tons. Glass and coarse linen and woollen stuffs are manufactured; and there are valuable stone quarries in the neighbourhood.

AVIZANDUM (from Late Lat. *avizare*, to consider), a Scots law term; the judge "makes avizandum with a cause," *i.e.* takes time to consider his judgment.

AVLONA (anc. *Aulon*; Ital. *Valona*; Alb. *Vliona*), a town and seaport of Albania, Turkey, in the vilayet of Iannina. Pop. (1900) about 6000. Avlona occupies an eminence near the Gulf of Avlona, an inlet of the Adriatic, almost surrounded by mountains. The port is the best on the Albanian coast, and the nearest to Italy. It is protected by the island of Saseno, the ancient Saso, and by Cape Glossa, the northernmost headland of the Acroceraunian mountains. It is regularly visited by steamers from Trieste, Fiume, Brindisi, and other Austro-Hungarian and Italian ports, as well as by many small Greek and Turkish coasters. The cable and telegraph line from Otranto, in Italy, to Constantinople, has an important station here. The town is about 1½ m. from the sea, and has rather a pleasant appearance with its minarets and its palace, surrounded with gardens and olive-groves. Valonia, a material largely used by tanners, is the pericarp of an acorn obtained in the neighbouring oak-woods, and derives its name from Valona. The surrounding district is mainly agricultural and pastoral, producing oats, maize, cotton, olive oil, cattle, sheep, skins, hides and butter. All these commodities are exported in considerable quantities, besides bitumen, which is obtained from a mine worked by a French company. The imports are woollen and cotton piece-goods, metals and petroleum.

[v.03 p.0066]

Avlona played an important part in the wars between the Normans and the Byzantines, during the 11th and 12th centuries. In 1464 it was taken by the Ottomans; and after being in Venetian possession in 1690, was restored to them in 1691. In 1851 it suffered severely from an earthquake.

AVOCA, or Ovoca, **VALE OF,** a mountain glen of county Wicklow, Ireland, in the south-eastern part of the county, formed by the junction of the small rivers Avonmore and Avonbeg, which, rising in the central highlands of the county, form with their united waters the Ovoca river, flowing south and south-east to the Irish Sea at Arklow. The vale would doubtless rank only as one among the many beautiful glens of the district, but that it has obtained a lasting celebrity through one of the *Irish Melodies* of the poet Thomas Moore, in which its praises are sung. It is through this song that the form "Avoca" is most familiar, although the name is locally spelt "Ovoca." The glen is narrow and densely wooded. Its beauty is somewhat marred by the presence of lead and copper mines, and by the main line of the Dublin & South Eastern railway, on which Ovoca station, midway in the vale, is 42¾ m. south of Dublin. Of the two "meetings of the waters" (the upper, of the Avonmore and Avonbeg, and the lower, of the Aughrim with the Ovoca) the upper, near the fine seat of Castle Howard, is that which inspired the poet. At Avondale, above the upper "meeting," by the Avonmore, Charles Stewart Parnell was born.

AVOCADO PEAR, the fruit of the tree *Persea gratissima*, which grows in the West Indies and elsewhere; the flesh is of a soft and buttery consistency and highly esteemed. The name *avocado*, the Spanish for "advocate," is a sound-substitute for the Aztec *ahuacatl*; it is also corrupted into "alligator-pear." *Avocato*, *avigato*, *abbogada* are variants.

AVOGADRO, AMEDEO, CONTE DI QUAREGNA (1776-1856), Italian physicist, was born at Turin on the 9th of June 1776, and died there on the 9th of July 1856. He was for many years professor of higher physics in Turin University. He published many physical memoirs on electricity, the dilatation of liquids by heat, specific heats, capillary attraction, atomic volumes &c. as well as a treatise in 4 volumes on *Fisica di corpi ponderabili* (1837-1841). But he is chiefly remembered for his "Essai d'une manière de déterminer les masses relatives des molécules élémentaires des corps, et les proportions selon lesquelles elles entrent dans les combinaisons" (*Journ. de Phys.*, 1811), in which he enunciated the hypothesis known by his name (Avogadro's rule) that under the same conditions of temperature and pressure equal volumes of all gases contain the same number of smallest particles or molecules, whether those particles consist of single atoms or are composed of two or more atoms of the same or different kinds.

AVOIDANCE (from "avoid," properly to make empty or void, in current usage, to keep away from, to shun; the word "avoid" is adapted from the O. Fr. *esvuidier* or *évider*, to empty out, *voide*, modern *vide*, empty, connected with Lat. *vacuus*), the action of making empty, void or null, hence, in law, invalidation, annulment (see Confession and Avoidance); also the becoming void or vacant, hence in ecclesiastical law a term signifying the vacancy of a benefice—that it is *void* of an incumbent. In general use, the word means the action of keeping away from anything, shunning or avoiding.

AVOIRDUPOIS, or Averdupois (from the French *avoir de pois*, goods of weight), the name of a system of weights used in Great Britain and America for all commodities except the precious metals, gems and medicines. The foundation of the system is the grain. A cubic inch of water weighs 252.458 grains. Of this grain 7000 now (see Weights and Measures) make a pound

avoirdupois. This pound is divided into 16 oz., and these ounces into 16 drachms.

Avoirdupois Weight.

Drachm,	16=ounce,	16=pound,	14=stone	2=quarter,	4=hundred,	20=ton.
27.3 grains	437.5	7000	98,000	196,000 grs	112 lb	2240 lb.

AVON, the name of several rivers in England and elsewhere. The word is Celtic, appearing in Welsh (very frequently) as *afon*, in Manx as *aon*, and in Gaelic as *abhuinn* (pronounced *avain*), and is radically identical with the Sanskrit *ap*, water, and the Lat. *aqua* and *amnis*. The root appears more or less disguised in a vast number of river names all over the Celtic area in Europe. Thus, besides such forms as *Evan*, *Aune*, *Anne*, *Ive*, *Auney*, *Inney*, &c., in the British Islands, *Aff*, *Aven*, *Avon*, *Aune* appear in Brittany and elsewhere in France, *Avenza* and *Avens* in Italy, *Avia* in Portugal, and *Avono* in Spain; while the terminal syllable of a large proportion of the Latinized names of French rivers, such as the *Sequana*, the *Matrona* and the *Garumna*, seems originally to have been the same word. The names Punj*ab*, Do*ab*, &c., show the root in a clearer shape.

In England the following are the principal rivers of this name.

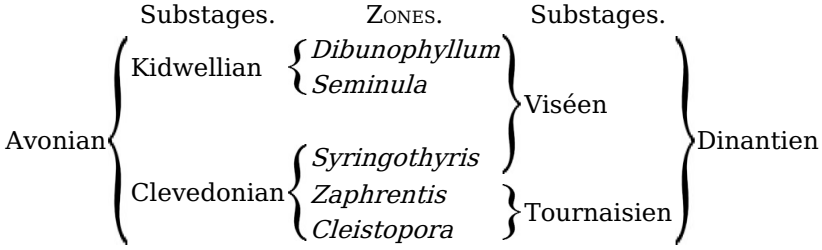
1. The East or Hampshire Avon rises in Wiltshire south of Marlborough, and watering the Vale of Pewsey collects feeders from the high downs between Marlborough and Devizes. Breaching the high ground of Salisbury Plain, it passes Amesbury, and following a very sinuous course reaches Salisbury. Here it receives on the east bank the waters of the Bourne, and on the west those of the Wylye. With a more direct course, and in a widening, fertile valley it continues past Downton, Fordingbridge and Ringwood, skirting the New Forest on the west, to Christchurch, where it receives the Stour from the west, and 2½ m. lower enters the English Channel through the broad but narrow-mouthed Christchurch harbour. The length, excluding lesser sinuosities, is about 60 m., Salisbury being 35 m. above the mouth. The total fall is rather over 500 ft., and that from Salisbury about 140 ft. The river is of no commercial value for navigation. It abounds in loach, and there are valuable salmon fisheries. The drainage area is 1132 sq. m.

2. The Lower or Bristol Avon rises on the eastern slope of the Cotteswold Hills in Gloucestershire, collecting the waters of several streams south of Tetbury and east of Malmesbury. It flows east and south in a wide curve, through a broad upper valley past Chippenham and Melksham, after which it turns abruptly west to Bradford-on-Avon, receives the waters of the Frome from the south, and enters the beautiful narrow valley in which lie Bath and Bristol. Below Bristol the valley becomes the Clifton Gorge, famous for its wooded cliffs and for the Clifton (*q.v.*) suspension bridge which bestrides it. The cliffs and woods have been so far disfigured by quarries that public feeling was aroused, and in 1904 an "Avon Gorge Committee" was appointed to report to the corporation of Bristol on the possibility of preserving the beauties of the locality. The Avon finally enters the estuary of the Severn at Avonmouth, though it can hardly be reckoned as a tributary of that river. From Bristol downward the river is one of the most important commercial waterways in England, as giving access to that great port. The Kennet and Avon Canal, between Reading and the Avon, follows the river closely from Bradford down to Bath, where it enters it by a descent of seven locks. The length of the river, excluding minor sinuosities, is about 75 m., the distance from Bradford to Bath being 10 m., thence to Bristol 12 m., and thence to the mouth 8 m. The total fall is between 500 and 600 ft., but it is only 235 ft. from Malmesbury. The drainage area is 891 sq. miles.

3. The Upper Avon, also called the Warwickshire, and sometimes the "Shakespeare" Avon from its associations with the poet's town of Stratford on its banks, is an eastern tributary of the Severn. It rises near Naseby in Northamptonshire, and, with a course of about 100 m. joins the Severn immediately below Tewkesbury in Gloucestershire. Its early course is south-westerly to Rugby, thereafter it runs west and south-west to Warwick, receiving the Leam on the east. Its general direction thereafter remains south-westerly, and it flows past Stratford-on-Avon, receives the Stour on the south and the Arrow on the north and thence past Evesham and Pershore to Tewkesbury. The valley is always broad, and especially from Warwick downward, through the Vale of Evesham, the scenery is very beautiful, the rich valley being flanked by the bold
[v.03 p.0067] Cotteswold Hills on the south and by the wooded slopes of the Arden district of Warwickshire on the north. The view of Warwick Castle, rising from the wooded banks of the river, is unsurpassed, and the positions of Stratford and Evesham are admirable. The river is locked, and carries a small trade up to Evesham, 28 m. from Tewkesbury; the locks from Evesham upward to Stratford (17 m.) are decayed, but the weirs, and mill-dams still higher, afford many navigable reaches to pleasure boats. The total fall of the river is about 500 ft.; from Rugby about 230 ft., and from Warwick 120 ft. The river abounds in coarse fish.

Among other occurrences of the name of Avon in Great Britain there may be noted—in England, a stream flowing south-east from Dartmoor in Devonshire to the English Channel; in South Wales, the stream which has its mouth at Aberavon in Glamorganshire; in Scotland, tributaries of the Clyde, the Spey and the Forth.

AVONIAN, in geology, the name proposed by Dr A. Vaughan in 1905 (*Q.J.G.S.* vol. lxi. p. 264) for the rocks of Lower Carboniferous age in the Avon gorge at Bristol. The Avonian stage appears to embrace precisely the same rocks and fossil-zones as the earlier designation "Dinantien" (see Carboniferous System); but its substages, being founded upon different local conditions and a different interpretation of the zonal fossils, do not correspond exactly with those of the French and Belgian geologists.



The upper Avonian (Kidwellian) is well developed about Kidwelly in Carmarthenshire. The lower substage (Clevedonian) is well displayed near Clevedon in Somerset.

See A. Vaughan, "The Carboniferous Limestone Series (Avonian) of the Avon Gorge," *Proc. Bristol Naturalists' Soc.*, 4th series, vol. i. pt. 2, 1906, pp. 74-168 (many plates); and T. F. Sibley, "On the Carboniferous Limestone (Avonian) of the Mendip area (Somerset)," *Q.J.G.S.* vol. lxii., 1906, pp. 324-380 (plates).

(J. A. H.)

AVONMORE, BARRY YELVERTON, 1st Viscount (1736-1805), Irish judge, was born in 1736. He was the eldest son of Frank Yelverton of Blackwater, Co. Cork. Educated at Trinity College, Dublin, he was for some years an assistant master under Andrew Buck in the Hibernian Academy. In 1761 he married Miss Mary Nugent, a lady of some fortune, and was then enabled to read for the bar. He was called in 1764, his success was rapid, and he took silk eight years afterwards. He sat in the Irish parliament as member successively for the boroughs of Donegal and Carrickfergus, becoming attorney-general in 1782, but was elevated to the bench as chief baron of the exchequer in 1783. He was created (Irish) Baron Avonmore in 1795, and in 1800 (Irish) viscount. Among his colleagues at the Irish bar Yelverton was a popular and charming companion. Of insignificant appearance, he owed his early successes to his remarkable eloquence, which made a great impression on his contemporaries; as a judge, he was inclined to take the view of the advocate rather than that of the impartial lawyer. He gave his support to Grattan and the Whigs during the greater part of his parliamentary career, but in his latter days became identified with the court party and voted for the union, for which his viscounty was a reward. He had three sons and one daughter, and the title has descended in the family.

AVRANCHES, a town of north-western France, capital of an arrondissement in the department of Manche, 87 m. S. of Cherbourg on the Western railway. Pop. (1906) 7186. It stands on a wooded hill, its botanical gardens commanding a fine view westward of the bay and rock of St Michel. At the foot of the hill flows the river Sée, which at high tide is navigable from the sea. The town is surrounded by avenues, which occupy the site of the ancient ramparts, remains of which are to be seen on the north side. Avranches was from 511 to 1790 a bishop's see, held at the end of the 17th century by the scholar Daniel Huet; and its cathedral, destroyed as insecure in the time of the first French Revolution, was the finest in Normandy. Its site is now occupied by an open square, one stone remaining to mark the spot where Henry II. of England received absolution for the murder of Thomas Becket. The churches of Notre-Dame des Champs and St Saturnin are modern buildings in the Gothic style. The ancient episcopal palace is now used as a court of justice; a public library is kept in the hôtel de ville. In the public gardens there is a statue of General Jean Marie Valhubert, killed at Austerlitz. Avranches is seat of a sub-prefect and has a tribunal of first instance and a communal college. Leather-dressing is the chief industry; steam-sawing, brewing and dyeing are also carried on, and horticulture flourishes in the environs. Trade is in cider, cattle, butter, flowers and fruit, and there are salmon and other fisheries.

Avranches, an important military station of the Romans, was in the middle ages chief place of a county of the duchy of Normandy. It sustained several sieges, the most noteworthy of which, in 1591, was the result of its opposition to Henry IV. In 1639 Avranches was the focus of the peasant revolt against the salt-tax, known as the revolt of the Nu-pieds.

AWADIA and **FADNIA,** two small nomad tribes of pure Arab blood living in the Bayuda desert, Anglo-Egyptian Sudan, between the wells of Jakdul and Metemma. They are often incorrectly classed as Ja'alin. They own numbers of horses and cattle, the former of the black Dongola breed. At the battle of Abu Klea (17th of January 1885) they were conspicuous for their courage in riding against the British square.

See *Anglo-Egyptian Sudan*, edited by Count Gleichen (London, 1905).

AWAJI, an island belonging to Japan, situated at the eastern entrance of the Inland Sea, having a length of 32 m., an extreme breadth of 16 m., and an area of 218 sq. m., with a population of about 190,000. It is separated on the south from the island of Shikoku by the Naruto channel, through which, in certain conditions of the tide, a remarkable torrential current is set up. The island is celebrated for its exquisite scenery, and also for the fact that it is traditionally reputed to have been the first of the Japanese islands created by the deities Izanagi and Izanami. The loftiest peak is Yuruuba-yama (1998 ft.), the most picturesque Sen-zan (1519 ft.). Awaji is noted for a peculiar manufacture of pottery.

AWARD (from O. Fr. *ewart*, or *esguart*, cf. "reward"), the decision of an arbitrator. (See Arbitration.)

AWE, LOCH, the longest freshwater lake in Scotland, situated in mid-Argyllshire, 116 ft. above the sea, with an area of nearly 16 sq. m. It has a N.E. to S.W. direction and is fully 23 m. long from Kilchurn Castle to Ford, its breadth varying from ⅓ of a mile to 3 m. at its upper end, where it takes the shape of a crescent, one arm of which runs towards Glen Orchy, the other to the point where the river Awe leaves the lake. The two ends of the loch are wholly dissimilar in character, the scenery of the upper extremity being majestic, while that of the lower half is pastoral and tame. Of its numerous islands the best-known is Inishail, containing ruins of a church and convent, which was suppressed at the Reformation. At the extreme north-eastern end of the lake, on an islet which, when the water is low, becomes part of the mainland, stand the imposing ruins of Kilchurn Castle. Its romantic surroundings have made this castle a favourite subject of the landscape painter. Dalmally, about 2 m. from the loch, is one of the pleasantest villages in the Highlands and has a great vogue in midsummer. The river Awe, issuing from the north-western horn of the loch, affords excellent trout and salmon fishing.

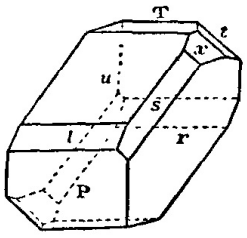
AWL (O. Eng. *ael*; at one time spelt *nawl* by a confusion with the indefinite article before it), a small hand-tool for piercing holes.

AXE (O. Eng. *aex*; a word common, in different forms, in the Teutonic languages, and akin to the Greek ἀξίνη; the *New English Dictionary* prefers the spelling "ax"), a tool or weapon, taking various shapes, but, when not compounded with some distinguishing word (*e.g.* in "pick-axe"), generally formed by an edged head fixed upon a handle for striking. A "hatchet" is a small sort of axe.

[v.03 p.0068]

AXHOLME, an island in the north-west part of Lincolnshire, England, lying between the rivers Trent, Idle and Don, and isolated by drainage channels connected with these rivers. It consists mainly of a plateau of slight elevation, rarely exceeding 100 ft., and comprises the parishes of Althorpe, Belton, Epworth, Haxey, Luddington, Owston and Crowle; the total area being about 47,000 acres. At a very early period it would appear to have been covered with forest; but this having been in great measure destroyed, it became in great part a swamp. In 1627 King Charles I., who was lord of the island, entered into a contract with Cornelius Vermuyden, a Dutchman, for reclaiming the meres and marshes, and rendering them fit for tillage. This undertaking led to the introduction of a large number of Flemish workmen, who settled in the district, and, in spite of the violent measures adopted by the English peasantry to expel them, retained their ground in sufficient numbers to affect the physical appearance and the accent of the inhabitants to this day. The principal towns in the isle are Crowle (pop. 2769) and Epworth. The Axholme joint light railway runs north and south through the isle, connecting Goole with Haxey junction; and the Great Northern, Great Eastern and Great Central lines also afford communications. The land is extremely fertile. The name, properly Axeyholm (cf. Haxey), is hybrid, *Ax* being the Celtic *uisg*, water; *ey* the Anglo-Saxon for island; and *holm* the Norse word with the same signification.

AXILE, or Axial, a term (= related to the axis) used technically in science; in botany an embryo is called axile when it has the same direction as the axis of the seed.



AXINITE, a mineral consisting of a complex aluminium and calcium boro-silicate with a small amount of basic hydrogen; the calcium is partly replaced in varying amounts by ferrous iron and manganese, and the aluminium by ferric iron: the formula is $HCa_3BAl_2(SiO_4)_4$. The mineral was named (from ἀξίνη, an axe) by R. J. Haüy in 1799, on account of the characteristic thin wedge-like form of its anorthic crystals. The colour is usually clove-brown, but rarely it has a violet tinge (on this account the mineral was named yanolite, meaning violet stone, by J. C. Delamétherie in 1792). The best specimens are afforded by the beautifully developed transparent glassy crystals, found with albite, prehnite and quartz, in a zone of amphibolite and chlorite-schists at Le Bourg d'Oisans in Dauphiné. It is found in the greenstone and hornblende-schists of Batallack Head near St Just in Cornwall, and in diabase in the Harz; and small ones in Maine and in Northampton county, Pennsylvania, U.S.A. Large crystals have also been found in Japan. In its occurrence in basic rather than in acid eruptive rocks, axinite differs from the boro-silicate tourmaline, which is usually found in granite. The specific gravity is 3.28. The hardness of 6½-7, combined with the colour and transparency, renders axinite applicable for use as a gemstone, the Dauphiné crystals being occasionally cut for this purpose.

(L. J. S.)

AXIOM (Gr. ἀξίωμα), a general proposition or principle accepted as self-evident, either absolutely or within a particular sphere of thought. Each special science has its own axioms (cf. the Aristotelian ἀρχαί, "first principles") which, however, are sometimes susceptible of proof in another wider science. The Greek word was probably confined by Plato to mathematical axioms, but Aristotle (*Anal. Post.* i. 2) gave it also the wider significance of the ultimate principles of thought which are behind all special sciences (*e.g.* the principle of contradiction). These are apprehended solely by the mind, which may, however, be led to them by an inductive process. After Aristotle, the term was used by the Stoics and the school of Ramus for a proposition simply, and Bacon (*Nov. Organ.* i. 7) used it of any general proposition. The word was reintroduced in modern philosophy probably by René Descartes (or by his followers) who, in the search for a definite self-evident principle as the basis of a new philosophy, naturally turned to the familiar science of mathematics. The axiom of Cartesianism is, therefore, the *Cogito ergo sum*. Kant still further narrowed the meaning to include only self-evident (intuitive) synthetic propositions, *i.e.* of

space and time. The nature of axiomatic certainty is part of the fundamental problem of logic and metaphysics. Those who deny the possibility of all non-empirical knowledge naturally hold that every axiom is ultimately based on observation. For the Euclidian axioms see GEOMETRY.

AXIS (Lat. for "axle"), a word having the same meaning as axle, and also used with many extensions of this primary meaning. It denotes the imaginary line about which a body or system of bodies rotates, or a line about which a body or action is symmetrically disposed. In geometry, and in geometrical crystallography, the term denotes a line which serves to aid the orientation of a figure. In anatomy, it is, among other uses, applied to the second cervical vertebra, and in botany it means the stem.

AXLE (in Mid. Eng. *axel-tre*, from O. Norweg. *öxull-tre*, cognate with the O. Eng. *æxe* or *eaxe*, and connected with Sansk. *áksha*, Gr. ἄξων, and Lat. *axis*), the pin or spindle on which a wheel turns. In carriages the axle-tree is the bar on which the wheels are mounted, the axles being strictly its thinner rounded prolongations on which they actually turn. The pins which pass through the ends of the axles and keep the wheels from slipping off are known as axle-pins or "linch-pins," "linch" being a corruption, due to confusion with "link," of the Old English word for "axle," *lynis*, cf. Ger. *Lünse*.

AX-LES-THERMES, a watering place of south-western France, in the department of Ariège, at the confluence of the Ariège with three tributaries, 26 m. S.S.E. of Foix by rail. Pop. (1906) 1179. Ax (Aquae), situated at a height of 2300 ft., is well known for its warm sulphur springs (77°-172° F.), of which there are about sixty. The waters, which were used by the Romans, are efficacious in the treatment of rheumatism, skin diseases and other maladies.

AXMINSTER, a market-town in the Honiton parliamentary division of Devonshire, England, on the river Axe, 27 m. E. by N. of Exeter by the London & South-Western railway. Pop. (1901) 2906. The minster, dedicated to St Mary the Virgin, illustrates every style of architecture from Norman to Perpendicular. There are in the chancel two freestone effigies, perhaps of the 14th century, besides three sedilia, and a piscina under arches. Axminster was long celebrated for the admirable quality of its carpets, which were woven by hand, like tapestry. Their manufacture was established in 1755. Their name is preserved, but since the seat of this industry was removed to Wilton near Salisbury, the inhabitants of Axminster have found employment in brush factories, corn mills, timber yards and an iron foundry. Cloth, drugget, cotton, leather, gloves and tapes are also made. Coaxdon House, the birthplace in 1602 of Sir Symonds d'Ewes, the Puritan historian, is about 2 m. distant, and was formerly known as St Calyst.

Axminster (Axemystre) derives its name from the river Axe and from the old abbey church or minster said to have been built by King Æthelstan. The situation of Axminster at the intersection of the two great ancient roads, Iknield Street and the Fosse Way, and also the numerous earthworks and hill-fortresses in the neighbourhood indicate a very early settlement. There is a tradition that the battle of Brunanburh was fought in the valley of the Axe, and that the bodies of the Danish princes who perished in action were buried in Axminster church. According to Domesday, Axminster was held by the king. In 1246 Reginald de Mohun, then lord of the manor, founded a Cistercian abbey at Newenham within the parish of Axminster, granting it a Saturday market and a fair on Midsummer day, and the next year made over to the monks from Beaulieu the manor and hundred of Axminster. The abbey was dissolved in 1539. The midsummer fair established by Reginald de Mohun is still held.

See *Victoria County History—Devon*; James Davidson, *British and Roman Remains in the Vicinity of Axminster* (London, 1833).

[v.03 p.0069]

AXOLOTL, the Mexican name given to larvae salamanders of the genus *Amblystoma*. It required the extraordinary acumen of the great Cuvier at once to recognize, when the first specimens of the *Gyrinus edulis* or *Axolotl* of Mexico were brought to him by Humboldt in the beginning of the 19th century, that these Batrachians were not really related to the Perennibranchiates, such as *Siren* and *Proteus*, with which he was well acquainted, but represented the larval form of some air-breathing salamander. Little heed was paid to his opinion by most systematists, and when, more than half a century later, the axolotl was found to breed in its branchiferous condition, the question seemed to be settled once for all against him, and the genus *Siredon*, as it was called by J. Wagler, was unanimously maintained and placed among the permanent gill-breathers.

It seemed impossible to admit that an animal which lives for years without losing its gills, and is able to propagate in that state, could be anything but a perfect form. And yet subsequent discoveries, which followed in rapid succession, have established that *Siredon* is but the larval form of the salamander *Amblystoma*, a genus long known from various parts of North America; and Cuvier's conclusions now read much better than they did half a century after they were published. Before reviewing the history of these discoveries, it is desirable to say a few words of the characters of the axolotl (larval form) and of the *Amblystoma* (perfect or imago form).

The axolotl has been known to the Mexicans from the remotest times, as an article of food regularly brought from neighbouring lakes to the Mexico market, its flesh being agreeable and wholesome. Francisco Hernandez (1514-1578) has alluded to it as *Gyrinus edulis* or *atolocatl*, and as *lusus aquarum*, *piscis ludicrus*, or *axolotl*, which latter name has remained in use, in Mexico and elsewhere, to the present day. But for its large size—it grows to a length of eleven inches—it is a nearly exact image of the British newt larvae. It has the same moderately long, plump body, with a low dorsal crest, the continuation of the membrane bordering the strongly compressed tail; a large thick head with small eyes without lids and with a large pendent upper lip; two pairs

of well-developed limbs, with free digits; and above all, as the most characteristic feature, three large appendages on each side of the back of the head, fringed with filaments which, in their fullest development, remind one of black ostrich feathers. These are the external gills, through which the animal breathes the oxygen dissolved in the water. The jaws are provided with small teeth in several rows, and there is an elongate patch of further teeth on each side of the front of the palate (inserted on the vomerine and palatine bones). The colour is blackish, or of a dark olive-grey or brownish grey with round black spots or dots.

The genus *Amblystoma* was established by J. J. Tschudi in 1838 for various salamanders from North America, which had previously been described as *Lacerta* or *Salamandra*, and which, so far as general appearance is concerned, differ little from the European salamanders. The body is smooth and shiny, with vertical grooves on the sides, the tail is but feebly compressed, the eye is moderately large and provided with movable lids, and the upper lip is nearly straight. But the dentition of the palate is very different; the small teeth, which are in a single row, as in the jaws, form a long transverse, continuous or interrupted series behind the inner nares or choanae. The animal leaves the water after completing its metamorphosis, the last stage of which is marked by the loss of the gills. One of the largest and most widely distributed species of this genus, which includes about twenty, is the *Amblystoma tigrinum*, an inhabitant of both the east and west of the United States and of a considerable part of the cooler parts of Mexico. It varies much in colour, but it may be described as usually brown or blackish, with more or less numerous yellow spots, sometimes arranged in transverse bands. It rarely exceeds a length of nine inches. This is the *Amblystoma* into which the axolotl has been ascertained to transform. It is generally admitted that the axolotls which were kept alive in Europe and were particularly abundant between 1870 and 1880 are all the descendants of a stock bred in Paris and distributed chiefly by dealers, originally, we believe, by the late P. Carbonnier. Close in-breeding without the infusion of new blood is probably the cause of the decrease in their numbers at the present day, specimens being more difficult to procure and fetching much higher prices than they did formerly, at least in England and in France.

The original axolotls, from the vicinity of Mexico City, it is believed, arrived at the Jardin d'Acclimatation, Paris, late in 1863. They were thirty-four in number, among which was an albino, and had been sent to that institution, together with a few other animals, by order of Marshal Forey, who was appointed commander-in-chief of the French expeditionary force to Mexico after the defeat of General Lorencez at Puebla (May 5th, 1862), and returned to France at the end of 1863, after having handed over the command to Marshal (then General) Bazaine. Six specimens (five males and one female) were given by the Société d'Acclimatation to Professor A. Duméril, the administrator of the reptile collection of the Jardin des Plantes, the living specimens of which were at that time housed in a very miserable structure, situated at a short distance from the comparatively sumptuous building which was erected some years later and opened to the public in 1874. Soon after their arrival at the Jardin d'Acclimatation, some of the axolotls spawned, but the eggs, not having been removed from the aquarium, were devoured by its occupants. At the same time, in the Jardin des Plantes, the single female axolotl also spawned, twice in succession, and a large number of young were successfully reared. This, it then seemed, solved the often-discussed question of the perennibranchiate nature of these Batrachians. But a year later, the second generation having reached sexual maturity, new broods were produced, and out of these some individuals lost their gills and dorsal crest, developed movable eyelids, changed their dentition, and assumed yellow spots,—in fact, took on all the characters of *Amblystoma tigrinum*. However, these transformed salamanders, of which twenty-nine were obtained from 1865 to 1870, did not breed, although their branchiate brethren continued to do so very freely. It was not until 1876 that the axolotl in its *Amblystoma* state, offspring of several generations of perennibranchiates, was first observed to spawn, and this again took place in the reptile house of the Jardin des Plantes, as reported by Professor E. Blanchard.

The original six specimens received in 1864 at the Jardin des Plantes, which had been carefully kept apart from their progeny, remained in the branchiate condition, and bred eleven times from 1865 to 1868, and, after a period of two years' rest, again in 1870. According to the report of Aug. Duméril, they and their offspring gave birth to 9000 or 10,000 larvae during that period. So numerous were the axolotls that the Paris Museum was able to distribute to other institutions, as well as to dealers and private individuals, over a thousand examples, which found their way to all parts of Europe, and numberless specimens have been kept in England from 1866 to the present day. The first specimens exhibited in the London Zoological Gardens, in August 1864, were probably part of the original stock received from Mexico by the Société d'Acclimatation but do not appear to have bred.

"White" axolotls, albinos of a pale flesh colour, with beautiful red gills, have also been kept in great numbers in England and on the continent. They are said to be all descendants of one albino male specimen received in the Paris Museum menagerie in 1866, which, paired with normal specimens in 1867 and 1868, produced numerous white offspring, which by selection have been fixed as a permanent race, without, according to L. Vaillant, showing any tendency to reversion. We are not aware of any but two of these albinos having ever turned into the perfect *Amblystoma* form, as happened in Paris in 1870, the albinism being retained.

Thus we see that in our aquariums most of the axolotls remain in the branchiate condition, transformed individuals being on the whole very exceptional. Now it has been stated that in the lakes near Mexico City, where it was first discovered, the axolotl *never* transforms into an *Amblystoma*. This the present writer is inclined to doubt, considering that he has received

examples of the normal *Amblystoma tigrinum* from various parts of Mexico, and that Alfred Dugès has described an *Amblystoma* from mountains near Mexico City; at the same time he feels very suspicious of the various statements to that effect which have appeared in so many works, and rather disposed to make light of the ingenious theories launched by biological speculators who have never set foot in Mexico, especially Weismann's picture of the dismal condition of the salt-incrusted surroundings which were supposed to have hemmed in the axolotl—the brackish Lago de Texcoco, the largest of the lakes near Mexico, being evidently in the philosopher's mind.

[v.03 p.0070]

Thanks to the enthusiasm of H. Gadow during his visit to Mexico in the summer of 1902, we are now better informed on the conditions under which the axolotl lives near Mexico City. First, he ascertained that there are no axolotls at all in the Lago de Texcoco, thus disposing at once of the Weismannian explanation; secondly, he confirmed A. Dugès's statement that there is a second species of *Amblystoma*, which is normal in its metamorphosis, near Mexico but at a higher altitude, which may explain Velasco's observation that regularly transforming *Amblystomas* occur near that city; and thirdly, he made a careful examination of the two lakes, Chalco and Xochimilco, where the axolotls occur in abundance and are procured for the market. The following is an abstract of Gadow's very interesting account. "Lakes Chalco and Xochimilco are a paradise, situated about 10 ft. higher than the Texcoco Lake and separated from it by several hills. High mountains slope down to the southern shores, with a belt of fertile pastures, with shrubs and trees and little streams, here and there with rocks and ravines. In fact, there are thousands of inviting opportunities for newts to leave the lake if they wanted to do so. Lake Xochimilco contains powerful springs, but away from them the water appears dark and muddy, full of suspended fresh and decomposing vegetable matter, teeming with fish, larvae of insects, *Daphniae*, worms and axolotl. These breed in the beginning of February. The native fishermen know all about them; how the eggs are fastened to the water plants, how soon after the little larvae swarm about in thousands, how fast they grow, until by the month of June they are all grown into big, fat creatures ready for the market; later in the summer the axolotls are said to take to the rushes, in the autumn they become scarce, but none have ever been known to leave the water or to metamorphose, nor are any perfect *Amblystomas* found in the vicinity of the two lakes."

In Gadow's opinion, the reason why there are only perennibranchiate axolotls in these lakes is obvious. The constant abundance of food, stable amount of water, innumerable hiding-places in the mud, under the banks, amongst the reeds and roots of the floating islands which are scattered all over them,—all these points are inducements or attractions so great that the creatures remain in their paradise and consequently retain all those larval features which are not directly connected with sexual maturity. There is nothing whatever to prevent them from leaving these lakes, but there is also nothing to induce them to do so. The same applies occasionally to European larvae, as in the case observed in the Italian Alps by F. de Filippi. Nevertheless, in the axolotl the latent tendency can still be revived, as we have seen above and as is proved by the experiments of Marie von Chauvin. When once sexually ripe the axolotl are apparently incapable of changing, but their ancestral course of evolution is still latent in them, and will, if favoured by circumstances, reappear in following generations.

Bibliography.—G. Cuvier, *Mém. Instit. Nation.* (1807), p. 149, and in A. Humboldt and A. Bompland, *Observ. zool.* i. (1811), p. 93; L. Calori, *Mem. Acc. Bologna*, iii. (1851), p. 269; A. Duméril, *Comptes rendus*, lx. (1865), p. 765, and *N. Arch. Mus.* ii. (1866), p. 265; E. Blanchard, *Comptes rendus*, lxxxii. (1876), p. 716; A. Weismann, *Z. wiss. Zool.* xxv. (Suppl. 1875), p. 297; M. von Chauvin, *Z. wiss. Zool.* xxvii. (1876), p. 522; F. de Filippi, *Arch. p. la zool.* i. (1862), p. 206; G. Hahn, *Rev. Quest. Sci.* Brussels (2), i. (1892), p. 178; H. Gadow, *Nature*, lxvii. (1903), p. 330.

(G. A. B.)

AXUM, or Aksum, an ancient city in the province of Tigré, Abyssinia (14° 7′ 52″ N., 38° 31′ 10″ E.; altitude, 7226 ft), 12 m. W. by S. of Adowa. Many European travellers have given descriptions of its monuments, though none of them has stayed there more than a few days. The name, written Aksm and Aksum in the Sabaean and Ethiopic inscriptions in the place, is found in classical and early Christian writers in the forms of Auxome, Axumis, Axume, &c., the first mention being in the *Periplus Maris Erythraei* (c. A.D. 67), where it is said to be the seat of a kingdom, and the emporium for the ivory brought from the west. For the history of this kingdom see Ethiopia. J. T. Bent conjectured that the seat of government was transferred to Axum from Jeha, which he identified with the ancient Ava; and according to a document quoted by Achille Raffray the third Christian monarch transferred it from Axum to Lalibela. This second transference probably took place very much later; in spite of it, the custom of crowning Abyssinian kings at Axum continued, and King John was crowned there as late as 1871 or 1872. A. B. Wylde conjectures that it had become unsuitable for a royal seat by having acquired the status of a sacred city, and thus affording sanctuary to criminals and political offenders within the chief church and a considerable area round it, where there are various houses in which such persons can be lodged and entertained. This same sanctity makes it serve as a depository for goods of all sorts in times of danger, the chief church forming a sort of bank. The present town, containing less than a thousand houses, is supposed to occupy only a small portion of the area covered by the ancient city; it lies in a kloof or valley, but the old town must have been built on the western ridge rather than in the valley, as the traces of well-dressed stones are more numerous there than elsewhere.

Most of the antiquities of Axum still await excavation; those that have been described consist mainly of obelisks, of which about fifty are still standing, while many more are fallen. They form a consecutive series from rude unhewn stones to highly finished obelisks, of which the tallest still

erect is 60 ft. in height, with 8 ft. 7 in. extreme front width; others that are fallen may have been taller. The highly finished monoliths are all representations of a many-storeyed castle, with an altar at the base of each. They appear to be connected with Semitic sun-worship, and are assigned by Bent to the same period as the temple at Baalbek, though some antiquarians would place them much earlier; the representation of a castle in a single stone seems to bear some relation to the idea worked out in the monolith churches of Lalibela described by Raffray. The fall of many of the monuments, according to Bent, was caused by the washing away of the foundations by the stream called Mai Shum, and indeed the native tradition states that "Gudert, queen of the Amhara," when she visited Axum, destroyed the chief obelisk in this way by digging a trench from the river to its foundation. Others attribute it to religious fanaticism, or to the result of some barbaric invasion, such as Axum may have repeatedly endured before it was sacked by Mahommed Gran, sultan of Harrar, about 1535.

LITERATURE.—Classical references to Axum are collected by Pietschmann in Pauly's *Realencyclopädie* (2nd ed.); for the history as derived from the inscriptions see D. H. Müller, Appendix to J. T. Bent's *Sacred City of the Ethiopians* (London, 1893), and E. Glaser, *Die Abessinier in Arabien* (Munich, 1895). For the antiquities, Bruce's *Travels* (1790); Salt, in the *Travels of Viscount Valentia* (London, 1809), iii. 87-97 and 178-200; J. T. Bent, *l.c.*; and A. B. Wylde, *Modern Abyssinia* (London, 1901). For geology, Schimper, in the *Zeitschrift der Gesellschaft für Erdkunde* (Berlin, 1869).

(D. S. M.*)

AY, AYE. The word "aye," meaning *always* (and pronounced as in "day"; connected with Gr. ἀεί, always, and Lat. *aevum*, an age), is often spelt "ay," and the *New English Dictionary* prefers this. "Aye," meaning Yes (and pronounced almost like the word "eye"), though sometimes identified with "yea," is probably the same word etymologically, though differentiated by usage; the form "ay" for this is also common, but inconvenient; at one time it was spelt simply *I* (*e.g.* in Michael Drayton's *Idea*, 57; published in 1593).

AYACUCHO, a city and department of central Peru, formerly known as Guamanga or Huamanga, renamed from the small plain of Ayacucho (*Quichua*, "corner of death"). This lies near the village of Quinua, in an elevated valley 11,600 ft. above sea-level, where a decisive battle was fought between General Sucré and the Spanish viceroy La Serna in 1824, which resulted in the defeat of the latter and the independence of Peru. The city of Ayacucho, capital of the department of that
[v.03 p.0071] name and of the province of Guamanga, is situated on an elevated plateau, 8911 ft. above sea-level, between the western and central Cordilleras, and on the main road between Lima and Cuzco, 394 m. from the former by way of Jauja. Pop. (1896) 20,000. It has an agreeable, temperate climate, is regularly built, and has considerable commercial importance. It is the seat of a bishopric and of a superior court of justice. It is distinguished for the number of its churches and conventual establishments, although the latter have been closed. The city was founded by Pizarro in 1539 and was known as Guamanga down to 1825. It has been the scene of many notable events in the history of Peru.

The department of AYACUCHO extends across the great plateau of central Peru, between the departments of Huancavelica and Apurimac, with Cuzco on the E. and Ica on the W. Area, 18,185 sq. m.; pop. (1896) 302,469. It is divided into six provinces, and covers a broken, mountainous region, partially barren in its higher elevations but traversed by deep, warm, fertile valleys. It formed a part of the original home of the Incas and once sustained a large population. It produces Indian corn and other cereals and potatoes in the colder regions, and tropical fruits, sweet potatoes and mandioca (*Jatropha manihot*, L.) in the low tropical valleys. It is also an important mining region, having a large number of silver mines in operation. Its name was changed from Guamanga to Ayacucho by a decree of 1825.

AYAH, a Spanish word (*aya*) for children's nurse or maid, introduced by the Portuguese into India and adopted by the English to denote their native nurses.

AYALA, DON PEDRO LOPEZ DE (1332-1407), Spanish statesman, historian and poet, was born at Vittoria in 1332. He first came into prominence at the court of Peter the Cruel, whose cause he finally deserted; he greatly distinguished himself in subsequent campaigns, during which he was twice made prisoner, by the Black Prince at Nájera (1367) and by the Portuguese at Aljubarrota (1385). A favourite of Henry II. and John I. of Castile, he was made grand chancellor of the realm by Henry III. in 1398. A brave officer and an able diplomat, Ayala was one of the most cultivated Spaniards of his time, at once historian, translator and poet. Of his many works the most important are his chronicles of the four kings of Castile during whose reigns he lived; they give a generally accurate account of scenes and events, most of which he had witnessed; he also wrote a long satirical and didactic poem, interesting as a picture of his personal experiences and of contemporary morality. The first part of his chronicle, covering only the reign of Peter the Cruel, was printed at Seville in 1495; the first complete edition was printed in 1779-1780 in the collection of *Crónicas Españolas*, under the auspices of the Spanish Royal Academy of History. Ayala died at Calahorra in 1407.

See Rafael Floranes, "Vida literaria de Pedro Lopez de Ayala," in the *Documentos inéditos para la historia de España*, vols. xix. and xx.; F. W. Schirrmacher, "Über die Glaubwurdigkeit der Chronik Ayalas," in *Geschichte von Spanien* (Berlin, 1902), vol. v. pp. 510-532.

AYALA Y HERRERA, ADELARDO LOPEZ DE (1828-1879), Spanish writer and politician, was born at Guadalcanal on the 1st of May 1828, and at a very early age began writing for the theatre

of his native town. The titles of these juvenile performances, which were played by amateurs, were *Salga por donde saliere*, *Me voy á Sevilla* and *La Corona y el Puñal.* As travelling companies never visited Guadalcanal, and as ladies took no part in the representations, these three plays were written for men only. Ayala persuaded his sister to appear as the heroine of his comedy, *La primera Dama*, and the innovation, if it scandalized some of his townsmen, permitted him to develop his talent more freely. In his twentieth year he matriculated at the university of Seville, but his career as a student was undistinguished. In Seville he made acquaintance with Garcia Gutierrez, who is reported to have encouraged his dramatic ambitions and to have given him the benefit of his own experience as a playwright. Early in 1850 Ayala removed his name from the university books, and settled in Madrid with the purpose of becoming a professional dramatist. Though he had no friends and no influence, he speedily found an opening. A four-act play in verse, *Un Hombre de Estado*, was accepted by the managers of the Teatro Español, was given on the 25th of January 1851, and proved a remarkable success. Henceforward Ayala's position and popularity were secure. Within a twelvemonth he became more widely known by his *Castigo y Perdón*, and by a more humorous effort, *Los dos Guzmanes*; and shortly afterwards he was appointed by the *Moderado* government to a post in the home office, which he lost in 1854 on the accession to power of the Liberal party. In 1854 he produced *Rioja*, perhaps the most admired and the most admirable of all his works, and from 1854 to 1856 he took an active part in the political campaign carried on in the journal *El Padre Cobos*. A *zarzuela*, entitled *Guerta a muerte*, for which Emilio Arrieta composed the music, belongs to 1855, and to the same collaboration is due *El Agente de Matrimonios*. At about this date Ayala passed over from the Moderates to the Progressives, and this political manœuvre had its effect upon the fate of his plays. The performances of *Los Comuneros* were attended by members of the different parties; the utterances of the different characters were taken to represent the author's personal opinions, and every speech which could be brought into connexion with current politics was applauded by one half of the house and derided by the other half. A *zarzuela*, named *El Conde de Castralla*, was given amid much uproar on the 20th of February 1856, and, as the piece seemed likely to cause serious disorder in the theatre, it was suppressed by the government after the third performance. Ayala's rupture with the Moderates was now complete, and in 1857, through the interest of O'Donnell, he was elected as Liberal deputy for Badajoz. His political changes are difficult to follow, or to explain, and they have been unsparingly censured. So far as can be judged, Ayala had no strong political views, and drifted with the current of the moment. He took part in the revolution of 1868, wrote the "Manifesto of Cadiz," took office as colonial minister, favoured the candidature of the duc de Montpensier, resigned in 1871, returned to his early Conservative principles, and was a member of Alfonso XII.'s first cabinet. Meanwhile, however divided in opinion as to his political conduct, his countrymen were practically unanimous in admiring his dramatic work; and his reputation, if it gained little by *El Nuevo Don Juan*, was greatly increased by *El Tanto por Ciento* and *El Tejado de Vidrio*. His last play, *Consuelo*, was given on the 30th of March 1878. Ayala was nominated to the post of president of congress shortly before his death, which occurred unexpectedly on the 30th of January 1879. The best of his lyrical work, excellent for finish and intense sincerity, is his *Epístola* to Emilio Arrieta, and had he chosen to dedicate himself to lyric poetry, he might possibly have ranked with the best of Spain's modern singers; as it is, he is a very considerable poet who affects the dramatic form. In his later writings he deals with modern society, its vices, ideals and perils; yet in many essentials he is a manifest disciple of Calderon. He has the familiar Calderonian limitations; the substitution of types for characters, of eloquence for vital dialogue. Nor can he equal the sublime lyrism of his model; but he is little inferior in poetic conception, in dignified idealization, and in picturesque imagery. And it may be fairly claimed for him that in *El Tejado de Vidrio* and *El Tanto par Ciento* he displays a very exceptional combination of satiric intention with romantic inspiration. By these plays and by *Rioja* and *Consuelo* he is entitled to be judged. They will at least ensure for him an honourable place in the history of the modern Spanish theatre.

A complete edition of his dramatic works, edited by his friend and rival Tamayo y Baus, has been published in seven volumes (Madrid, 1881-1885).

(J. F.-K.)

AYE-AYE, a word of uncertain signification (perhaps only an exclamation), but universally accepted as the designation of the most remarkable and aberrant of all the Malagasy lemurs (see PRIMATES). The aye-aye, *Chiromys* (or *Daubentonia*) *madagascariensis*, is an animal with a superficial resemblance to a long-haired and dusky-coloured cat with unusually large eyes. It has a broad rounded head, short face, large naked eyes, large hands, and long thin fingers with pointed claws, of which the third is remarkable for its extreme slenderness. The foot resembles that of the other lemurs in its large opposable great toe with a flat nail; but all the other toes have pointed compressed claws. Tail long and bushy. General colour dark brown, the outer fur being long and rather loose, with a woolly under-coat. Teats two, inguinal in position. The aye-aye was discovered by Pierre Sonnerat in 1780, the specimen brought to Paris by that traveller being the only one known until 1860. Since then many others have been obtained, and one lived for several years in the gardens of the Zoological Society of London. Like so many lemurs, it is completely nocturnal in its habits, living either alone or in pairs, chiefly in the bamboo forests. Observations upon captive specimens have led to the conclusion that it feeds principally on juices, especially of the sugar-cane, which it obtains by tearing open the hard woody circumference of the stalk with its strong incisor teeth; but it is said also to devour certain species of wood-boring caterpillars, which it obtains by first cutting down with its teeth upon their burrows, and then picking them out of their retreat with the claw of its attenuated middle finger. It constructs large ball-like nests of dried leaves, lodged in a fork of the branches of a

[v.03 p.0072]

large tree, and with the opening on one side.

Till recently the aye-aye was regarded as representing a family by itself—the *Chiromyidae*; but the discovery that it resembles the other lemurs of Madagascar in the structure of the inner ear, and thus differs from all other members of the group, has led to the conclusion that it is best classed as a subfamily (*Chiromyinae*) of the *Lemuridae*.

(R. L.*)

AYLESBURY, a market-town in the Aylesbury parliamentary division of Buckinghamshire, England, 38 m. N.W. by W. of London; served by the Great Central, Metropolitan and Great Western railways (which use a common station) and by a branch of the London & North-Western railway. Pop. of urban district (1901) 9243. It has connexion by a branch with the Grand Junction canal. It lies on a slight eminence in a fertile tract called the Vale of Aylesbury, which extends northward from the foot of the Chiltern Hills. Its streets are mostly narrow and irregular, but picturesque. The church of St Mary, a large cruciform building, is primarily Early English, but has numerous additions of later dates. The font is transitional Norman, a good example; and a small pre-Norman crypt remains beneath part of the church. There are some Decorated canopied tombs, and the chancel stalls are of the 15th century. The central tower is surmounted by an ornate clock-turret dating from the second half of the 17th century. The county-hall and town-hall, overlooking a broad market-place, are the principal public buildings. The grammar school was founded in 1611. Aylesbury is the assize town for the county, though Buckingham is the county town. There is a large agricultural trade, the locality being especially noted for the rearing of ducks; straw-plaiting and the manufacture of condensed milk are carried on, and there are printing works. The Jacobean mansion of Hartwell in the neighbourhood of Aylesbury was the residence of the French king Louis XVIII. during his exile (1810-1814).

Aylesbury (Æylesburge, Eilesberia, Aillesbir) was famous in Saxon times as the supposed burial-place of St Osith. In A.D. 571 it was one of the towns captured by Cuthwulf, brother of Ceawlin, king of the Saxons. At the time of the Domesday survey the king owned the manor. In 1554, by a charter from Queen Mary, bestowed as a reward for fidelity during the rebellion of the duke of Northumberland, Aylesbury was constituted a free borough corporate, with a common council consisting of a bailiff, 10 aldermen and 12 chief burgesses. The borough returned two members to parliament from this date until the Redistribution Act of 1885, but the other privileges appear to have lapsed in the reign of Elizabeth. Aylesbury evidently had a considerable market from very early times, the tolls being assessed at the time of Edward the Confessor at £25 and at the time of the Domesday survey at £10. In 1239 Henry III. made a grant to John, son of Geoffrey FitzPeter of an annual fair at the feast of St Osith (June 3rd), which was confirmed by Henry VI. in 1440. Queen Mary's charter instituted a Wednesday market and fairs at the feasts of the Annunciation and the Invention of the Holy Cross. In 1579 John Pakington obtained a grant of two annual fairs to be held on the day before Palm Sunday and on the feast of the Invention of the Holy Cross, and a Monday market for the sale of horses and other animals, grain and merchandise.

AYLESFORD, HENEAGE FINCH, 1st EARL OF (*c.* 1640-1719), 2nd son of Heneage Finch, 1st earl of Nottingham, was educated at Westminster school and at Christ Church, Oxford, where he matriculated on the 18th of November 1664. In 1673 he became a barrister of the Inner Temple; king's counsel and bencher in 1677; and in 1679, during the chancellorship of his father, was appointed solicitor-general, being returned to parliament for Oxford University, and in 1685 for Guildford. In 1682 he represented the crown in the attack upon the corporation of London, and next year in the prosecution of Lord Russell, when, according to Burnet, "and in several other trials afterwards, he showed more of a vicious eloquence in turning matters with some subtlety against the prisoners than of strict or sincere reasoning."[1] He does not, however, appear to have exceeded the duties of prosecutor for the crown as they were then understood. In 1684, in the trial of Algernon Sidney, he argued that the unpublished treatise of the accused was an overt act, and supported the opinion of Jeffreys that *scribere est agere*.[2] The same year he was counsel for James in his successful action against Titus Oates for libel, and in 1685 prosecuted Oates for the crown for perjury. Finch, however, though a Tory and a crown lawyer, was a staunch churchman, and on his refusal in 1686 to defend the royal dispensing power he was summarily dismissed by James, He was the leading counsel in June 1688 for the seven bishops, when he "strangely exposed and very boldly ran down"[3] the dispensing power, but his mistaken tactics were nearly the cause of his clients losing their case.[4] He sat again for Oxford University in the convention parliament, which constituency he represented in all the following assemblies except that of 1698, till his elevation to the peerage. He was, however, no supporter of the House of Orange, advocated a regency in James's name, and was one of the few who in the House of Commons opposed the famous vote that James had broken the contract between king and people and left the throne vacant. He held no office during William's reign, and is described by Macky as "always a great opposer" of the administration. In 1689 he joined in voting for the reversal of Lord Russell's attainder, and endeavoured to defend his conduct in the trial, but was refused a hearing by the House. He opposed the Triennial Bill of 1692, but in 1696 spoke against the bill of association and test, which was voted for the king's protection, on the ground that though William was to be obeyed as sovereign he could not be acknowledged "rightful and lawful king." In 1694 he argued against the crown in the bankers' case. In 1703 he was created baron of Guernsey and a privy councillor, and after the accession of George I. on the 19th of October 1714, earl of Aylesford, being reappointed a privy councillor and made chancellor of the duchy of

Lancaster, which office he retained till February 1716. He died on the 22nd of July 1719. According to John Macky (*Memoirs*, p. 71; published by Roxburghe Club, 1895) he was accounted "one of the greatest orators in England and a good common lawyer; a firm asserter of the prerogative of the crown and jurisdiction of the church; a tall, thin, black man, splenatick." He married Elizabeth, daughter and co-heiress of Sir John Banks of Aylesford, by whom, besides six daughters, he had three sons, of whom the eldest, Heneage, succeeded him as 2nd earl of Aylesford. The 2nd earl died in 1757, and since this date the earldom has been held by his direct descendants, six of whom in succession have borne the Christian name of Heneage.

Many of his legal arguments are printed in *State Trials* (see esp. viii. 694, 1087, ix. 625, 880, 996, x. 126, 319, 405, 1199, xii. 183, 353, 365). Wood attributes to him on the faith of common rumour the authorship of *An Antidote against Poison ... Remarks upon a Paper printed by Lady (Rachel) Russel* (1683), ascribed in *State Trials* (ix. 710) to Sir Bartholomew Shower; but see the latter's allusion to it on p. 753.

[1] *Hist. of His Own Times*, i. 556. Swift has appended a note, "an arrant rascal," but Finch's great offence with the dean was probably his advancement by George I. rather than his conduct of state trials as here described.

[2] *Ibid*. 572, and Speaker Onslow's note.

[3] N. Luttrell's *Relation*, i. 447.

[4] *State Trials*, xii. 353.

[v.03 p.0073] **AYLESFORD,** a town in the Medway parliamentary division of Kent, England, 3½ m. N.W. of Maidstone on the South-Eastern & Chatham railway. Pop. (1901) 2678. It stands at the base of a hill on the right bank of the Medway. The ancient church of St. Peter (restored in 1878) is principally Perpendicular, but contains some Norman and Decorated portions. It has interesting brasses of the 15th and 16th centuries and an early embattled tower. At a short distance west, a residence occupying part of the site, are remains of a Carmelite friary, founded here in 1240. It is claimed for this foundation (but not with certainty) that it was the first house of Carmelites established in England, and the first general chapter of the order was held here in 1245. Several remains of antiquity exist in the neighbourhood, among them a cromlech called Kit's Coty House, about a mile north-east from the village. (See Stone Monuments, Plate, fig. 2.) In accordance with tradition this has been thought to mark the burial-place of Catigern, who was slain here in a battle between the Britons and Saxons in A.D. 455; the name has also been derived from Celtic *Ked-coit*, that is, the tomb in the wood. The name of the larger group of monuments close by, called the Countless Stones, is due to the popular belief, which occurs elsewhere, that they are not to be counted. Large numbers of British coins have been found in the neighbourhood. The supposed tomb of Horsa, who fell in the same battle, is situated at Horsted, about 2 m. to the north.

AYLLON, LUCAS VASQUEZ DE (*c.* 1475-1526), Spanish adventurer and colonizer in America, was born probably in Toledo, Spain, about 1475. He accompanied Nicolas Ovando to Hispaniola (Santo Domingo) in 1502, and there became a magistrate of La Concepcion and other towns, and a member of the superior court of Hispaniola. He engaged with great profit in various commercial enterprises, became interested in a plan for the extension of the Spanish settlements to the North American mainland, and in 1521 sent Francisco Gordillo on an exploring expedition which touched on the coast of the Florida peninsula and coasted for some distance northward. Gordillo's report of the region was so favourable that Ayllon in 1523 obtained from Charles V. a rather indefinite charter giving him the right to plant colonies. He sent another reconnoitring expedition in 1525, and early in 1526 he himself set out with 500 colonists and about 100 African slaves. He touched at several places along the coast, at one time stopping long enough to replace a wrecked ship with a new one, this being considered the first instance of shipbuilding on the North American continent. Sailing northward to about latitude 33° 40′, he began the construction of a town which he called San Miguel. The exact location of this town is in dispute, some writers holding that it was on the exact spot upon which Jamestown, Va., was later built; more probably, however, as Lowery contends, it was near the mouth of the Pedee river. The employment of negro slaves here was undoubtedly the first instance of the sort in what later became the United States. The spot was unhealthy and fever carried off many of the colonists, including Ayllon himself, who died on the 18th of October 1526. After the death of their leader dissensions broke out among the colonists, some of the slaves rebelled and escaped into the forest, and in December the town was abandoned and the remnant of the colonists embarked for Hispaniola, less than 150 arriving in safety.

See Woodbury Lowery, *Spanish Settlements within the Present Limits of the United States* (2 vols., New York, 1903-1905).

AYLMER, JOHN (1521-1594), English divine, was born in the year 1521 at Aylmer Hall, Tivetshall St Mary, Norfolk. While still a boy, his precocity was noticed by Henry Grey, marquis of Dorset, afterwards duke of Suffolk, who sent him to Cambridge, where he seems to have become a fellow of Queens' College. About 1541 he was made chaplain to the duke, and tutor to his daughter, Lady Jane Grey. His first preferment was to the archdeaconry of Stow, in the diocese of Lincoln, but his opposition in convocation to the doctrine of transubstantiation led to his deprivation and to his flight into Switzerland. While there he wrote a reply to John Knox's famous *Blast against the Monstrous Regiment of Women*, under the title of *An Harborowe for Faithfull and Trewe Subjects, &c.*, and assisted John Foxe in translating the *Acts of the Martyrs*

into Latin. On the accession of Elizabeth he returned to England. In 1559 he resumed the Stow archdeaconry, and in 1562 he obtained that of Lincoln. He was a member of the famous convocation of 1562, which reformed and settled the doctrine and discipline of the Church of England. In 1576 he was consecrated bishop of London, and while in that position made himself notorious by his harsh treatment of all who differed from him on ecclesiastical questions, whether Puritan or Papist. Various efforts were made to remove him to another see. He is frequently assailed in the famous *Marprelate Tracts*, and is characterized as "Morrell," the bad shepherd, in Spenser's *Shepheard's Calendar* (July). His reputation as a scholar hardly balances his inadequacy as a bishop in the transition time in which he lived. He died in June 1594. His Life was written by John Strype (1701).

AYMARA (anc. *Colla*), a tribe of South American Indians, formerly inhabiting the country around Lake Titicaca and the neighbouring valleys of the Andes. They form now the chief ethnical element in Bolivia, but are of very mixed blood. In early days the home of the Aymaras by Lake Titicaca was a "holy land" for the Incas themselves, whose national legends attributed the origin of all Quichua (Inca) civilization to that region. The Aymaras, indeed, seem to have possessed a very considerable culture before their conquest by the Incas in the 13th and 14th centuries, evidence of which remains in the megalithic ruins of Tiahuanaco. When the Spaniards arrived the Aymaras had been long under the Inca domination, and were in a decadent state. They, however, retained certain privileges, such as the use of their own language; and their treatment by their conquerors generally suggested that the latter believed themselves of Aymara blood. Physically, the pure Aymara is short and thick-set, with a great chest development, and with the same reddish complexion, broad face, black eyes and rounded forehead which distinguish the Quichuas. Like the latter, too, the Aymaras are sullen and apathetic in disposition. They number now, including half-breeds, about half a million in Bolivia. Some few are also found in southern Peru.

See *Journal Ethnol. Society* (1870), "The Aymara Indians of Bolivia and Peru."

AYMER, or ÆTHELMAR, **OF VALENCE** (d. 1260), bishop of Winchester, was a half-brother of Henry III. His mother was Isabelle of Angoulême, the second wife of King John, his father was Hugo of Lusignan, the count of La Marche, whom Isabelle married in 1220. The children of this marriage came to England in 1247 in the hope of obtaining court preferment. In 1250 the king, by putting strong pressure upon the electors, succeeded in obtaining the see of Winchester for Aymer. The appointment was in every way unsuitable. Aymer was illiterate, ignorant of the English language, and wholly secular in his mode of life. Upon his head was concentrated the whole of the popular indignation against the foreign favourites; and he seems to have deserved this unenviable distinction. At the parliament of Oxford (1258) he and his brothers repudiated the new constitution prepared by the barons. He was pursued to Winchester, besieged in Wolvesey castle, and finally compelled to surrender and leave the kingdom. He had never been consecrated; accordingly in 1259 the chapter of Winchester proceeded to a new election. Aymer, however, gained the support of the pope; he was on his way back to England when he was overtaken by a fatal illness at Paris.

See W. Stubbs' *Constitutional History*, vol. ii. (1896); G. W. Prothero's *Simon de Montfort* (1877); W. H. Blaauw's *Barons' War* (1871).

AYMESTRY LIMESTONE, an inconstant limestone which occurs locally in the Ludlow series of Silurian rocks, between the Upper and Lower Ludlow shales. It derives its name from Aymestry in Herefordshire, where it may be seen on both sides of the river Lugg. It is well developed in the neighbourhood of Ludlow (it is sometimes called the Ludlow limestone) and occupies a similar
[v.03 p.0074] position in the Ludlow shales at Woolhope, the Abberley Hills, May Hill and the Malvern Hills. In lithological character it varies greatly; in one place it is a dark grey, somewhat crystalline limestone, elsewhere it passes into a flaggy, earthy or shaly condition, or even into a mere layer of nodules. When well developed it may reach 50 ft. in thickness in beds of from 1 to 5 ft.; in this condition it naturally forms a conspicuous feature in the landscape because it stands out by its superior hardness from the soft shales above and below.

The most common fossil is *Pentamerus Knightii*, which is extremely abundant in places. Other brachiopods, corals and trilobites are present, and are similar to those found in the Wenlock limestone. (See SILURIAN.)

AYR, a royal, municipal and police burgh and seaport, and county town of Ayrshire, Scotland, at the mouth of the river Ayr, 41½ m. S.S.W. of Glasgow by the Glasgow & South-Western railway. Pop. (1891) 24,944; (1901) 29,101. It is situated on a fine bay and its beautiful sands attract thousands of summer visitors. Ayr proper lies on the south bank of the river, which is crossed by three bridges, besides the railway viaduct—the Victoria Bridge (erected in 1898) and the famous "Twa Brigs" of Burns. The Auld Brig is said to date from the reign of Alexander III. (d. 1286). The New Brig was built in 1788, mainly owing to the efforts of Provost Ballantyne. The prophecy which Burns put into the mouth of the venerable structure came true in 1877, when the newer bridge yielded to floods and had to be rebuilt (1879); and the older structure itself was closed for public safety in 1904. The town has extended greatly on the southern side of the stream, where, in the direction of the racecourse, there are now numerous fine villas. The county buildings, designed after the temple of Isis in Rome, accommodate the circuit and provincial courts and various local authorities. The handsome town buildings, surmounted by a fine spire 226 ft. high, contain assembly and reading rooms. Of the schools the most notable is the Academy (rebuilt in 1880), which in 1764 superseded the grammar school of the burgh, which existed in the 13th

century. The Gothic Wallace Tower in High Street stands on the site of an old building of the same name taken down in 1835, from which were transferred the clock and bells of the Dungeon steeple. A niche in front is filled by a statue of the Scottish hero by James Thorn (1802-1850), a self-taught sculptor. There are statues of Burns, the 13th earl of Eglinton, General Smith Neill and Sir William Wallace. The Carnegie free library was established in 1893. The charitable institutions include the county hospital, district asylum, a deaf and dumb home, the Kyle combination poor-house, St John's refuge and industrial schools for boys and girls. The *Ayr Advertiser* first appeared on 5th of August 1803, and was the earliest newspaper published in Ayrshire. In the suburbs is a racecourse where the Western Meeting is held in September of every year. The principal manufactures include leather, carpets, woollen goods, flannels, blankets, lace, boots and shoes; and fisheries and shipbuilding are also carried on. There are several foundries, engineering establishments and saw mills. Large quantities of timber are imported from Canada and Norway; coal, iron, manufactured goods and agricultural produce are the chief exports. The harbour, with wet and slip dock, occupies both sides of the river from the New Bridge to the sea, and is protected on the south by a pier projecting some distance into the sea, and on the north by a breakwater with a commodious dry dock. There are esplanades to the south and north of the harbour. The town is governed by a provost and council, and unites with Irvine, Inveraray, Campbeltown and Oban in returning one member to parliament.

In 1873 the municipal boundary was extended northwards beyond the river so as to include Newton-upon-Ayr and Wallace Town, formerly separate. Newton is a burgh or barony of very ancient creation, the charter of which is traditionally said to have been granted by Robert Bruce in favour of forty-eight of the inhabitants who had distinguished themselves at Bannockburn. The suburb is now almost wholly occupied with manufactures, the chief of which are chemicals, boots and shoes, carpets and lace. It is on the Glasgow & South-Western railway, and has a harbour and dock from which coal and goods are the main exports. About 3 m. north of Ayr is Prestwick, a popular watering-place and the headquarters of one of the most flourishing golf clubs in Scotland. The outstanding attraction of Ayr, however, is the pleasant suburb of Alloway, 2½ m. to the south, with which there is frequent communication by electric cars. The "auld clay biggin" in which Robert Burns was born on the 25th of January 1759, has been completely repaired and is now the property of the Ayr Burns's Monument trustees. In the kitchen is the box bed in which the poet was born, and many of the articles of furniture belonged to his family. Adjoining the cottage is a museum of Burnsiana. The "auld haunted kirk," though roofless, is otherwise in a fair state of preservation, despite relic-hunters who have removed all the woodwork. In the churchyard is the grave of William Burness, the poet's father. Not far distant, on a conspicuous position close by the banks of the Doon, stands the Grecian monument to Burns, in the grounds of which is the grotto containing Thorn's figures of Tam o' Shanter and Souter Johnnie.

Nothing is known of the history of Ayr till the close of the 12th century, when it was made a royal residence, and soon afterwards a royal burgh, by William the Lion. During the wars of Scottish independence the possession of Ayr and its castle was an object of importance to both the contending parties, and the town was the scene of many of Wallace's exploits. In 1315 the Scottish parliament met in the church of St John to confirm the succession of Edward Bruce to the throne. Early in the 16th century it was a place of considerable influence and trade. The liberality of William the Lion had bestowed upon the corporation an extensive grant of lands; while in addition to the well-endowed church of St John, it had two monasteries, each possessed of a fair revenue. When Scotland was overrun by Cromwell, Ayr was selected as the site of one of the forts which he built to command the country. This fortification, termed the citadel, enclosed an area of ten or twelve acres, and included within its limits the church of St John, which was converted into a storehouse, the Protector partly indemnifying the inhabitants by contributing £150 towards the erection of a new place of worship, now known as the Old Church. A portion of the tower of St John's church remains, but has been completely modernized. The site of the fort is now nearly covered with houses, the barracks being in Fort Green.

AYRER, JAKOB (?-1605), German dramatist, of whose life little is known. He seems to have come to Nuremberg as a boy and worked his way up to the position of imperial notary. He died at Nuremberg on the 26th of March 1605. Besides a rhymed *Chronik der Stadt Bamberg* (edited by J. Heller, Bamberg, 1838), and an unpublished translation of the Psalms, Ayrer has left a large number of dramas which were printed at Nuremberg under the title *Opus Theatricum* in 1618. This collection contains thirty tragedies and comedies and thirty-six *Fastnachtsspiele* (Shrovetide plays) and *Singspiele*. As a dramatist, Ayrer is virtually the successor of Hans Sachs (*q.v.*), but he came under the influence of the so-called *Englische Komödianten*, that is, troupes of English actors, who, at the close of the 16th century and during the 17th, repeatedly visited the continent, bringing with them the repertory of the Elizabethan theatre. From those actors Ayrer learned how to enliven his dramas with sensational incidents and spectacular effects, and from them he borrowed the character of the clown. His plays, however, are in spite of his foreign models, hardly more dramatic, in the true sense of the word, than those of Hans Sachs, and they are inferior to the latter in poetic qualities. The plots of two of his comedies, *Von der schönen Phoenicia* and *Von der schönen Sidea*, were evidently drawn from the same sources as those of Shakespeare's *Much Ado about Nothing* and *Tempest*.

Ayrers Dramen, edited by A. von Keller, have been published by the Stuttgart Lit. Verein (1864-1865). See also L. Tieck, *Deutsches Theater* (1817); A. Cohn, *Shakespeare in Germany* (1885), which contains a translation of the two plays mentioned above; J. Tittmann, *Schauspiele des sechzehnten Jahrhunderts* (1888).

[v.03 p.0075]

AYRSHIRE, a south-western county of Scotland, bounded N. by Renfrewshire, E. by Lanarkshire and Dumfriesshire, S.E. by Kirkcudbrightshire, S. by Wigtownshire and W. by the Firth of Clyde. It includes off its coast the conspicuous rock of Ailsa Craig, 10 m. W. of Girvan, Lady Island, 3 m. S.W. of Troon, and Horse Island, off Ardrossan. Its area is 724,523 acres or 1142 sq. m., its coast-line being 70 m. long. In former times the shire was divided into the districts of Cunninghame (N. of the Irvine), Kyle (between the Irvine and the Boon), and Carrick (S. of the Doon), and these terms are still occasionally used. Kyle was further divided by the Ayr into King's Kyle on the north and Kyle Stewart. Robert Bruce was earl of Carrick, a title now borne by the prince of Wales. The county is politically divided into North and South Ayrshire, the former comprising Cunninghame and the latter Kyle and Carrick. The surface is generally undulating with a small mountainous tract in the north and a larger one in the south and south-east. The principal hills are Black Craig (2298 ft.), 5 m. south-east of New Cumnock; Enoch (1865 ft.), 5 m. east of Dalmellington; Polmaddie (1750 ft.) 2 m. south-east of Barr; Stake on the confines of Ayrshire and Renfrewshire, and Corsancone (1547 ft.), 3 m. north-east of New Cumnock. None of the rivers is navigable, but their varied and tranquil beauty has made them better known than many more important streams. The six most noted are the Stinchar (*c* soft), Girvan, Doon, Ayr, Irvine and Garnock. Of these the Ayr is the longest. It rises at Glenbuck, on the border of Lanarkshire, and after a course of some 38 m. falls into the Firth of Clyde at the county town which, with the county, is named from it. The scenery along its banks from Sorn downwards—passing Catrine, Ballochmyle, Barskimming, Sundrum, Auchencruive and Craigie—is remarkably picturesque. The lesser streams are numerous, but Burns's verse has given preeminence to the Afton, the Cessnock and the Lugar. There are many lochs, the largest of which is Loch Doon, 5½ m. long, the source of the river of the same name. From Loch Finlas, about 20 m. south-east of Ayr, the town derives its water-supply. The Nith rises in Ayrshire and a few miles of its early course belong to the county.

Geology.—The greater portion of the hilly region in the south of the county forms part of the Silurian tableland of the south of Scotland. Along its north margin there is a belt of elevated ground consisting mainly of Old Red Sandstone strata, while the tract of fertile low ground is chiefly occupied by younger Palaeozoic rocks. The Silurian belt stretching eastwards from the mouth of Loch Ryan to the Merrick range is composed of grits, greywackes and shales with thin leaves of black shales, containing graptolites of Upper Llandeilo age which are repeated by folding and cover a broad area. Near their northern limit Radiolarian cherts, mudstones and lavas of Arenig age rise from underneath the former along anticlines striking north-east and south-west. In the Ballantrae region there is a remarkable development of volcanic rocks—lavas, tuffs and agglomerates—of Arenig age, their horizon being defined by graptolites occurring in cherty mudstones and black shales interleaved in lavas and agglomerates. These volcanic materials are pierced by serpentine, gabbro and granite. The serpentine forms two belts running inland from near Bennane Head and from Burnfoot, being typically developed on Balhamie Hill near Colmonell. Gabbro appears on the shore north of Lendalfoot, while on the Byne and Grey Hills south of Girvan there are patches of granite and quartz-diorite which seem to pass into more basic varieties. These volcanic and plutonic rocks and Radiolarian cherts are covered unconformably by conglomerates (Bennan Hill near Straiton and Kennedy's Pass) which are associated with limestones of Upper Llandeilo age that have been wrought in the Stinchar valley and at Craighead. South of the river Girvan there is a sequence from Llandeilo—Caradoc to Llandovery—Tarannon strata, excellent sections of which are seen on the shore north of Kennedy's Pass and in Penwhapple Glen near Girvan. Llandovery strata again appear north of the Girvan at Dailly, where they form an inlier surrounded by the Old Red Sandstone and Carboniferous formations. Representatives of Wenlock rocks form a narrow belt near the village of Straiton. Some of the Silurian sediments of the Girvan province are highly fossiliferous, but the order of succession is determined by the graptolites. Near Muirkirk and in the Douglas Water there are inliers of Wenlock, Ludlow and Downtonian rocks, coming to the surface along anticlines truncated by faults and surrounded by Old Red Sandstone and Carboniferous strata. In the south-east of the county there is a part of the large granite mass that stretches from Loch Doon south to Loch Dee, giving rise to wild scenery and bounded by the high ground near the head of the Girvan Water, boulders of which have been distributed over a wide area during the glacial period. Along the northern margin of the uplands the Lower Old Red Sandstone is usually faulted against the Silurian strata, but on Hadyard Hill south of the Girvan valley they rest on the folded and denuded members of the latter system. The three divisions of this formation are well represented. The lower group of conglomerates and sandstones are well displayed on Hadyard Hill and on the tract near Maybole; the middle volcanic series on the shore south of the Heads of Ayr and from the Stinchar valley along the Old Red belt towards Dalmellington and New Cumnock; while the upper group, comprising conglomerates and sandstones, form a well-marked synclinal ford at Corsancone north-east of New Cumnock. The Upper Old Red Sandstone appears as a fringe round the south-west margin of the Carboniferous rocks of the county, and it rises from beneath them on the shore of the Firth of Clyde south of Wemyss Bay. The Carboniferous strata of the central low ground form a great basin traversed by faults, all the subdivisions of the system being represented save the Millstone Grit. Round the north and north-east margin there is a great development of volcanic rocks—lavas, tuffs and agglomerates—belonging to the Calciferous Sandstone series, and passing upwards into the Carboniferous Limestone. The lower limestones of the latter division are typically represented near Dalry and Beith, where in one instance they reach a thickness of over 100 ft. They are followed by the coal-bearing group (Edge coals of Midlothian) which have been wrought in the Dalry and Patna districts and at Dailly. The position of the Millstone Grit is occupied by lavas and tuffs, extending almost continually as a narrow fringe round the northern margin of the Coal Measures from Saltcoats by Kilmaurs to the Crawfordland Water. The workable coals of the true Coal Measures have a wide distribution from

Kilwinning by Kilmarnock to Galston and again in the districts of Coylton, Dalmellington, Lugar and Cumnock. These members are overlaid by a set of upper barren red sandstones, probably the equivalents of the red beds of Uddingston, Dalkeith and Wemyss in Fife, visible in the ravines of Lugar near Ochiltree and of Ayr at Catrine. In various parts of the Ayrshire coalfield the coal-seams are rendered useless by intrusive sheets of dolerite as near Kilmarnock and Dalmellington. In the central part of the field there is an oval-shaped area of red sandstones now grouped with the Trias, extending from near Tarbolton to Mauchline, where they are largely worked for building stone. They are underlaid by a volcanic series which forms a continuous belt between the underlying red sandstones of the Coal Measures and the overlying Trias. In the north part of the county, as near Wemyss Bay, the strata are traversed by dykes of dolerite and basalt trending in a north-west direction and probably of Tertiary age.

Agriculture.—There has been no lack of agricultural enterprise. With a moist climate, and, generally, a rather heavy soil, drainage was necessary for the successful growth of green crops. Up to about 1840, a green crop in the rotation was seldom seen, except on porous river-side land, or on the lighter farms of the lower districts. In the early part of the 19th century lime was a powerful auxiliary in the inland districts, but with repeated applications it gradually became of little avail. Thorough draining gave the next great impetus. Enough had been done to test its efficacy before the announcement of Sir Robert Peel's drainage loan, after which it was rapidly extended throughout the county. Green-crop husbandry, and the liberal use of guano and other manures, made a wonderful change in the county, and immensely increased the amount of produce. Potatoes are now extensively grown, the coast-lands supplying the markets of Scotland and the north of England. Of roots, turnips, carrots and mangolds are widely cultivated, heavy crops being obtained by early sowing and rich manuring. Oats form the bulk of the cereal crop, but wheat and barley are also grown. High farming has developed the land enormously. Dairying has received particular attention. Dunlop cheese was once a well-known product. Part of it was very good; but it was unequal in its general character, and unsaleable in English markets. Dissatisfied with the inferior commercial value of their cheese in comparison with some English varieties, the Ayrshire Agricultural Association brought a Somerset farmer and his wife in 1855 to teach the Cheddar method, and their effort was most successful. Cheddar cheese of first-rate quality is now made in Ayrshire, and the annual cheese show at Kilmarnock is the most important in Scotland. The Ayrshire breed of cows are famous for the quantity and excellence of their milk. Great numbers of cattle, sheep and pigs are raised for the market, and the Ayrshire horse is in high repute.

Other Industries.—Ayrshire is the principal mining county in Scotland and has the second largest coalfield. There is a heavy annual output also of iron ore, pig iron and fire-clay. The chief coal districts are Ayr, Dalmellington, Patna, Maybole, Drongan, Irvine, Coylton, Stevenston, Beith, [v.03 p.0076] Kilwinning, Dalry, Kilbirnie, Dreghorn, Kilmarnock, Galston, Hurlford, Muirkirk, Cumnock and New Cumnock. Ironstone occurs chiefly at Patna, Coylton, Dalry, Kilbirnie, Dreghorn and Cumnock, and there are blast furnaces at most of these towns. A valuable whetstone is quarried at Bridge of Stair on the Ayr—the Water-of-Ayr stone. The leading manufactures are important. At Catrine are cotton factories and bleachfields, and at Ayr and Kilmarnock extensive engineering works, and carpet, blanket and woollens, boot and shoe factories. Cotton, woollens, and other fabrics and hosiery are also manufactured at Dalry, Kilbirnie, Kilmaurs, Beith and Stewarton. An extensive trade in chemicals is carried on at Irvine. Near Stevenston works have been erected in the sandhills for the making of dynamite and other explosives. There are large lace curtain factories at Galston, Newmilns and Darvel, and at Beith cabinet-making is a considerable industry. Shipbuilding is conducted at Troon, Ayr, Irvine and Fairlie, which is famous for its yachts. The leading ports are Ardrossan, Ayr, Girvan, Irvine and Troon. Fishing is carried on in the harbours and creeks, which are divided between the fishery districts of Greenock and Ballantrae.

Communications.—The Glasgow & South-Western railway owns most of the lines within the shire, its system serving all the industrial towns, ports and seaside resorts. Its trunk line via Girvan to Stranraer commands the shortest sea passage to Belfast and the north of Ireland, and its main line via Kilmarnock communicates with Dumfries and Carlisle and so with England. The Lanarkshire & Ayrshire branch of the Caledonian railway company also serves a part of the county. For passenger steamer traffic Ardrossan is the principal port, there being services to Arran and Belfast and, during the season, to Douglas in the Isle of Man. Millport, on Great Cumbrae, is reached by steamer from Fairlie.

Population and Administration.—The population of Ayrshire in 1891 was 226,386, and in 1901, 254,468, or 223 to the sq. m. In 1901 the number of persons speaking Gaelic only was 17. The chief towns, with populations in 1901 are: Ardrossan (6077), Auchinleck (2168), Ayr (29,101), Beith (4963), Cumnock (3088), Dalry (5316), Darvel (3070), Galston (4876), Girvan (4024), Hurlford (4601), Irvine (9618), Kilbirnie (4571), Kilmarnock (35,091), Kilwinning (4440), Largs (3246), Maybole (5892), Muirkirk (3892), Newmilns (4467), Saltcoats (8120), Stevenston (6554), Stewarton (2858), Troon (4764). The county returns two members to parliament, who represent North and South Ayrshire respectively. Ayr (the county town) and Irvine are royal burghs and belong to the Ayr group of parliamentary burghs, and Kilmarnock is a parliamentary burgh of the Kilmarnock group. Under the county council special water districts, drainage districts, and lighting and scavenging districts have been formed. The county forms a sheriffdom, and there are resident sheriffs-substitute at Ayr and Kilmarnock, who sit also at Irvine, Beith, Cumnock and Girvan. The shire is under school-board jurisdiction, but there are a considerable number of voluntary schools, besides secondary schools at Ayr, Irvine, Kilmarnock and Beith, while

Kilmarnock Dairy School is a part of the West of Scotland Agricultural College established in 1899. In addition to grants earned by the schools, the county and borough councils expend a good deal of money upon secondary and technical education, towards which contributions are also made by the Glasgow and West of Scotland Technical College and the Kilmarnock Dairy School. The technical classes, subsidized at various local centres, embrace instruction in agriculture, mining, engineering, plumbing, gardening, and various science and art subjects.

History.—Traces of Roman occupation are found in Ayrshire. At the time of Agricola's campaigns the country was held by the Damnonii, and their town of Vandogara has been identified with a site at Loudoun Hill near Darvel, where a serious encounter with the Scots took place. On the withdrawal of the Romans, Ayrshire formed part of the kingdom of Strathclyde and ultimately passed under the sway of the Northumbrian kings. Save for occasional intertribal troubles, as that in which the Scottish king Alpin was slain at Dalmellington in the 9th century, the annals are silent until the battle of Largs in 1263, when the pretensions of Haakon of Norway to the sovereignty of the Isles were crushed by the Scots under Alexander III. A generation later William Wallace conducted a vigorous campaign in the shire. He surprised the English garrison at Ardrossan, and burned the barns of Ayr in which the forces of Edward I were lodged. Robert Bruce is alleged to have been born at Turnberry Castle, some 12 m. S.W. of Ayr. In 1307 he defeated the English at Loudoun Hill. Cromwell paid the county a hurried visit, during which he demolished the castle of Ardrossan and is said to have utilized the stones in rearing a fort at Ayr. Between 1660 and 1688 the sympathies of the county were almost wholly with the Covenanters, who suffered one of their heaviest reverses at Airds Moss—a morass between the Ayr and Lugar, —their leader, Richard Cameron, being killed (20th of July 1680). The county was dragooned and the Highland host ravaged wherever it went. The Hanoverian succession excited no active hostility if it evoked no enthusiasm. Antiquarian remains include cairns in Galston, Sorn and other localities; a road supposed to be a work of the Romans, which extended from Ayr, through Dalrymple and Dalmellington, towards the Solway; camps attributed to the Norwegians or Danes on the hills of Knockgeorgan and Dundonald; and the castles of Loch Doon, Turnberry, Dundonald, Portencross, Ardrossan and Dunure. There are ruins of celebrated abbeys at Kilwinning and Crossraguel, and of Alloway's haunted church, famous from their associations.

See James Paterson, "History of the County of Ayr." *Transactions of Ayrshire and Galloway Archaeological Associations*, Edinburgh, 1879-1900; John Smith, *Prehistoric Man in Ayrshire* (London, 1895); William Robertson, *History of Ayrshire* (Edinburgh, 1894); Archibald Sturrock, "On the Agriculture of Ayrshire," *Transactions of Highland and Agricultural Society*; D. Landsborough, *Contributions to Local History* (Kilmarnock, 1878).

AYRTON, WILLIAM EDWARD (1847-1908), English physicist, was born in London on the 14th of September 1847. He was educated at University College, London, and in 1868 went out to Bengal in the service of the Indian Government Telegraph department. In 1873 he was appointed professor of physics and telegraphy at the Imperial College of Engineering, Tokio. On his return to London six years later he became professor of applied physics at the Finsbury College of the City and Guilds of London Technical Institute, and in 1884 he was chosen professor of electrical engineering at the Central Technical College, South Kensington. He published, both alone and jointly with others, a large number of papers on physical, and in particular electrical, subjects, and his name was especially associated, together with that of Professor John Perry, with the invention of a long series of electrical measuring instruments. He died in London on the 8th of November 1908. His wife, Mrs Hertha Ayrton, whom he married in 1885, assisted him in his researches, and became known for her scientific work on the electric arc and other subjects. The Royal Society awarded her one of its Royal medals in 1906.

AYSCOUGH, SAMUEL (1745-1804), English librarian and index-maker, was born at Nottingham in 1745. His father, a printer and stationer, having ruined himself by speculation, Samuel Ayscough left Nottingham for London, where he obtained an engagement in the cataloguing department of the British Museum. In 1782 he published a two-volume catalogue of the then undescribed manuscripts in the museum. About 1785 he was appointed assistant librarian at the museum, and soon afterwards took holy orders. In 1786 he published an index to the first seventy volumes of the *Monthly Review*, and in 1796 indexed the remaining volumes. Both this index and his catalogue of the undescribed manuscripts in the museum were private ventures. His first official work was a third share in the British Museum catalogue of 1787, and he subsequently catalogued the ancient rolls and charters, 16,000 in all. In 1789 he produced the first two volumes of the index to the *Gentleman's Magazine*, and in 1790 the first index-concordance to Shakespeare. He was a Fellow of the Society of Antiquaries, and has been called "The Prince of Indexers." He died at the British Museum on the 30th of October 1804.

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AYSCUE (erroneously ASKEW or AYSCOUGH), **SIR GEORGE** (d. 1671), British admiral, came of an old Lincolnshire family. Beyond the fact that he was knighted by Charles I., nothing is known of his career until in 1646 he received a naval command. Through the latter years of the first civil war, Ayscue seems to have acted as one of the senior officers of the fleet. In 1648, when Sir William Batten went over to Holland with a portion of his squadron, Ayscue's influence kept a large part of the fleet loyal to the Parliament, and in reward for this service he was appointed the following year admiral of the Irish Seas. For his conduct at the relief of Dublin he received the thanks of Parliament, and in 1651 he was employed under Blake in the operations for the reduction of Scilly. He was next sent to the West Indies in charge of a squadron destined for the Conquest of Barbadoes and the other islands still under royalist control. This task successfully accomplished, he returned to take part in the first Dutch War. In this he played a prominent part,

but the indecisive battle off Plymouth (August 16th, 1652) cost him his command, though an annuity was assigned him. For some years Sir George Ayscue lived in retirement, but the later years of the Commonwealth he spent in Sweden, Cromwell having despatched him thither as naval adviser. At the Restoration he returned, and became one of the commissioners of the navy, but on the outbreak of the second Dutch War in 1664 he once more hoisted his flag as rear-admiral of the Blue, and took part in the battle of Lowestoft (June 3rd, 1665). In the great Four Days' Battle (June 11th-14th, 1666) he served with Monck as admiral of the White. His flagship, the "Prince Royal," was taken on the third day, and he himself remained a prisoner in Holland till the peace. It seems doubtful whether he ever again flew his flag at sea, and the date of his death is supposed to be 1671. Lely's portrait of Sir George Ayscue is in the Painted Hall at Greenwich.

AYTOUN, or AYTON, **SIR ROBERT** (1570-1638), Scottish poet, son of Andrew Aytoun of Kinaldie, Fifeshire, was born in 1570. He was educated at the university of St Andrews, where he was incorporated as a student of St Leonard's College in 1584 and graduated M.A. in 1588. He lived for some years in France, and on the accession of James VI. to the English throne he wrote in Paris a Latin panegyric, which brought him into immediate favour at court. He was knighted in 1612. He held various lucrative offices, and was private secretary to the queens of James I. and Charles I. He died in London and was buried in Westminster Abbey on the 28th of February 1638. His reputation with his contemporaries was high, both personally and as a writer, though he had no ambition to be known as the latter.

Aytoun's remains are in Latin and English. In respect of the latter he is one of the earliest Scots to use the southern standard as a literary medium. The Latin poems include the panegyric already referred to, an *Epicedium in obitum Thoma Rhodi*; *Basia, sive Strena ad Jacobum Hayum*; *Lessus in funere Raphaelis Thorei*; *Carina Caro*; and minor pieces, occasional and epitaphic. His first English poem was *Diophantus and Charidora* (to which he refers in his Latin panegyric to James). He has left a number of pieces on amatory subjects, including songs and sonnets.

Aytoun's Latin poems are printed in *Delitiae Poetarum Scotorum* (Amsterdam, 1637), i. pp. 40-75. His English poems are preserved in a MS. in the British Museum (*Add. MSS.* 10,308), which was prepared by his nephew, Sir John Aytoun. Both were collected by Charles Rogers in *The Poems of Sir Robert Aytoun* (London, privately printed, 1871). This edition is unsatisfactory, though it is better than the first issue by the same editor in 1844. Additional poems are included which cannot be ascribed to Aytoun, and which in some cases have been identified as the work of others. The poem "I do confess thou'rt smooth and fair" may be suspected, and the old version of "Auld Lang Syne" and "Sweet Empress" are certainly not Aytoun's. Some of the English poems are printed in Watson's *Collection* (1706-1711) and in the *Bannatyne Miscellany*, i. p. 299 (1827). There is a memoir of Aytoun in Rogers's edition, and another by Grosart in the *Dict. of Nat. Biog.* Particulars of his public career will be found in the printed *Calendars of State Papers* and *Register of the Privy Council* of the period.

AYTOUN, WILLIAM EDMONSTOUNE (1813-1865), Scottish poet, humorist and miscellaneous writer, was born at Edinburgh on the 21st of June 1813. He was the only son of Roger Aytoun, a writer to the signet, and the family was of the same stock as Sir Robert Aytoun noticed above. From his mother, a woman of marked originality of character and considerable culture, he derived his distinctive qualities, his early tastes in literature, and his political sympathies, his love for ballad poetry, and his admiration for the Stuarts. At the age of eleven he was sent to the Edinburgh Academy, passing in due time to the university. In 1833 he spent a few months in London for the purpose of studying law; but in September of that year he went to study German at Aschaffenburg, where he remained till April 1834. He then resumed his legal pursuits in his father's chambers, was admitted a writer to the signet in 1835, and five years later was called to the Scottish bar. But, by his own confession, though he "followed the law, he never could overtake it." His first publication—a volume entitled *Poland, Homer, and other Poems*, in which he gave expression to his eager interest in the state of Poland—had appeared in 1832. While in Germany he made a translation in blank verse of the first part of *Faust*; but, forestalled by other translations, it was never published. In 1836 he made his earliest contributions to *Blackwood's Magazine*, in translations from Uhland; and from 1839 till his death he remained on the staff of *Blackwood*. About 1841 he became acquainted with Mr (afterwards Sir) Theodore Martin, and in association with him wrote a series of light humorous papers on the tastes and follies of the day, in which were interspersed the verses which afterwards became popular as the *Ban Gaultier Ballads* (1855). The work on which his reputation as a poet chiefly rests is the *Lays of the Scottish Cavaliers* (1848; 29th ed. 1883). In 1845 he was appointed professor of rhetoric and *belles lettres* at Edinburgh University. His lectures were very attractive, and the number of students increased correspondingly. His services in support of the Tory party, especially during the Anti-Corn-Law struggle, received official recognition in his appointment (1852) as sheriff of Orkney and Zetland. In 1854 appeared *Firmilian, a Spasmodic Tragedy*, in which he attacked and parodied the writings of Philip James Bailey, Sydney Dobell and Alexander Smith; and two years later he published his *Bothwell, a Poem*. Among his other literary works are a *Collection of the Ballads of Scotland* (1858), a translation of the *Poems and Ballads of Goethe*, executed in co-operation with his friend Theodore Martin (1858), a small volume on the *Life and Times of Richard I.* (1840), written for the *Family Library*, and a novel entitled *Norman Sinclair* (1861), many of the details in which are taken from incidents in his own experience. In 1860 Aytoun was elected honorary president of the Associated Societies of Edinburgh University. In 1859 he lost his first wife, a daughter of John Wilson (Christopher North), to whom he was married in 1849, and this was a great blow to him. His mother died in November 1861, and his own health began to fail. In December 1863 he married Miss Kinnear. He died at Blackhills, near Elgin, on the 4th

of August 1865.

See *Memoir of W. E. Aytoun* (1867), by Sir Theodore Martin, with an appendix containing some of his prose essays.

AYUB KHAN (1855-), Afghan prince, son of Shere Ali (formerly amir of Afghanistan), and cousin of the amir Abdur Rahman, was born about 1855. During his father's reign little is recorded of him, but after Shere Ali's expulsion from Kabul by the English, and his death in January 1879, Ayub took possession of Herat, and maintained himself there until June 1881, when he invaded Afghanistan with the view of asserting his claims to the sovereignty, and in particular of gaining possession of Kandahar, still in the occupation of the British. He encountered the British force commanded by General Burrows at Maiwand on the 27th of July, and was able to gain one of the very few pitched battles that have been won by Asiatic leaders over an army under European direction. His triumph, however, was short-lived; while he hesitated to assault Kandahar he was attacked by Sir Frederick (afterwards Lord) Roberts, at the close of the latter's memorable march
[v.03 p.0078] from Kabul, and utterly discomfited, 20th of September 1880. He made his way back to Herat, where he remained for some time unmolested. In the summer of 1881 he again invaded Afghanistan, and on the anniversary of the battle of Maiwand obtained a signal victory over Abdur Rahman's lieutenants, mainly through the defection of a Durani regiment. Kandahar fell into his hands, but Abdur Rahman now took the field in person, totally defeated Ayub, and expelled him from Herat. He took refuge in Persia, and for some time lived quietly in receipt of an allowance from the Persian government. In 1887 internal troubles in Afghanistan tempted him to make another endeavour to seize the throne. Defeated and driven into exile, he wandered for some time about Persia, and in November gave himself up to the British agent at Meshed. He was sent to India to live as a state prisoner.

AYUNTAMIENTO, the Spanish name for the district over which a town council has administrative authority; it is used also for a town council, and for the town-hall. The word is derived from the Latin *adjungere*, and originally meant "meeting." In some parts of Spain and in Spanish America the town council was called the *cabildo* or chapter, from the Latin *capitulum*. The ayuntamiento consisted of the official members, and of *regidores* or *regulators*, who were chosen in varying proportions from the "hidalgos" or nobles (*hijos de algo*, sons of somebody) and the "pecheros," or commoners, who paid the *pecho*, or personal tax; pecho (Lat. *pectus*) is in Spanish the breast, and then by extension the person. The regidores of the ayuntamientos, or lay cabildos, were checked by the royal judge or *corregidor*, who was in fact the permanent chairman or president. The distinction between hidalgo and pechero has been abolished in modern Spain, but the powers and the constitution of ayuntamientos have been subject to many modifications.

AYUTHIA, a city of Siam, now known to the Siamese as *Krung Kao* or "the Old Capital," situated in 100° 32′ E., 14° 21′ N. Pop. about 10,000. The river Me Nam, broken up into a network of creeks, here surrounds a large island upon which stand the ruins of the famous city which was for more than four centuries the capital of Siam. The bulk of the inhabitants live in the floating houses characteristic of lower Siam, using as thoroughfares the creeks to the edges of which the houses are moored. The ruins of the old city are of great archaeological interest, as are the relics, of which a large collection is housed in the local museum. Outside the town is an ancient masonry enclosure for the capture of elephants, which is still periodically used. Ayuthia is on the northern main line of the state railways, 42 m. from Bangkok. Great quantities of paddi are annually sent by river and rail to Bangkok, in return for which cloth and other goods are imported to supply the wants of the agriculturist peasantry. There is no other trade. Ayuthia is the chief town of one of the richest agricultural provincial divisions of Siam and is the headquarters of a high commissioner. The government offices occupy spacious buildings, once a royal summer retreat; the government is that of an ordinary provincial division (*Monton*).

Historically Ayuthia is the most interesting spot in Siam. Among the innumerable ruins may be seen those of palaces, pagodas, churches and fortifications, the departed glories of which are recorded in the writings of the early European travellers who first brought Siam within the knowledge of the West, and laid the foundations of the present foreign intercourse and trade. The town was twice destroyed by the Burmese, once in 1555 and again in 1767, and from the date of the second destruction it ceased to be the capital of the country.

AZAÏS, PIERRE HYACINTHE (1766-1845), French philosopher, was born at Sorèze and died at Paris. He spent his early years as a teacher and a village organist. At the outbreak of the Revolution he viewed it with favour, but was soon disgusted at the violence of its methods. A critical pamphlet drew upon him the hatred of the revolutionists, and it was not until 1806 that he was able to settle in Paris. In 1809 he published his great work, *Des Compensations dans les destinées humaines* (5th ed. 1846), which pleased Napoleon so much that he made its author professor at St Cyr. In 1811 he became inspector of the public library at Avignon, and from 1812 to 1815 he held the same position at Nancy. The Restoration government at first suspected him as a Bonapartist, but at length granted him a pension. From that time he occupied himself in lecturing and the publication of philosophical works. In the *Compensations* he sought to prove that, on the whole, happiness and misery are equally balanced, and therefore that men should accept the government which is given them rather than risk the horrors of revolution. "Le principe de l'inégalité naturelle et essentielle dans les destinées humaines conduit inévitablement au fanatisme révolutionnaire ou au fanatisme religieux." The principles of compensation and equilibrium are found also in the physical universe, the product of matter and force, whose cause is God. Force, naturally expansive and operating on the homogeneous atoms which constitute

elemental matter, is subject to the law of equilibrium, or equivalence of action and reaction. The development of phenomena under this law may be divided into three stages—the physical, the physiological, the intellectual and moral. The immaterial in man is the expansive force inherent in him. Moral and political phenomena are the result of the opposing forces of progress and preservation, and their perfection lies in the fulfilment of the law of equilibrium or universal harmony. This may be achieved in seven thousand years, when man will vanish from the world. In an additional five thousand, a similar equilibrium will obtain in the physical sphere, which will then itself pass away. In addition to his philosophical work, Azaïs studied music under his father, Pierre Hyacinthe Azaïs (1743-1796), professor of music at Sorèze and Toulouse, and composer of sacred music in the style of Gossec. He wrote for the *Revue musicale* a series of articles entitled *Acoustique fondamentale* (1831), containing an ingenious, but now exploded, theory of the vibration of the air. His other works are: *Système universel* (8 vols., 1812); *Du Sort de l'homme* (3 vols., 1820); *Cours de philosophie* (8 vols., 1824), reproduced as *Explication universelle* (3 vols., 1826-1828); *Jeunesse, maturité, religion, philosophie* (1837), *De la phrénologie, du magnétisme, et de la folie* (1843).

AZALEA, a genus of popular hardy or greenhouse plants, belonging to the heath order (Ericaceae), and scarcely separable botanically from *Rhododendron*. The beautiful varieties now in cultivation have been bred from a few originals, natives of the hilly regions of China and Japan, Asia Minor, and the United States. They are perhaps unequalled as indoor decorative plants. They are usually increased by grafting the half-ripened shoots on the stronger-growing kinds, the shoots of the stock and the grafts being in a similarly half-ripened condition, and the plants being placed in a moist heat of 65°. Large plants of inferior kinds, if healthy, may be grafted all over with the choicer sorts, so as to obtain a large specimen in a short time. They require a rich and fibrous peat soil, with a mixture of sand to prevent its getting water-logged. The best time to pot azaleas is three or four weeks after the blooming is over. The soil should be made quite solid to prevent its retaining too much water. To produce handsome plants, they must while young be stopped as required. Specimens that have got leggy may be cut back just before growth commences. The lowest temperature for them during the winter is about 35°, and during their season of growth from 55° to 65° at night, and 75° by day, the atmosphere being at the same time well charged with moisture. They are liable to the attacks of thrips and red spider, which do great mischief if not promptly destroyed.

The following are some well-known species:—*A. arborescens* (Pennsylvania), a deciduous shrub 10-20 ft. high; *A. calendulacea* (Carolina to Pennsylvania), a beautiful deciduous shrub 2-6 ft. high, with yellow, red, orange and copper-coloured flowers; *A. hispida*, a North American shrub, 10-15 ft. high, flowers white edged with red; *A. indica* (China), the so-called Indian azalea, a shrub 3-6 ft. or more high, the original of numerous single and double varieties, many of the more vigorous of which are hardy in southern England and Ireland; *A. nudiflora*, a North American shrub, 3-4 ft. high, which hybridizes freely with *A. calendulacea*, *A. pontica* and others, to produce single and double forms of a great variety of shades; *A. pontica* (Levant, Caucasus, &c.), 4-6 ft. high, with numerous varieties differing in the colour of the flowers and the tint of the leaves; *A. sinensis* (China and Japan), a beautiful shrub, 3-4 ft. high, with orange-red or yellow bell-shaped flowers, hardy in the southern half of England, large numbers of varieties being in cultivation under the name of Japanese azaleas.

[v.03 p.0079]

AZAMGARH, or AZIMGARH, a city and district of British India, in the Gorakhpur division of the United Provinces. The town is situated on the river Tons, and has a railway station. It is said to have been founded about 1665 by a powerful landholder named Azim Khan, who owned large estates in this part of the country. Pop. (1901) 18,835.

The area of the district is 2207 sq. m. It is bounded on the N. by the river Gogra, separating it from Gorakhpur district; on the E. by Ghazipur district and the river Ganges; on the S. by the districts of Jaunpur and Ghazipur; and on the W. by Jaunpur and Fyzabad. The portion of the district lying along the banks of the Gogra is a low-lying tract, varying considerably in width; south of this, however, the ground takes a slight rise. The slope of the land is from north-west to south-east, but the general drainage is very inadequate. Roughly speaking, the district consists of a series of parallel ridges, whose summits are depressed into beds or hollows, along which the rivers flow; while between the ridges are low-lying rice lands, interspersed with numerous natural reservoirs. The soil is fertile, and very highly cultivated, bearing magnificent crops of rice, sugar-cane and indigo. There are several indigo factories. A branch of the Bengal & North-Western railway to Azamgarh town was opened in 1898. In 1901 the population was 1,529,785, showing a decrease of 11% in the decade. The district was ceded to the Company in 1801 by the wazirs of Lucknow. In 1857 it became a centre of mutiny. On the 3rd of June 1857 the 17th Regiment of Native Infantry mutinied at Azamgarh, murdered some of their officers, and carried off the government treasure to Fyzabad. The district became a centre of the fighting between the Gurkhas and the rebels, and was not finally cleared until October 1858 by Colonel Kelly.

AẒĀN (Arabic for "announcement"), the call or summons to public prayers proclaimed by the Muezzin (crier) from the mosque twice daily in all Mahommedan countries. In small mosques the Muezzin at Aẓān stands at the door or at the side of the building; in large ones he takes up his position in the minaret. The call translated runs: "God is most great!" (four times), "I testify there is no God but God!" (twice), "I testify that Mahomet is the apostle of God!" (twice), "Come to prayer!" (twice), "Come to salvation!" (twice), "God is most great!" (twice), "There is no God but God!" To the morning Aẓān are added the words, "Prayer is better than sleep!" (twice). The devout Moslem has to make a set response to each phrase of the Muezzin. At first these are mere

repetitions of Aẓān, but to the cry "Come to prayer!" the listener must answer, "I have no power nor strength but from God the most High and Great." To that of "Come to salvation!" the formal response is, "What God willeth will be: what He willeth not will not be." The recital of the Aẓān must be listened to with the utmost reverence. The passers in the streets must stand still, all those at work must cease from their labours, and those in bed must sit up.

The Muezzin, who is a paid servant of the mosque, must stand with his face towards Mecca and with the points of his forefingers in his ears while reciting Aẓān. He is specially chosen for good character, and Aẓān must not be recited by any one unclean, by a drunkard, by the insane, or by a woman. The summons to prayers was at first simply "Come to prayer!" Mahomet, anxious to invest the call with the dignity of a ceremony, took counsel of his followers. Some suggested the Jewish trumpet, others the Christian bell, but according to legend the matter was finally settled by a dream:—"While the matter was under discussion, Abdallah, a Khazrajite, dreamed that he met a man clad in green raiment, carrying a bell. Abdallah sought to buy it, saying that it would do well for bringing together the assembly of the faithful. 'I will show thee a better way,' replied the stranger; 'let a crier cry aloud "God is most great, &c."' On awaking, Abdallah went to Mahomet and told him his dream," and Aẓān was thereupon instituted.

AZARA, DON JOSE NICHOLAS DE (1731-1804), Spanish diplomatist, was born in 1731 at Barbunales, Aragon, and was appointed in 1765 Spanish agent and procurator-general, and in 1785 ambassador at Rome. During his long residence there he distinguished himself as a collector of Italian antiquities and as a patron of art. He was also an able and active diplomatist, took a leading share in the difficult and hazardous task of the expulsion of the Jesuits from Spain, and was instrumental in securing the election of Pius VI. He withdrew to Florence when the French took possession of Rome in 1798, but acted on behalf of the pope during his exile and after his death at Valence in 1799. He was afterwards Spanish ambassador in Paris. In that post it was his misfortune to be forced by his government to conduct the negotiations which led to the treaty of San Ildefonso, by which Spain was wholly subjected to Napoleon. Azara was friendly to a French alliance, but his experience showed him that his country was being sacrificed to Napoleon. The First Consul liked him personally, and found him easy to influence. Azara died, worn out, in Paris in 1804. His end was undoubtedly embittered by his discovery of the ills which the French alliance must produce for Spain.

Several sympathetic notices of Azara will be found in Thiers, *Consulat et Empire*. See also *Reinado de Carlos IV*, by Gen. J. Gomez de Arteche, in the *Historia General de España*, published by the R. Acad. de la Historia, Madrid, 1892, &c. There is a *Notice historique sur le Chevalier d'Azara* by Bourgoing (1804).

His younger brother, Don Felix de Azara (1746-1811), spent twenty years in South America as a commissioner for delimiting the boundary between the Spanish and Portuguese territories. He made many observations on the natural history of the country, which, together with an account of the discovery and history of Paraguay and Rio de la Plata, were incorporated in his principal work, *Voyage dans l'Amérique méridionale depuis 1781 jusqu'en 1801*, published at Paris in 1809 in French from his MS. by C. A. Walckenaer.

AZARIAH, the name of several persons mentioned in the Old Testament. (1) One of Solomon's "princes," son of Zadok the priest (1 Kings iv. 2), was one of several Azariahs among the descendants of Levi (1 Chron. vi. 9, 10, 13, 36; 2 Chron. xxvi. 17). (2) The son of Nathan, a high official under King Solomon (1 Kings iv. 5). (3) King of Judah, son of Amaziah by his wife Jecholiah (2 Kings xv. 1, 2), also called Uzziah (2 Chron. xxvi. 1). (4) Son of Ethan and great-grandson of Judah (1 Chron. ii. 8). (5) Son of Jehu, of the posterity of Judah (1 Chron. ii. 38). (6) A prophet in the reign of Asa, king of Judah (2 Chron. xv. 1). (7) Two sons of Jehoshaphat, king of Judah (2 Chron. xxi. 2). (8) King of Judah, also called Ahaziah and Jehoahaz, son of Jehoram (2 Chron. xxi. 17; xxii. 1, 6). (9) The son of Jeroham, and (10) the son of Obed, were made "captains of hundreds" by Jehoiada the priest (2 Chron. xxiii. 1). (11) Son of Hilkiah and grandfather of Ezra the Scribe (Ezra vii. 1; Neh. vii. 7, viii. 7, x. 2). (12) Son of Maaseiah, one of those who under the commission of Artaxerxes restored the wall of Jerusalem (Neh. iii. 23). (13) Son of Hoshaiah, an opponent of the prophet Jeremiah (Jer. xliii. 2). (14) One of the companions in captivity of the prophet Daniel, called Abednego by Nebuchadrezzar, by whom with two companions he was cast into a "burning fiery furnace" for refusing to worship the golden image set up by that monarch (Dan. i. 6, iii. 8-30).

AZAY-LE-RIDEAU, a town of western France, in the department of Indre-et-Loire, on the Indre, 16 m. S.W. of Tours by rail. Pop. (1906) 1453. The town has a fine Renaissance chateau, well restored in modern times, with good collections of furniture and pictures.

AZEGLIO, MASSIMO TAPARELLI, Marquis d' (1798-1866), Italian statesman and author, was born at Turin in October 1798, descended from an ancient and noble Piedmontese family. His father, Cesare d'Azeglio, was an officer in the Piedmontese army and held a high position at court; on the return of Pope Pius VII. to Rome after the fall of Napoleon, Cesare d'Azeglio was sent as special envoy to the Vatican, and he took his son, then sixteen years of age, with him as an extra attaché. Young Massimo was given a commission in a cavalry regiment, which he soon relinquished on account of his health. During his residence in Rome he had acquired a love for art and music, and he now determined to become a painter, to the horror of his family, who belonged to the stiff and narrow Piedmontese aristocracy. His father reluctantly consented, and Massimo settled in Rome, devoting himself to art. He led an abstemious life, maintaining himself by his painting for several years. But he was constantly meditating on the political state of Italy.

In 1830 he returned to Turin, and after his father's death in 1831 removed to Milan. There he remained for twelve years, moving in the literary and artistic circles of the city. He became the intimate of Alessandro Manzoni the novelist, whose daughter he married; thenceforth literature became his chief occupation instead of art, and he produced two historical novels, *Niccolò dei Lapi* and *Ettore Fieramosca*, in imitation of Manzoni, and with pronounced political tendencies, his object being to point out the evils of foreign domination in Italy and to reawaken national feeling. In 1845 he visited Romagna as an unauthorized political envoy, to report on its conditions and the troubles which he foresaw would break out on the death of Pope Gregory XVI. The following year he published his famous pamphlet *Degli ultimi casi di Romagna* at Florence, in consequence of which he was expelled from Tuscany. He spent the next few months in Rome, sharing the general enthusiasm over the supposed liberalism of the new pope, Pius IX.; like V. Gioberti and Balbo he believed in an Italian confederation under papal auspices, and was opposed to the Radical wing of the Liberal party. His political activity increased, and he wrote various other pamphlets, among which was *I lutti di Lombardia* (1848).

On the outbreak of the first war of independence, d'Azeglio donned the papal uniform and took part under General Durando in the defence of Vicenza, where he was severely wounded. He retired to Florence to recover, but as he opposed the democrats who ruled in Tuscany, he was expelled from that country for the second time. He was now a famous man, and early in 1849 Charles Albert, king of Sardinia, invited him to form a cabinet. But realizing how impossible it was to renew the campaign, and "not having the heart to sign, in such wretched internal and external conditions, a treaty of peace with Austria" (*Correspondance politique*, by E. Rendu), he refused. After the defeat of Novara (23rd of March 1849), Charles Albert abdicated and was succeeded by Victor Emmanuel II. D'Azeglio was again called on to form a cabinet, and this time, although the situation was even more difficult, he accepted, concluded a treaty of peace, dissolved the Chamber, and summoned a new one to ratify it. The treaty was accepted, and d'Azeglio continued in office for the next three years. While all the rest of Italy was a prey to despotism, in Piedmont the king maintained the constitution intact in the face of the general wave of reaction. D'Azeglio conducted the affairs of the country with tact and ability, improving its diplomatic relations, and opposing the claims of the Roman Curia. He invited Count Cavour, then a rising young politician, to enter the ministry in 1850. Cavour and Farini, also a member of the cabinet, made certain declarations in the Chamber (May 1852) which led the ministry in the direction of an alliance with Rattazzi and the Left. Of this d'Azeglio disapproved, and therefore resigned office, but on the king's request he formed a new ministry, excluding both Cavour and Farini. In October, however, owing to ill-health and dissatisfaction with some of his colleagues, as well as for other reasons not quite clear, he resigned once more and retired into private life, suggesting Cavour to the king as his successor.

For the next four years he lived modestly at Turin, devoting himself once more to art, although he also continued to take an active interest in politics, Cavour always consulting him on matters of moment. In 1855 he was appointed director of the Turin art gallery. In 1859 he was given various political missions, including one to Paris and London to prepare the basis for a general congress of the powers on the Italian question. When war between Piedmont and Austria appeared inevitable he returned to Italy, and was sent as royal commissioner by Cavour to Romagna, whence the papal troops had been expelled. After the peace of Villafranca, d'Azeglio was recalled with orders to withdraw the Piedmontese garrisons; but he saw the danger of allowing the papal troops to reoccupy the province, and after a severe inner struggle left Bologna without the troops, and interviewed the king. The latter approved of his action, and said that his orders had not been accurately expressed; thus Romagna was saved. That same year he published a pamphlet in French entitled *De la Politique et du droit chrétien au point de vue de la question italienne*, with the object of inducing Napoleon III. to continue his pro-Italian policy. Early in 1860 Cavour appointed him governor of Milan, evacuated by the Austrians after the battle of Magenta, a position which he held with great ability. But, disapproving of the government's policy with regard to Garibaldi's Sicilian expedition and the occupation by Piedmont of the kingdom of Naples as inopportune, he resigned office.

The death of his two brothers in 1862 and of Cavour in 1861 caused Massimo great grief, and he subsequently led a comparatively retired life. But he took part in politics, both as a deputy and a writer, his two chief subjects of interest being the Roman question and the relations of Piedmont (now the kingdom of Italy) with Mazzini and the other revolutionists. In his opinion Italy must be unified by means of the Franco-Piedmontese army alone, all connexion with the conspirators being eschewed, while the pope should enjoy nominal sovereignty over Rome, with full spiritual independence, the capital of Italy being established elsewhere, but the Romans being Italian citizens (see his letters to E. Rendu and his pamphlet *Le questioni urgenti*). He strongly disapproved of the convention of 1864 between the Italian government and the pope. The last few years of d'Azeglio's life were spent chiefly at his villa of Cannero, where he set to work to write his own memoirs. He died of fever on the 15th of January 1866.

Massimo d'Azeglio was a very attractive personality, as well as an absolutely honest patriot, and a characteristic example of the best type of Piedmontese aristocrat. He was cautious and conservative; in his general ideas on the liberation of Italy he was wrong, and to some extent he was an amateur in politics, but of his sincerity there is no doubt. As an author his political writings are trenchant and clear, but his novels are somewhat heavy and old-fashioned, and are interesting only if one reads the political allusions between the lines.

Besides a variety of newspaper articles and pamphlets, d'Azeglio's chief works are the two novels

Ettore Fieramosca (1833) and *Niccolò dei Lapi* (1841), and a volume of autobiographical memoirs entitled *I Miei Ricordi*, a most charming work published after his death, in 1866, but unfortunately incomplete. See in addition to the *Ricordi*, L. Carpi's *Il Risorgimento Italiano*, vol. i. pp. 288 sq. and the *Souvenirs historiques* of Constance d'Azeglio, Massimo's niece (Turin, 1884).

(L. V.*)

AZERBĀÏJĀN (also spelt ADERBIJAN; the *Azerbādegān* of medieval writers, the *Athropatakan* and *Atropatene* of the ancients), the north-western and most important province of Persia. It is separated from Russian territory on the N. by the river Aras (Araxes), while it has the Caspian Sea, Gilan and Khamseh (Zenjān) on the E., Kurdistan on the S., and Asiatic Turkey on the W. Its area is estimated at 32,000 sq. m.; its population at 1½ to 2 millions, comprising various races, as Persians proper, Turks, Kurds, Syrians, Armenians, &c. The country is superior in fertility to most provinces of Persia, and consists of a regular succession of undulating eminences, partially cultivated and opening into extensive plains. Near the centre of the province the mountains of Sahand rise in an accumulated mass to the height of 12,000 ft. above the sea. The highest mountain of the province is in its eastern part, Mount Savelan, with an elevation of 15,792 ft., and the Talish Mountains, which run from north to south, parallel to and at no great distance from the Caspian, have an altitude of 9000 ft. The principal rivers are the Aras and Kizil Uzain, both receiving numerous tributaries and flowing into the Caspian, and the Jaghatu, Tatava, [v.03 p.0081] Murdi, Aji and others, which drain into the Urmia lake. The country to the west of the lake, with the districts of Selmas and Urmia, is the most prosperous part of Azerbāïjān, yet even here the intelligent traveller laments the want of enterprise among the inhabitants. Azerbāïjān is one of the most productive provinces of Persia. The orchards and gardens in which many villages are embosomed yield delicious fruits of almost every description, and great quantities, dried, are exported, principally to Russia. Provisions are cheap and abundant, but there is a lack of forests and timber trees. Lead, copper, sulphur, orpiment, also lignite, have been found within the confines of the province; also a kind of beautiful, variegated, translucent marble, which takes a high polish, is used in the construction of palatial buildings, tanks, baths, &c., and is known as Maragha, or Tabriz marble. The climate is healthy, not hot in summer, and cold in winter. The cold sometimes is severely felt by the poor classes owing to want of proper fuel, for which a great part of the population has no substitute except dried cow-dung. Snow lies on the mountains for about eight months in the year, and water is everywhere abundant. The best soils when abundantly irrigated yield from 50- to 60-fold, and the water for this purpose is supplied by the innumerable streams which intersect the province. The natives of Azerbāïjān make excellent soldiers, and about a third of the Persian army is composed of them. The province is divided into a number of administrative sub-provinces or districts, each with a *hākim*, governor or sub-governor, under the governor-general, who under the Kajar dynasty has always been the heir-apparent to the throne of Persia, assisted by a responsible minister appointed by the shah. The administrative divisions are as follows:—Tabriz and environs; Uskuh; Deh-Kharegan; Maragha; Miandoab; Saūjbulagh; Sulduz; Urmia; Selmas; Khoi; Maku; Gerger; Merend; Karadagh; Arvanek; Talish; Ardebil; Mishkin; Khalkhāl; Hashtrud; Garmrud; Afshar; Sain Kaleh; Ujan; Sarab. The revenue amounts to about £200,000 per annum in cash and kind, and nearly all of it is expended in the province for the maintenance of the court of the heir-apparent, the salaries and pay to government officials, troops, pensions, &c.

(A. H.-S.)

AZIMUTH (from the Arabic), in astronomy, the angular distance from the north or south point of the horizon to the foot of the vertical circle through a heavenly body. In the case of a horizontal line the azimuth is its deviation from the north or south direction.

AZO (*c.* 1150-1230), Italian jurist. This Azo, whose name is sometimes written Azzo and Azzolenus, and who is occasionally described as Azo Soldanus, from the surname of his father, is to be distinguished from two other famous Italians of the same name, viz. Azo Lambertaccius, a canonist of the 13th century, professor of canon law at the university of Bologna, author of *Questiones in jus canonicum*, and Azo de Ramenghis, a canonist of the 14th century, also a professor of canon law at Bologna, and author of *Repetitiones super libro Decretorum*. Few particulars are known as to the life of Azo, further than that he was born at Bologna about the middle of the 12th century, and was a pupil of Joannes Bassianus, and afterwards became professor of civil law in the university of his native town. He also took an active part in municipal life, Bologna, with the other Lombard republics, having gained its municipal independence. Azo occupied a very important position amongst the glossators, and his *Readings on the Code*, which were collected by his pupil, Alessandro de Santo Aegidio, and completed by the additions of Hugolinus and Odofredus, form a methodical exposition of Roman law, and were of such weight before the tribunals that it used to be said, "Chi non ha Azzo, non vada a palazzo." Azo gained a great reputation as a professor, and numbered amongst his pupils Accursius and Jacobus Balduinus. He died about 1230.

AZO COMPOUNDS, organic substances of the type R·N:N·R′ (where R = an aryl radical and R′ = a substituted alkyl, or aryl radical). They may be prepared by the reduction of nitro compounds in alkaline solution (using zinc dust and alkali, or a solution of an alkaline stannite as a reducing agent); by oxidation of hydrazo compounds; or by the coupling of a diazotized amine and any compound of a phenolic or aminic type, provided that there is a free para position in the amine or phenol. They may also be obtained by the molecular rearrangement of the diazoamines, when these are warmed with the parent base and its hydrochloride. This latter method of formation has been studied by H. Goldschmidt and R. U. Reinders (*Ber.*, 1896, 29, p. 1369), who found that the

reaction is monomolecular, and that the velocity constant of the reaction is proportional to the amount of the hydrochloride of the base present and also to the temperature, but is independent of the concentration of the diazoamine. The azo compounds are intensely coloured, but are not capable of being used as dyestuffs unless they contain salt-forming, acid or basic groups (see DYEING). By oxidizing agents they are converted into azoxy compounds, and by reducing agents into hydrazo compounds or amines.

Azo-benzene, $C_6H_5N{:}NC_6H_5$, discovered by E. Mitscherlich in 1834, may be prepared by reducing nitrobenzene in alcoholic solution with zinc dust and caustic soda; by the condensation of nitrosobenzene with aniline in hot glacial acetic acid solution; or by the oxidation of aniline with sodium hypobromite. It crystallizes from alcohol in orange red plates which melt at 68° C. and boil at 293° C. It does not react with acids or alkalis, but on reduction with zinc dust in acetic acid solution yields aniline.

Amino-azo Compounds may be prepared as shown above. They are usually yellowish brown or red in colour, the presence of more amino groups leading to browner shades, whilst the introduction of alkylated amino groups gives redder shades. They usually crystallize well and are readily reduced. When heated with aniline and aniline hydrochloride they yield indulines (*q.v.*). Amino-azo-benzene, $C_6H_5{\cdot}N_2{\cdot}C_6H_4NH_2$, crystallizes in yellow plates or needles and melts at 126° C. Its constitution is determined by the facts that it may be prepared by reducing nitro-azo-benzene by ammonium sulphide and that by reduction with stannous chloride it yields aniline and meta-phenylene diamine. Diamino-azo-benzene (chrysoidine), $C_6H_5{\cdot}N_2{\cdot}C_6H_3(NH_2)_2$, first prepared by O. Witt (*Ber.*, 1877, 10, p. 656), is obtained by coupling phenyl diazonium chloride with meta-phenylene diamine. It crystallizes in red octahedra and dyes silk and wool yellow. Triamino-azo-benzene (meta-aminobenzene-azo-meta-phenylene diamine or Bismarck brown, phenylene brown, vesuvine, Manchester brown), $NH_2{\cdot}C_6H_4{\cdot}N_2{\cdot}C_6H_3(NH_2)_2$, is prepared by the action of nitrous acid on meta-phenylene diamine. It forms brown crystals which are readily soluble in hot water, and it dyes mordanted cotton a dark brown. On the composition of the commercial Bismarck brown see E. Tauber and F. Walder (*Ber.*, 1897, 30, pp. 2111, 2899; 1900, 33, p. 2116). Alkylated amino-azo-benzenes are also known, and are formed by the coupling of diazonium salts with alkylated amines, provided they contain a free para position with respect to the amino group. In these cases it has been shown by H. Goldschmidt and A. Merz (*Ber.*, 1897, 30, p. 670) that the velocity of formation of the amino-azo compound depends only on the nature of the reagents and not on the concentration, and that in coupling the hydrochloride of a tertiary amine with diazobenzene sulphonic acid the reaction takes place between the acid and the base set free by the hydrolytic dissociation of its salt, for the formation of the amino-azo compound, when carried out in the presence of different acids, takes place most rapidly with the weakest acid (H. Goldschmidt and F. Buss, *Ber.*, 1897, 30, p. 2075).

Methyl orange (helianthin, gold orange, Mandarin orange), $(CH_3)_2N{\cdot}C_6H_4{\cdot}N_2{\cdot}C_6H_4SO_3Na$, is the sodium salt of para-dimethylaminobenzene-azo-benzene sulphonic acid. It is an orange crystalline powder which is soluble in water, forming a yellow solution. The free acid is intensely red in colour. Methyl orange is used largely as an indicator. The constitution of methyl orange follows from the fact that on reduction by stannous chloride in hydrochloric acid solution it yields sulphanilic acid and para-aminodimethyl aniline.

Oxyazo Compounds.—The oxyazo compounds are prepared by adding a solution of a diazonium salt to a cold slightly alkaline solution of a phenol. The diazo group takes up the para position with regard to the hydroxyl group, and if this be prevented it then goes into the ortho position. It never goes directly into the meta position.

[v.03 p.0082]

The constitution of the oxyazo compounds has attracted much attention, some chemists holding that they are true azophenols of the type $R{\cdot}N_2{\cdot}R_1{\cdot}OH$, while others look upon them as having a quinonoid structure, *i.e.* as being quinone hydrazones, type $R{\cdot}NH{\cdot}N{:}R_1{:}O$. The first to attack the purely chemical side were Th. Zincke (*Ber.*, 1883,16, p. 2929; 1884, 17, p. 3026; 1887, 20, p. 3171) and R. Meldola (*Jour. Chem. Soc.*, 1889, 55, pp. 114, 603). Th. Zincke found that the products obtained by coupling a diazonium salt with α-naphthol, and by condensing phenyl-hydrazine with α-naphthoquinone, were identical; whilst Meldola acetylated the azophenols, and split the acetyl products by reduction in acid solution, but obtained no satisfactory results. K. Auwers (*Zeit. f. phys. Chem.*, 1896, 21, p. 355; *Ber.*, 1900, 33, p. 1302) examined the question from the physico-chemical standpoint by determining the freezing-point depressions, the result being that the para-oxyazo compounds give abnormal depressions and the ortho-oxyazo compounds give normal depressions; Auwers then concluded that the para compounds are phenolic and the ortho compounds are quinone hydrazones or act as such. A. Hantzsch (*Ber.*, 1899, 32, pp. 590, 3089) considers that the oxyazo compounds are to be classed as pseudo-acids, possessing in the free condition the configuration of quinone hydrazones, their salts, however, being of the normal phenolic type. J. T. Hewitt (*Jour. Chem. Soc.*, 1900, 77, pp. 99 et seq.) nitrated para-oxyazobenzene with dilute nitric acid and found that it gave a benzene azo-ortho-nitrophenol, whereas quinones are not attacked by dilute nitric acid. Hewitt has also attacked the problem by brominating the oxyazobenzenes, and has shown that when the hydrobromic acid produced in the reaction is allowed to remain in the system, a brombenzene-azo-phenol is formed, whilst if it be removed (by the addition of sodium acetate) bromination takes place in the phenolic nucleus; consequently the presence of the mineral acid gives the azo compound a pseudo-quinonoid character, which it does not possess if the mineral acid be removed from the sphere of the reaction.

Para-oxyazobenzene (benzene-azo-phenol), $C_6H_5N{:}N(1){\cdot}C_6H_4{\cdot}OH(4)$, is prepared by coupling diazotized aniline with phenol in alkaline solution. It is an orange-red crystalline compound which melts at 154° C. Ortho-oxyazobenzene, $C_6H_5N{:}N(1)C_6H_4{\cdot}OH(2)$, was obtained in small quantity by E. Bamberger (*Ber.*, 1900, 33, p. 3189) simultaneously with the para compound, from which it may be separated by distillation in a current of steam, the ortho compound passing over with the steam. It crystallizes in orange-red needles which melt at 82.5-83° C. On reduction with zinc dust in dilute sal-ammoniac solution, it yields ortho-aminophenol and aniline. Meta-oxyazobenzene, $C_6H_5N{:}N(1)C_6H_4{\cdot}OH(3)$, was obtained in 1903 by P. Jacobson (*Ber.*, 1903, 36, p. 4093) by condensing ortho-anisidine with diazo benzene, the resulting compound being then diazotized and reduced by alcohol to benzene-azo-meta-anisole, from which meta-oxyazobenzene was obtained by hydrolysis with aluminium chloride. It melts at 112-114° C. and is easily reduced to the corresponding hydrazo compound.

Diazo-Amines.—The diazo-amines, $R{\cdot}N{:}N{\cdot}NHR_1$, are obtained by the action of primary amines on diazonium salts; by the action of nitrous acid on a free primary amine, an iso-diazohydroxide being formed as an intermediate product which then condenses with the amine; and by the action of nitrosamines on primary amines. They are crystalline solids, usually of a yellow colour, which do not unite with acids; they are readily converted into amino-azo compounds (see above) and are decomposed by the concentrated halogen acids, yielding haloid benzenes, nitrogen and an amine. Acid anhydrides replace the imino-hydrogen atom by acidyl radicals, and boiling with water converts them into phenols. They combine with phenyl isocyanate to form urea derivatives (H. Goldschmidt, *Ber.*, 1888, 21, p. 2578), and on reduction with zinc dust (preferably in alcoholic acetic acid solution) they yield usually a hydrazine and an amine. Diazoamino benzene, $C_6H_5{\cdot}N{:}N{\cdot}NHC_6H_5$, was first obtained by P. Griess (*Ann.*, 1862, 121, p. 258). It crystallizes in yellow laminae, which melt at 96° C. and explode at slightly higher temperatures. It is readily soluble in alcohol, ether and benzene.

Diazoimino benzene, $C_6H_5N_3$, is also known. It may be prepared by the action of ammonia on diazobenzene perbromide; by the action of hydroxylamine on a diazonium sulphate (K. Heumann and L. Oeconomides, *Ber.*, 1887, 20, p. 372); and by the action of phenylhydrazine on a diazonium sulphate. It is a yellow oil which boils at 59° C. (12 mm.), and possesses a stupefying odour. It explodes when heated. Hydrochloric acid converts it into chloraniline, nitrogen being eliminated; whilst boiling sulphuric acid converts it into aminophenol.

Azoxy Compounds, $R{\cdot}\overline{N{\cdot}O{\cdot}N}{\cdot}R'$, are usually yellow or red crystalline solids which result from the reduction of nitro or nitroso compounds by heating them with alcoholic potash (preferably using methyl alcohol). They may also be obtained by the oxidation of azo compounds. When reduced (in acid solution) they yield amines; distillation with reduced iron gives azo compounds, and warming with ammonium sulphide gives hydrazo compounds. Concentrated sulphuric acid converts azoxybenzene into oxyazobenzene (O. Wallach, *Ber.*, 1880, 13, p. 525). Azoxybenzene, $(C_6H_5N)_2O$, crystallizes from alcohol in yellow needles, which melt at 36° C. On distillation, it yields aniline and azobenzene. Azoxybenzene is also found among the electro-reduction products of nitrobenzene, when the reduction is carried out in alcoholic-alkaline solution.

The mixed azo compounds are those in which the azo group ·N:N· is united with an aromatic radical on the one hand, and with a radical of the aliphatic series on the other. The most easily obtained mixed azo compounds are those formed by the union of a diazonium salt with the potassium or sodium salt of a nitroparaffin (V. Meyer, *Ber.*, 1876, 9, p. 384):

$$C_6H_5N_2{\cdot}NO_3 + CH_3{\cdot}CH(NO_2)K = KNO_3 + C_6H_5N_2{\cdot}CH(NO_2)CH_3.$$

Benzene-azo-nitro-ethane.

Those not containing a nitro group may be prepared by the oxidation of the corresponding mixed hydrazo compounds with mercuric oxide. E. Bamberger (*Ber.*, 1898, 31, p. 455) has shown that the nitro-alkyl derivatives behave as though they possess the constitution of hydrazones, for on heating with dilute alkalies they split more or less readily into an alkaline nitrite and an acid hydrazide:

$$C_6H_5NH{\cdot}N{:}C(NO_2)CH_3 + NaOH = NaNO_2 + C_6H_5NH{\cdot}NH{\cdot}CO{\cdot}CH_3.$$

Benzene-azo-methane, $C_6H_5{\cdot}N_2{\cdot}CH_3$, is a yellow oil which boils at 150° C. and is readily volatile in steam. Benzene-azo-ethane, $C_6H_5{\cdot}N_2{\cdot}C_2H_5$, is a yellow oil which boils at about 180° C. with more or less decomposition. On standing with 60% sulphuric acid for some time, it is converted into the isomeric acetaldehyde-phenylhydrazone, $C_6H_5NH{\cdot}N{:}CH{\cdot}CH_3$ (*Ber.*, 1896, 29, p. 794).

The diazo cyanides, $C_6H_5N_2{\cdot}CN$, and carboxylic acids, $C_6H_5{\cdot}N_2{\cdot}COOH$, may also be considered as mixed azo derivatives. Diazobenzenecyanide, $C_6H_5N_2{\cdot}CN$, is an unstable oil, formed when potassium cyanide is added to a solution of a diazonium salt. Phenyl-azo-carboxylic acid, $C_6H_5{\cdot}N_2{\cdot}COOH$, is obtained in the form of its potassium salt when phenylsemicarbazide is oxidized with potassium permanganate in alkaline solution (J. Thiele, *Ber.*, 1895, 28, p. 2600). It crystallizes in orange-red needles and is decomposed by water. The corresponding amide, phenyl-azo-carbonamide, $C_6H_5N_2{\cdot}CONH_2$, also results from the oxidation of phenylsemicarbazide (Thiele, *loc. cit.*), and forms reddish-yellow needles which melt at 114° C. When heated with

benzaldehyde to 120° C. it yields diphenyloxytriazole, $(C_6H_5)_2CN_3C(OH)$.

AZOIMIDE, or Hydrazoic Acid, N_3H, a compound of nitrogen and hydrogen, first isolated in 1890 by Th. Curtius (*Berichte*, 1890, 23, p. 3023). It is the hydrogen compound corresponding to P. Greiss' diazoimino benzene, $C_6H_5N_3$, which is prepared by the addition of ammonia to diazobenzene perbromide.

Curtius found that benzoyl glycollic acid gave benzoyl hydrazine with hydrazine hydrate:

$$C_6H_5OCO{\cdot}CH_2COOH + 2N_2H_4{\cdot}H_2O = H_2O + C_6H_5CONH{\cdot}NH_2 + NH_2{\cdot}NH{\cdot}CH_2{\cdot}COOH.$$

[v.03 p.0083] (Ethyl benzoate may be employed instead of benzoyl glycollic acid for this reaction.) This compound gave a nitroso compound with nitrous acid, which changed spontaneously into benzoylazoimide by loss of water:

$$C_6H_5CO{\cdot}NH{\cdot}NH_2 + HONO = H_2O + C_6H_5CO{\cdot}N(NO){\cdot}NH_2.$$
$$C_6H_5CO{\cdot}N(NO){\cdot}NH_2 = H_2O + C_6H_5CO{\cdot}N_3.$$

The resulting benzoylazoimide is easily hydrolysed by boiling with alcoholic solutions of caustic alkalis, a benzoate of the alkali metal and an alkali salt of the new acid being obtained; the latter is precipitated in crystalline condition on standing.

An improved method of preparation was found in the use of hippuric acid, which reacts with hydrazine hydrate to form hippuryl hydrazine, $C_6H_5CONH{\cdot}CH_2CONH{\cdot}NH_2$, and this substance is converted by nitrous acid into diazo-hippuramide, $C_6H_5CONH{\cdot}CH_2{\cdot}CO{\cdot}NH{\cdot}N_2{\cdot}OH$, which is hydrolysed by the action of caustic alkalis with the production of salts of hydrazoic acid. To obtain the free acid it is best to dissolve the diazo-hippuramide in dilute soda, warm the solution to ensure the formation of the sodium salt, and distil the resulting liquid with dilute sulphuric acid. The pure acid may be obtained by fractional distillation as a colourless liquid of very unpleasant smell, boiling at 30° C., and extremely explosive. It is soluble in water, and the solution dissolves many metals (zinc, iron, &c.) with liberation of hydrogen and formation of salts (azoimides, azides or hydrazoates). All the salts are explosive and readily interact with the alkyl iodides. In its properties it shows some analogy to the halogen acids, since it forms difficultly soluble lead, silver and mercurous salts. The metallic salts all crystallize in the anhydrous condition and decompose on heating, leaving a residue of the pure metal. The acid is a "weak" acid, being ionized only to a very slight extent in dilute aqueous solution.

E. Noelting and E. Grandmougin (*Berichte*, 1891, 24, p. 2546) obtained azoimide from dinitraniline, $C_6H_3(NO_2)_2{\cdot}NH_2$, by diazotization and conversion of the diazo compound into the perbromide, $(NO_2)_2C_6H_3{\cdot}N_2{\cdot}Br_3$. This compound is then decomposed by ammonia, dinitrophenylhydrazoate being formed, which on hydrolysis with alcoholic potash gives potassium hydrazoate (azide) and dinitrophenol. The solution is then acidified and distilled, when azoimide passes over. Somewhat later, they found that it could be prepared from diazobenzene imide, provided a nitro group were present in the ortho or para position to the diazo group. The para-nitro compound is dropped slowly into a cold solution of one part of caustic potash in ten parts of absolute alcohol; the solution becomes dark red in colour and is then warmed for two days on the water bath. After the greater portion of the alcohol has distilled off, the solution is acidified with sulphuric acid and the azoimide distilled over. The yield obtained is only about 40% of that required by theory, on account of secondary reactions taking place. Ortho-nitro-diazobenzene imide only yields 30%.

W. Wislicenus (*Berichte*, 1892, 25, p. 2084) has prepared the sodium salt by passing nitrous oxide over sodamide at high temperatures. The acid can also be obtained by the action of nitrous acid on hydrazine sulphate; by the oxidation of hydrazine by hydrogen peroxide and sulphuric acid (A. W. Browne, *J. Amer. Chem. Soc.*, 1905, 25, p. 251), or by ammonium metavanadate (A. W. Browne and F. F. Shetterly, *Abst. J.C.S.*, 1907, ii. p. 863).

Ammonium azoimide, $N_3{\cdot}NH_4$, may be prepared by boiling diazohippuramide with alcoholic ammonia, until no more ammonia escapes, the following reaction taking place:

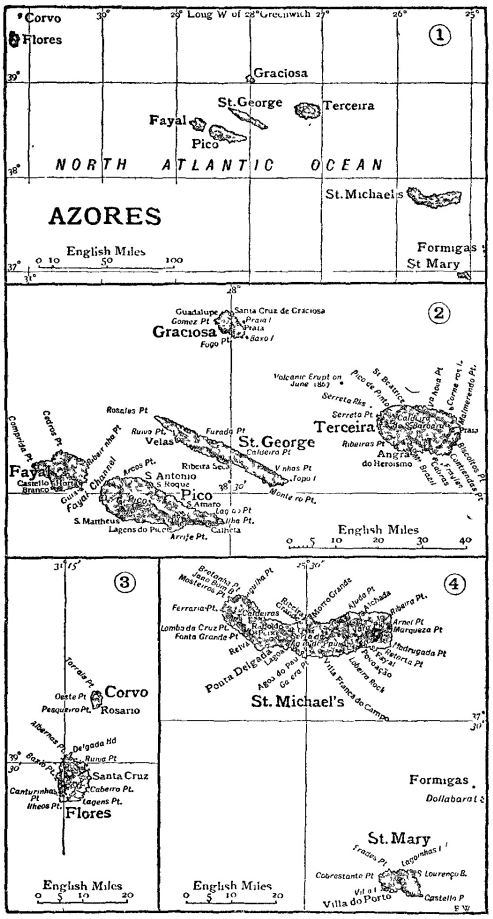
$$C_6H_5CO{\cdot}NHCH_2CONH{\cdot}N_2{\cdot}OH + 2NH_3 = N_3{\cdot}NH_4 + H_2O + C_6H_5CO{\cdot}NH{\cdot}CH_2{\cdot}CO{\cdot}NH_2.$$

The liquid is then allowed to stand for twelve hours, and the clear alcoholic solution is decanted from the precipitated hippuramide. To the alcoholic solution, four times its volume of ether is added, when the ammonium salt is precipitated. It is then filtered, washed with ether, and air-dried. The salt is readily soluble in water, and is only feebly alkaline. It is extremely explosive. *Hydrazine azoimide*, N_5H_5, is also known.

Chloroazoimide, $Cl{\cdot}N_3$, the chloride corresponding to azoimide, was obtained by F. Raschig (*Ber.*, 1908, 41, p. 4194) as a highly explosive colourless gas on acidifying a mixture of sodium azide and hypochlorite with acetic or boric acid.

AZORES (*Açores*), or Western Islands, an archipelago in the Atlantic Ocean, belonging to the

kingdom of Portugal. Pop. (1900) 256,291; area, 922 sq. m. The Azores extend in an oblique line from N.W. to S.E., between 36° 55′ and 39° 55′ N., and between 25° and 31° 16′ W. They are divided into three widely severed groups, rising from a depth of more than 2½ m. The south-eastern group consists of St Michael's (São Miguel) and St Mary (Santa Maria), with Formigas; the central, of Fayal (Faial), Pico, St George (São Jorge), Terceira and Graciosa; the north-western, of Flores and Corvo.



The nearest continental land is Cape da Roca on the Portuguese coast, which lies 830 m. E. of St Michael's; while Cape Cantin, the nearest point on the African mainland, is more than 900 m. distant, and Cape Race in Newfoundland, the nearest American headland, is more than 1000 m. Thus the Azores are the farthest from any continent of all the island groups in the Atlantic; but they are usually regarded as belonging to Europe, as their climate and flora are European in character.

Physical Description.—The aspect of all the islands is very similar in general characteristics, presenting an [v.03 p.0084] elevated and undulating outline, with little or no tableland, and rising into peaks, of which the lowest, that of Corvo, is 350 ft., and the highest that of Pico, 7612 ft. above sea-level. The lines of sea-coast are, with few exceptions, high and precipitous, with bases of accumulated masses of fallen rock, in which open bays, or scarcely more enclosed inlets, form the harbours of the trading towns. The volcanic character of the whole archipelago is obvious, and has been abundantly confirmed by the numerous earthquakes and eruptions which have taken place since its discovery. Basalt and scoria are the chief erupted materials. Hitherto Flores, Corvo and Graciosa have been quite exempt, and Fayal has only suffered from one eruption (1672). The centre of activity has for the most part been St Michael's, while the neighbouring island of St Mary has altogether escaped. In 1444-1445 there was a great eruption at St Michael's, of which, however, the accounts that have been preserved exaggerate the importance. In 1522 the town of Villa Franca, at that time the capital of the island, was buried, with all its 6000 inhabitants, during a violent convulsion. In 1572 an eruption took place in Pico; in 1580 St George was the scene of numerous outbursts; and in 1614 a little town in Terceira was destroyed. In 1630, 1652, 1656, 1755, 1852, &c., St Michael's was visited with successive eruptions and earthquakes, several of them of great violence. On various occasions, as in 1638, 1720, 1811 and 1867, subterranean eruptions have taken place, which have sometimes been accompanied by the appearance of temporary islands. Of these the most remarkable was thrown up in June 1811, about half a league from the western extremity of St Michael's. It was called Sabrina by the commander of the British man-of-war of that name, who witnessed the phenomenon.

Climate.—The climate is particularly temperate, but the extremes of sensible heat and cold are increased by the humidity. The range of the thermometer is from 45° Fahr., the lowest known extreme, or 48°, the ordinary lowest extreme of January, to 82°, the ordinary, or 86°, the highest known extreme of July, near the level of the sea. Between these two points (both taken in the shade) there is from month to month a pretty regular gradation of increase or decrease, amounting to somewhat less than four degrees. In winter the prevailing winds are from the north-west, west and south; in summer the most frequent are the north, north-east and east. The weather is often extremely stormy, and the winds from the west and south-west render the navigation of the coasts very dangerous.

Fauna.—The mammalia of the Azores are limited to the rabbit, weasel, ferret, rat (brown and black), mouse and bat, in addition to domestic animals. The game includes the woodcock, red partridge (introduced in the 16th century), quail and snipe. Owing to the damage inflicted on the crops by the multitude of blackbirds, bullfinches, chaffinches and green canaries, a reward was formerly paid for the destruction of birds in St Michael's, and it is said that over 400,000 were destroyed in several successive years between 1875 and 1885. There are valuable fisheries of tunny, mullet and bonito. The porpoise, dolphin and whale are also common. Whale-fishing is a profitable industry, with its headquarters at Fayal, whence the sperm-oil is exported. Eels are found in the rivers. The only indigenous reptile is the lizard. Fresh-water molluscs are unknown, and near the coast the marine fauna is not rich; but terrestrial molluscs abound, several species being peculiar to the Azores.

Flora.—The general character of the flora is decidedly European, no fewer than 400 out of the 478 species generally considered as indigenous belonging likewise to that continent, while only four are found in America, and forty are peculiar to the archipelago. Vegetation in most of the

islands is remarkably rich, especially in grasses, mosses, and ferns, heath, juniper, and a variety of shrubs. Of tall-growing trees there was, till the 19th century, an almost total lack; but the Bordeaux pine, European poplar, African palm-tree, Australian eucalyptus, chestnut, tulip-tree, elm, oak, and many others, were then successfully introduced. The orange, apricot, banana, lemon, citron, Japanese medlar, and pomegranate are the common fruits, and various other varieties are more or less cultivated. At one time much attention was given to the growing of sugar-cane, but it has now for the most part been abandoned. The culture of indigo, introduced in the 16th century, also belongs to the past. A kind of fern (*Dicksonia culcita*), called by the natives *cabellinho*, furnishes a silky material for the stuffing of mattresses and is exported to Brazil and Portugal.

Population.—The inhabitants of the islands are mostly of Portuguese origin, with a well-marked strain of Moorish and Flemish blood. There is a high birth-rate and a low average of infant mortality. A large proportion of the poorer classes, especially among the older men and women, are totally illiterate, but education tends to spread more rapidly than in Portugal itself, owing to the custom of sending children to the United States, where they are taught in the state schools. Negroes, mulattoes, English, Scottish and Irish immigrants are present in considerable numbers, especially in Fayal and St Michael's. The total number of resident foreigners in 1900 was 1490.

Government.—The Azores are subdivided into three administrative districts named after their chief towns, *i.e.* Ponta Delgada, the capital of St Michael's; Angra, or Angra do Heroismo, the capital of Terceira; and Horta, the capital of Fayal. St Michael's and St Mary are included in the district of Ponta Delgada; Terceira, St George and Graciosa, in that of Angra; Pico, Fayal, Flores and Corvo, in that of Horta. Four members are returned by Ponta Delgada to the parliament in Lisbon, while each of the other districts returns two members. Roman Catholicism is the creed of the majority, and Angra is an episcopal see. For purposes of military administration the islands form two commands, with their respective headquarters at Angra and Ponta Delgada. Besides the frequent and regular services of mails which connect the Azores with Portugal and other countries, there is a cable from Lisbon to Villa Franca do Campo, in St Michael's, and thence to Pico, Fayal, St George and Graciosa. Fayal is connected with Waterville, in Ireland, by a cable laid in 1901. At Angra and Ponta Delgada there are meteorological stations. The principal seaports are Angra (pop. 1900, 10,788), Ponta Delgada (17,620), and Horta (6574).

Trade.—The trade of the Azores, long a Portuguese monopoly, is now to a great extent shared by the United Kingdom and Germany, and is chiefly carried in British vessels. Textiles are imported from Portugal; coal from Great Britain; sugar from Germany, Madeira and the United States; stationery, hardware, chemicals, paints, oils, &c., from the United Kingdom and Germany. The exports consist chiefly of fruit, wine, natural mineral waters and provisions. The trade in pineapples is especially important. No fewer than 940,000 pineapples were exported in 1902 and 1903, going in almost equal quantities to London and Hamburg. The fruit is raised under glass. Pottery, cotton fabrics, spirits, straw hats and tea are produced in the district of Ponta Delgada; linen and woollen goods, cheese, butter, soap, bricks and tiles, in that of Angra; baskets, mats, and various ornamental articles made from straw, osier, and the pith of dried fig-wood, in that of Horta.

The largest and most populous of the Azores is St Michael's, which has an area of 297 sq. m., and in 1900 had 121,340 inhabitants. Graciosa (pop. 8385; area, 17 sq. m.) and St George (16,177; 40 sq. m.) form part of the central group. Graciosa is noteworthy for the beauty of its scenery. Its chief towns are Santa Cruz de Graciosa (2185) and Guadalupe (2717). The chief towns of St George are Ribeira Seca (2817) and Velas (2009).

History.—It does not appear that the ancient Greeks and Romans had any knowledge of the Azores, but from the number of Carthaginian coins discovered in Corvo it has been supposed that the islands must have been visited by that adventurous people. The Arabian geographers, Edrisi in the 12th century, and Ibn-al-Wardi in the 14th, describe, after the Canaries, nine other islands in the Western Ocean, which are in all probability the Azores. This identification is supported by various considerations. The number of islands is the same; the climate under which they are placed by the Arabians makes them north of the Canaries; and special mention is made of the
[v.03 p.0085] hawks or buzzards, which were sufficiently numerous at a later period to give rise to the present name (Port. *Açor*, a hawk). The Arabian writers represent them as having been populous, and as having contained cities of some magnitude; but they state that the inhabitants had been greatly reduced by intestine warfare. The Azores are first found distinctly marked in a map of 1351, the southern group being named the Goat Islands (*Cabreras*); the middle group, the Wind or Dove Islands (*De Ventura sive de Columbis*); and the western, the Brazil Island (*De Brazi*)—the word Brazil at that time being employed for any red dye-stuff. In a Catalan map of the year 1375 Corvo is found as *Corvi Marini*, and Flores as *Li Conigi*; while St George is already designated *San Zorze*. It has been conjectured that the discoverers were Genoese, but of this there is not sufficient evidence. It is plain, however, that the so-called Flemish discovery by van der Berg is only worthy of the name in a very secondary sense. According to the usual account, he was driven on the islands in 1432, and the news excited considerable interest at the court of Lisbon. The navigator, Gonzalo Velho Cabral—not to be confounded with his greater namesake, Pedro Alvarez Cabral—was sent to prosecute the discovery. Another version relates that Prince Henry the Navigator of Portugal had in his possession a map in which the islands were laid down, and that he sent out Cabral through confidence in its accuracy. The map had been presented to him by his brother, Dom Pedro, who had travelled as far as Babylon. Be this as it may, Cabral reached the island, which he named *Santa Maria*, in 1432, and in 1444 took possession of St Michael's. The

other islands were all discovered by 1457. Colonization had meanwhile been going on prosperously; and in 1466 Fayal was presented by Alphonso V. to his aunt, Isabella, the duchess of Burgundy. An influx of Flemish settlers followed, and the islands became known for a time as the Flemish Islands. From 1580 to 1640 they were subject, like the rest of the Portuguese kingdom, to Spain. At that time the Azores were the grand rendezvous for the fleets on their voyage home from the Indies; and hence they became a theatre of that maritime warfare which was carried on by the English under Queen Elizabeth against the Peninsular powers. One such expedition, which took place in 1591, led to the famous sea-fight off Flores, between the English ship "Revenge," commanded by Sir Richard Grenville, and a Spanish fleet of fifty-three vessels. Under the active administration of the marquis de Pombal (1690-1782), considerable efforts were made for the improvement of the Azores, but the stupid and bigoted government which followed rather tended to destroy these benefits. Towards the beginning of the 19th century, the possession of the islands, was contested by the claimants for the crown of Portugal. The adherents of the constitution, who supported against Miguel the rights of Maria (II.) da Gloria, obtained possession of Terceira in 1829, where they succeeded in maintaining themselves, and after various struggles, Queen Maria's authority was established over all the islands. She resided at Angra from 1830 to 1833.

For a general account of the islands, see *The Azores*, by W. F. Walker (London, 1886), and *Madeira and the Canary Islands, with the Azores*, by A. S. Brown (London, 1901). On the fauna and flora of the islands, the following books by H. Drouet are useful:—*Eléments de la faune açoréenne* (Paris, 1861); *Mollusques marins des îles Açores* (1858), *Lettres açoréennes* (1862), and *Catalogue de la flore des îles Açores, précédé de l'itinéraire d'une voyage dans cet archipel* (1866). The progress of Azorian commerce is best shown in the British and American consular reports. For history, see *La Conquista de las Azores en 1583*, by C. Fernandez Duro (Madrid, 1886), and *Histoire de la découverte des îles Azores et de l'origine de leur dénomination d'îles flamandes*, by J. Mees (Ghent, 1901).

AZOTH, the name given by the alchemists to mercury, and by Paracelsus to his universal remedy.

AZOTUS, the name given by Greek and Roman writers to Ashdod, an ancient city of Palestine, now represented by a few remains in the little village of *'Esdud*, in the governmental district of Acre. It was situated about 3 m. inland from the Mediterranean, on the famous military route between Syria and Egypt, about equidistant (18 m.) from Joppa and Gaza. As one of the five chief cities of the Philistines and the seat of the worship of Dagon (1 Sam. v.; cf. 1 Macc. x. 83), it maintained, down even to the days of the Maccabees, a vigorous though somewhat intermittent independence against the power of the Israelites, by whom it was nominally assigned to the territory of Judah. In 711 B.C. it was captured by the Assyrians (Is. xx. 1), but soon regained its power, and was strong enough in the next century to resist the assaults of Psammetichus, king of Egypt, for twenty-nine years (Herod. ii. 157). Restored by the Roman Gabinius from the ruins to which it had been reduced by the Jewish wars (1 Macc. v. 68, x. 77, xvi. 10), it was presented by Augustus to Salome, the sister of Herod. The only New Testament reference is in Acts viii. 40. Ashdod became the seat of a bishop early in the Christian era, but seems never to have attained any importance as a town. The Mount Azotus of 1 Macc. ix. 15, where Judas Maccabeus fell, is possibly the rising ground on which the village stands. A fine Saracenic khān is the principal relic of antiquity at ʻEsdud.

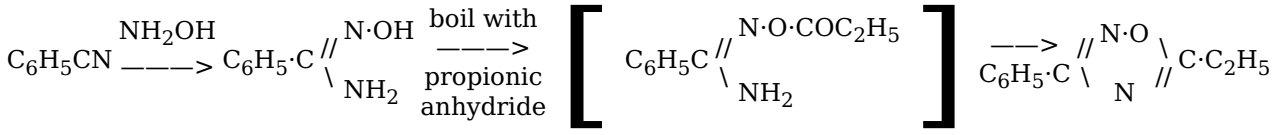
AZOV, or Asov (in Turkish, *Asak*), a town of Russia, in the government of the Don Cossacks, on the left bank of the southern arm of the Don, about 20 m. from its mouth. The ancient Tanais lay some 10 m. to the north. In the 13th century the Genoese had a factory here which they called Tana. Azov was long a place of great military and commercial importance. Peter the Great obtained possession of it after a protracted siege in 1696, but in 1711 restored it to the Turks; in 1739 it was finally united to the Russian empire. Since then it has greatly declined, owing to the silting up of its harbour and the competition of Taganrog. Its population, principally engaged in the fisheries, numbered 25,124 in 1900.

AZOV, SEA OF an inland sea of southern Europe, communicating with the Black Sea by the Strait of Yenikale, or Kerch, the ancient *Bosporus Cimmerius*. To the Romans it was known as the *Palus Maeotis*, from the name of the neighbouring people, who called it in their native language *Temarenda*, or Mother of Waters. It was long supposed to possess direct communication with the Northern Ocean. In prehistoric times a connexion with the Caspian Sea existed; but since the earliest historical times no great change has taken place in regard to the character or relations of the Sea of Azov. It lies between 45° 20′ and 47° 18′ N. lat, and between 35° and 39° E. long., its length from south-west to north-east being 230 m., and its greatest breadth 110. The area runs to 14,515 sq. m. It generally freezes from November to the middle of April. The Don is its largest and, indeed, its only very important affluent. Near the mouth of that river the depth of the sea varies from 3 to 10 ft., and the greatest depth does not exceed 45 ft. Of recent years, too, the level has been constantly dropping, for the surface lies 4¾ ft. higher than the surface of the Black Sea. Fierce and continuous winds from the east prevail during July and August, and in the latter part of the year those from the north-east and south-east are not unusual; a great variety of currents is thus produced. The water is for the most part comparatively fresh, but differs considerably in this respect according to locality and current. Fish are so abundant that the Turks describe it as *Baluk-deniz*, or Fish Sea. To the west, separated from the main basin by the long narrow sand-spit of Arabat, lie the remarkable lagoons and marshes known as the Sivash, or Putrid Sea; here the water is intensely salt. The Sea of Azov is of great importance to Russian

commerce; along its shores stand the cities of Taganrog, Berdyansk, Mariupol and Yenikale.

AZOXIMES (furo [a.b.] diazoles), a class of organic compounds which contain the ring system

They may be prepared by converting nitriles into amidoximes by the action of hydroxylamine, the amidoximes so formed being then acylated by acid chlorides or anhydrides. From these acyl derivatives the elements of water are removed, either by simple heating or by boiling their aqueous solution; this elimination is accompanied by the formation of the azoxime ring. Thus



[v.03 p.0086] Azoximes can also be produced from α-benzil dioxime by the "Beckmann" change. Most of the azoximes are very volatile substances, sublime readily, and are easily soluble in water, alcohol and benzene.

For detailed descriptions, see F. Tiemann (*Ber.*, 1885, 18, p. 1059), O. Schulz (*Ber.*, 1885, 18, pp. 1084, 2459), and G. Müller (*Ber.*, 1886, 19, p. 1492); also *Annual Reports* of the Chemical Society).

AZTECS (from the Nahuatl word *aztlan*, "place of the Heron," or "Heron" people), the native name of one of the tribes that occupied the tableland of Mexico on the arrival of the Spaniards in America. It has been very frequently employed as equivalent to the collective national title of Nahuatlecas or Mexicans. The Aztecs came, according to native tradition, from a country to which they gave the name of Aztlan, usually supposed to lie towards the north-west, but the satisfactory localization of it is one of the greatest difficulties in Mexican history. The date of the exodus from Aztlan is equally undetermined, being fixed by various authorities in the 11th and by others in the 12th century. One Mexican manuscript gives a date equivalent to A.D. 1164. They gradually increased their influence among other tribes, until, by union with the Toltecs, who occupied the tableland before them, they extended their empire to an area of from 18,000 to 20,000 square leagues. The researches of Humboldt gave the first clear insight into the early periods of their history. See Mexico; Nahuatlan Stock.

AZUAGA, a town of western Spain, in the province of Badajoz, on the Belmez-Fuente del Arco railway. Pop. (1900) 14,192. Azuaga is the central market for the live-stock of the broad upland pastures watered by the Matachel, a left-hand tributary of the Guadiana, and by the Bembézar, a right-hand tributary of the Guadalquivir. Coarse woollen goods and pottery are manufactured in the town.

AZUAY (sometimes written Assuay), a province of Ecuador, bounded N. by the province of Cañar, E. by Oriente, S. by Loja, and W. by El Oro. It was formerly called Cuenca, and formed part of the department of Azuay, which also included the province of Loja. Azuay is an elevated mountainous district with a great variety of climates and products; among the latter are silver, quicksilver, wheat, Indian corn, barley, cattle, wool, cinchona and straw hats. The capital is Cuenca.

AZUNI, DOMENICO ALBERTO (1749-1827), Italian jurist, was born at Sassar, in Sardinia, in 1749. He studied law at Sassari and Turin, and in 1782 was made judge of the consulate at Nice. In 1786-1788 he published his *Dizionario Universale Ragionato della Giurisprudenza Mercantile*. In 1795 appeared his systematic work on the maritime law of Europe, *Sistema Universale dei Principii del Diritto Maritimo dell' Europa*, which he afterwards recast and translated into French. In 1806 he was appointed one of the French commission engaged in drawing up a general code of commercial law, and in the following year he proceeded to Genoa as president of the court of appeal. After the fall of Napoleon in 1814, Azuni lived for a time in retirement at Genoa, till he was invited to Sardinia by Victor Emmanuel I., and appointed judge of the consulate at Cagliari, and director of the university library. He died at Cagliari in 1827. Azuni also wrote numerous pamphlets and minor works, chiefly on maritime law, an important treatise on the origin and progress of maritime law (Paris, 1810), and an historical, geographical and political account of Sardinia (1799, enlarged 1802).

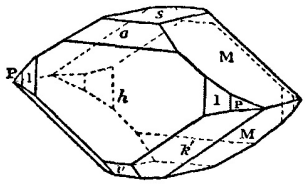
AZURARA, GOMES EANNES DE (?-1474), the second notable Portuguese chronicler in order of date. He adopted the career of letters in middle life. He probably entered the royal library as assistant to Fernão Lopes (*q.v.*) during the reign of King Duarte (1433-1438), and he had sole charge of it in 1452. His *Chronicle of the Siege and Capture of Ceuta*, a supplement to the *Chronicle of King John I.*, by Lopes, dates from 1450, and three years later he completed the first draft of the *Chronicle of the Discovery and Conquest of Guinea*, our authority for the early Portuguese voyages of discovery down the African coast and in the ocean, more especially for those undertaken under the auspices of Prince Henry the Navigator. It contains some account of the life work of that prince, and has a biographical as well as a geographical interest. On the 6th of June 1454 Azurara became chief keeper of the archives and royal chronicler in succession to Fernão Lopes. In 1456 King Alphonso V. commissioned him to write the history of Ceuta, "the land-gate of the East," under the governorship of D. Pedro de Menezes, from its capture in 1415

until 1437, and he had it ready in 1463. A year afterwards the king charged him with a history of the deeds of D. Duarte de Menezes, captain of Alcacer, and, proceeding to Africa, he spent a twelvemonth in the town collecting materials and studying the scenes of the events he was to describe, and in 1468 he completed the chronicle. Alphonso corresponded with Azurara on terms of affectionate intimacy, and no less than three *commendas* of the order of Christ rewarded his literary services. He has little of the picturesque ingenuousness of Lopes, and loved to display his erudition by quotations and philosophical reflections, showing that he wrote under the influence of the first Renaissance. Nearly all the leading classical, early Christian and medieval writers figure in his pages, and he was acquainted with the notable chronicles and romances of Europe and had studied the best Italian and Spanish authors. In addition, he had mastered the geographical system of the ancients and their astrology. As an historian he is laborious, accurate and conscientious, though his position did not allow him to tell the whole truth about his hero, Prince Henry.

His works include: (1) *Chronica del Rei D. Joam I. Terceira parte em que se contem a tomada de Ceuta* (Lisbon, 1644); (2) *Chronica do Descobrimento e Conquista de Guiné* (Paris, 1841; Eng. version in 2 vols. issued by the Hakluyt Society, London, 1896-1899); (3) *Chronica do Conde D. Pedro (de Menezes)*, printed in the *Ineditos de Historia Portugueza*, vol. ii. (Lisbon, 1792); (4) *Chronica do Conde D. Duarte de Menezes*, printed in the *Ineditos*, vol. iii. (Lisbon, 1793). The preface to the English version of the *Chronicle of Guinea* contains a full account of the life and writings of Azurara and cites all the authorities.

(E. Pr.)

AZURE (derived, through the Romance languages, from the Arabic *al-lazward*, for the precious stone *lapis lazuli*, the initial *l* having dropped), the lapis lazuli; and so its colour, blue.



AZURITE, or Chessylite, a mineral which is a basic copper carbonate, $2CuCO_3 \cdot Cu(OH)_2$. In its vivid blue colour it contrasts strikingly with the emerald-green malachite, also a basic copper carbonate, but containing rather more water and less carbon dioxide. It was known to Pliny under the name *caeruleum*, and the modern name azurite (given by F. S. Beudant in 1824) also has reference to the azure-blue colour; the name chessylite, also in common use, is of later date (1852), and is from the locality, Chessy near Lyons, which has supplied the best crystallized specimens of the mineral. Crystals of azurite belong to the monoclinic system; they have a vitreous lustre and are translucent. The streak is blue, but lighter than the colour of the mineral in mass. Hardness 3½—4; sp. gr. 3.8.

Azurite occurs with malachite in the upper portions of deposits of copper ore, and owes its origin to the alteration of the sulphide or of native copper by water containing carbon dioxide and oxygen. It is thus a common mineral in all copper mines, and sometimes occurs in large masses, as in Arizona and in South Australia, where it has been worked as an ore of copper, of which element it contains 55%. Being less hydrated than malachite it is itself liable to alteration into this mineral, and pseudomorphs of malachite after azurite are not uncommon. Occasionally the massive material is cut and polished for decorative purposes, though the application in this direction is far less extensive than that of malachite.

(L. J. S.)

AZYMITES (Gr. ἀ-, without; ζύμη, leaven), a name given by the Orthodox Eastern to the Western or Latin Church, because of the latter's use of unleavened bread in the Eucharist, a practice which arose in the 9th century and is also observed by Armenians and Maronites following the Jewish passover custom. The Orthodox Church strenuously maintains its point, arguing that the very name bread, the holiness of the mystery, and the example of Jesus and the early church alike, testify against the use of unleavened bread in this connexion.

[v.03 p.0087]

B This letter corresponds to the second symbol in the Phoenician alphabet, and appears in the same position in all the European alphabets, except those derived, like the Russian, from medieval Greek, in which the pronunciation of this symbol had changed from *b* to *v*. A new form had therefore to be invented for the genuine *b* in Slavonic, to which there was, at the period when the alphabet was adopted, no corresponding sound in Greek. The new symbol, which occupies the second position, was made by removing the upper loop of B, thus producing a symbol somewhat resembling an ordinary lowercase b. The old B retained the numerical value of the Greek β as 2, and no numerical value was given to the new symbol. In the Phoenician alphabet the earliest forms are  or more rounded . The rounded form appears also in the earliest Aramaic (see Alphabet). Like some other alphabetic symbols it was not borrowed by Greek in its original form. In the very early rock inscriptions of Thera (700-600 B.C.), written from right to left; it appears in a form resembling the ordinary Greek λ; this form apparently arose from writing the Semitic symbol upside down. Its form in inscriptions of Melos, Selinus, Syracuse and elsewhere in the 6th and 5th centuries suggests the influence of Aramaic forms in which the head of the letter is opened, . The Corinthian , and (also at Corcyra) and the of Byzantine coins are other adaptations of the same symbol. The form which it takes in the alphabets of Naxos, Delos and other Ionic islands at the same period is difficult to explain. Otherwise its only variation is between pointed and rounded loops (and). The sound which the symbol represents is the voiced stop made by closing the lips and vibrating the vocal chords (see Phonetics). It differs from *p* by the presence of vibration of the vocal chords and from

m because the nasal passage as well as the lips is closed. When an audible emission of breath attends its production the aspirate *bh* is formed. This sound was frequent in the pro-ethnic period of the Indo-European languages and survived into the Indo-Aryan languages. According to the system of phonetic changes generally known as "Grimm's law," an original *b* appears in English as *p*, an original *bh* as *b*. An original medial *p* preceding the chief accent of the word also appears as *b* in English and the other members of the same group. It is not certain that any English word is descended from an original word beginning with *b*, though it has been suggested that *peg* is of the same origin as the Latin *baculum* and the Greek βάκτρον. When the lips are not tightly closed the sound produced is not a stop, but a spirant like the English *w*. In Late Latin there was a tendency to this spirant pronunciation which appears as early as the beginning of the 2nd century A.D.; by the 3rd century *b* and consonantal *u* are inextricably confused. When this consonantal *u* (English *w* as seen in words borrowed very early from Latin like *wall* and *wine*) passed into the sound of English *v* (labio-dental) is not certain, but Germanic words borrowed into Latin in the 5th century A.D. have in their Latin representation *gu-* for Germanic *w-*, *guisa* corresponding to English *wise* and reborrowed indirectly as *guise*.

The earliest form of the name of the symbol which we can reach is the Hebrew *beth*, to which the Phoenician must have been closely akin, as is shown by the Greek βῆτα, which is borrowed from it with a vowel affixed.

(P. GI.)

BAADER, FRANZ XAVER VON (1765-1841), German philosopher and theologian, born on the 27th of March 1765 at Munich, was the third son of F. P. Baader, court physician to the elector of Bavaria. His brothers were both distinguished—the elder, Clemens, as an author; the second, Joseph (1763-1835), as an engineer. Franz studied medicine at Ingolstadt and Vienna, and for a short time assisted his father in his practice. This life he soon found uncongenial, and decided on becoming a mining engineer. He studied under Abraham Gottlob Werner at Freiberg, travelled through several of the mining districts in north Germany, and for four years, 1792-1796, resided in England. There he became acquainted with the works of Jakob Boehme, and with the ideas of Hume, Hartley and Godwin, which were extremely distasteful to him. The mystical speculations of Meister Eckhart, Saint Martin, and above all those of Boehme, were more in harmony with his mode of thought. In 1796 he returned from England, and in Hamburg became acquainted with F. H. Jacobi, with whom he was for years on terms of friendship. He now learned something of Schelling, and the works he published during this period were manifestly influenced by that philosopher. Yet Baader is no disciple of Schelling, and probably gave out more than he received. Their friendship continued till about the year 1822, when Baader's denunciation of modern philosophy in his letter to the emperor Alexander I. of Russia entirely alienated Schelling.

All this time Baader continued to apply himself to his profession of engineer. He gained a prize of 12,000 gulden (about £1000) for his new method of employing Glauber's salts instead of potash in the making of glass. From 1817 to 1820 he held the post of superintendent of mines, and was raised to the rank of nobility for his services. He retired in 1820, and soon after published one of the best of his works, *Fermenta Cognitionis*, 6 parts, 1822-1825, in which he combats modern philosophy and recommends the study of Boehme. In 1826, when the new university was opened at Munich, he was appointed professor of philosophy and speculative theology. Some of the lectures delivered there he published under the title, *Spekulative Dogmatik*, 4 parts, 1827-1836. In 1838 he opposed the interference in civil matters of the Roman Catholic Church, to which he belonged, and in consequence was, during the last three years of his life, interdicted from lecturing on the philosophy of religion. He died on the 23rd of May 1841.

It is difficult to summarize Baader's philosophy, for he himself generally gave expression to his deepest thoughts in obscure aphorisms, or mystical symbols and analogies (see Ed. Zeller's *Ges. d. deut. Phil.* 732, 736). Further, he has no systematic works; his doctrines exist for the most part in short detached essays, in comments on the writings of Boehme and Saint Martin, or in his extensive correspondence and journals. At the same time there are salient points which mark the outline of his thought. Baader starts from the position that human reason by itself can never reach the end it aims at, and maintains that we cannot throw aside the presuppositions of faith, church and tradition. His point of view may be described as Scholasticism; for, like the scholastic doctors, he believes that theology and philosophy are not opposed sciences, but that reason has to make clear the truths given by authority and revelation. But in his attempt to draw still closer the realms of faith and knowledge he approaches more nearly to the mysticism of Eckhart, Paracelsus and Boehme. Our existence depends on the fact that we are cognized by God (*cogitor ergo cogito et sum*). All self-consciousness is at the same time God-consciousness; our knowledge is never mere *scientia*, it is invariably *con-scientia*—a knowing with, consciousness of, or participation in God. Baader's philosophy is thus essentially a theosophy. God is not to be conceived as mere abstract Being (*substantia*), but as everlasting process, activity (*actus*). Of this process, this self-generation of God, we may distinguish two aspects—the immanent or esoteric, and the emanent or exoteric. God has reality only in so far as He is absolute spirit, and only in so far as the primitive will is conscious of itself can it become spirit at all. But in this very cognition of self is involved the distinction of knower and known, from which proceeds the power to become spirit. This immanent process of self-consciousness, wherein indeed a trinity of persons is not given but only rendered possible, is mirrored in, and takes place through, the eternal and impersonal idea or wisdom of God, which exists beside, though not distinct from, the primitive will. Concrete reality or personality is given to this divine *Ternar*, as Baader calls it, through *nature*, the principle of self-hood, of individual being, which is eternally and necessarily produced

by God. Only in nature is the trinity of *persons* attained. These processes, it must be noticed, are not to be conceived as successive, or as taking place in time; they are to be looked at *sub specie aeternitatis*, as the necessary elements or moments in the self-evolution of the divine Being. Nor is *nature* to be confounded with created substance, or with matter as it exists in space and time; it is pure non-being, the mere otherness (*alteritas*) of God-his shadow, desire, want, or *desiderium sui*, as it is called by mystical writers. Creation, itself a free and non-temporal act of
[v.03 p.0088] God's love and will, cannot be speculatively deduced, but must be accepted as an historic fact. Created beings were originally of three orders—the intelligent or angels; the non-intelligent natural existences; and man, who mediated between these two orders. Intelligent beings are endowed with freedom; it is possible, but not necessary, that they should fall. Hence the fact of the fall is not a speculative but an historic truth. The angels fell through pride—through desire to raise themselves to equality with God; man fell by lowering himself to the level of nature. Only after the fall of man begins the creation of space, time and matter, or of the world as we now know it; and the motive of this creation was the desire to afford man an opportunity for taking advantage of the scheme of redemption, for bringing forth in purity the image of God according to which he has been fashioned. The physical philosophy and anthropology which Baader, in connexion with this, unfolds in various works, is but little instructive, and coincides in the main with the utterances of Boehme. In nature and in man he finds traces of the dire effects of sin, which has corrupted both and has destroyed their natural harmony. As regards ethics, Baader rejects the Kantian or any autonomic system of morals. Not obedience to a moral law, but realization in ourselves of the divine life is the true ethical end. But man has lost the power to effect this by himself; he has alienated himself from God, and therefore no ethical theory which neglects the facts of sin and redemption is satisfactory or even possible. The history of man and of humanity is the history of the redeeming love of God. The means whereby we put ourselves so in relation with Christ as to receive from Him his healing virtue are chiefly prayer and the sacraments of the church; mere works are never sufficient. Man in his social relations is under two great institutions. One is temporal, natural and limited—the state; the other is eternal, cosmopolitan and universal—the church. In the state two things are requisite: first, common submission to the ruler, which can be secured or given only when the state is Christian, for God alone is the true ruler of men; and, secondly, inequality of rank, without which there can be no organization. A despotism of mere power and liberalism, which naturally produces socialism, are equally objectionable. The ideal state is a civil community ruled by a universal or Catholic church, the principles of which are equally distinct from mere passive pietism, or faith which will know nothing, and from the Protestant doctrine, which is the very radicalism of reason.

Baader is, without doubt, among the greatest speculative theologians of modern Catholicism, and his influence has extended itself even beyond the precincts of his own church. Among those whom he influenced were R. Rothe, Julius Müller and Hans L. Markensen.

His works were collected and published by a number of his adherents—F. Hoffman, J. Hamberger, E. v. Schaden, Lutterbeck, von Osten-Sacken and Schlüter—*Baader's sämmtliche Werke* (16 vols., 1851-1860). Valuable introductions by the editors are prefixed to the several volumes. Vol. xv. contains a full biography; vol. xvi. an index, and an able sketch of the whole system by Lutterbeck. See F. Hoffmann, *Vorhalle zur spekulativen Lehre Baader's* (1836); *Grundzüge der Societäts-Philosophie Franz Baader's* (1837); *Philosophische Schriften* (3 vols., 1868-1872); *Die Weltalter* (1868); *Biographie und Briefwechsel* (Leipzig, 1887); J. Hamberger, *Cardinalpunkte der Baaderschen Philosophie* (1855); *Fundamentalbegriffe von F. B.'s Ethik, Politik, u. Religions-Philosophie* (1858); J. A. B. Lutterbeck, *Philosophische Standpunkte Baaders* (1854); *Baaders Lehre vom Weltgebäude* (1866). The most satisfactory surveys are those given by Erdmann, *Versuch einer Gesch. d. neuern Phil.* iii. 2, pp. 583-636; J. Claassen, *Franz von Baaders Leben und theosophische Werke* (Stuttgart, 1886-1887), and *Franz von Baaders Gedanken über Staat und Gesellschaft* (Gütersloh, 1890); Otto Pfleiderer, *Philosophy of Religion* (vol. ii., Eng. trans. 1887); R. Falckenberg, *History of Philosophy*, pp. 472-475 (trans. A. C. Armstrong, New York, 1893); Reichel, *Die Sozietätsphilosophie Franz v. Baaders* (Tübingen, 1901); Kuno Fischer, *Zur hundertjährigen Geburtstagfeier Baaders* (Erlangen, 1865).

BAAL, a Semitic word, which primarily signifies lord, owner or inhabitant,[1] and then, in accordance with the Semitic way of looking at family and religious relations, is specially appropriated to express the relation of a husband to his wife and of the deity to his worshipper. In the latter usage it indicated not that the god was the lord of the worshipper, but rather the possessor of, or ruler in, some place or district. In the Old Testament it is regularly written with the article, *i.e.* "*the* Baal"; and the baals of different tribes or sanctuaries were not necessarily conceived as identical, so that we find frequent mention of Baalim, or rather "*the* Baalim" in the plural. That the Israelites even applied the title of Baal to Yahweh himself is proved by the occurrence of such names as Jerubbaal (Gideon), Eshbaal (one of Saul's sons) and Beeliada (a son of David, 1 Chron. xiv. 7). The last name appears in 2 Sam. v. 16 as Eliada, showing that El (God) was regarded as equivalent to Baal; cf. also the name Be'aliah, "Yahweh is *baal* or lord," which survives in 1 Chron. xii. 5. However, when the name Baal was exclusively appropriated to idolatrous worship (cf. Hos. ii. 16 seq.), abhorrence for the unholy word was marked by writing *bōsheth* (shameful thing) for *baal* in compound proper names, and thus we get the usual forms Ishbosheth, Mephibosheth.

The great difficulty which has been felt by investigators in determining the character and attributes of the god Baal mainly arises from the original appellative sense of the word, and many obscure points become clear if we remember that when a title becomes a proper name it may be appropriated by different peoples to quite distinct deities. Baal being originally a title, and not a

proper name, the innumerable baals could be distinguished by the addition of the name of a place or of some special attribute.[2] Accordingly, the baals are not to be regarded necessarily as local variations of one and the same god, like the many Virgins or Madonnas of Catholic lands, but as distinct *numina*. Each community could speak of its own baal, although a collection of allied communities might share the same cult, and naturally, since the attributes ascribed to the individual baals were very similar, subsequent syncretism was facilitated.

The Baal, as the head of each worshipping group, is the source of all the gifts of nature (cf. Hos. ii. 8 seq., Ezek. xvi. 19); as the god of fertility all the produce of the soil is his, and his adherents bring to him their tribute of first-fruits. He is the patron of all growth and fertility, and, by the "uncontrolled use of analogy characteristic of early thought," the Baal is the god of the productive element in its widest sense. Originating probably, in the observation of the fertilizing effect of rains and streams upon the receptive and reproductive soil, baalism becomes identical with the grossest nature-worship. Joined with the baals there are naturally found corresponding female figures known as Ashtārōth, embodiments of Ashtōreth (see ASTARTE; ISHTAR). In accordance with primitive notions of analogy,[3] which assume that it is possible to control or aid the powers of nature by the practice of "sympathetic magic" (see MAGIC), the cult of the baals and Ashtārōth was characterized by gross sensuality and licentiousness.

The fragmentary allusions to the cult of Baal Peor (Num. xxv., Hos. ix. 10, Ps. cvi. 28 seq.) exemplify the typical species of Dionysiac orgies that prevailed.[4] On the summits of hills and mountains flourished the cult of the givers of increase, and "under every green tree" was practised the licentiousness which in primitive thought was held to secure abundance of crops (see Frazer, *Golden Bough*, 2nd ed. vol. ii. pp. 204 sqq.). Human sacrifice (Jer. xix. 5), the burning of incense (Jer. vii. 9), violent and ecstatic exercises, ceremonial acts of bowing and kissing, the preparing of sacred mystic cakes, appear among the offences denounced by the Israelite prophets, and show that the cult of Baal (and Astarte) included the characteristic features of heathen worship which recur in various parts of the Semitic world, although attached to other names.[5]

[v.03 p.0089]

By an easy transition the local gods of the streams and springs which fertilized the increase of the fields became identified with the common source of all streams, and proceeding along this line it was possible for the numerous baals to be regarded eventually as mere forms of one absolute deity. Consequently, the Baal could be identified with some supreme power of nature, *e.g.* the heavens, the sun, the weather or some planet. The particular line of development would vary in different places, but the change from an association of the Baal with earthly objects to heavenly is characteristic of a higher type of belief and appears to be relatively later. The idea which has long prevailed that Baal was properly a sky-god affords no explanation of the local character of the many baals; on the other hand, on the theory of a higher development where the gods become heavenly or astral beings, the fact that ruder conceptions of nature were still retained (often in the unofficial but more popular forms of cult) is more intelligible.

A specific Baal of the heavens appears to have been known among the Hittites in the time of Rameses II., and considerably later, at the beginning of the 7th century, it was the title of one of the gods of Phoenicia. In Babylonia, from a very early period, Baal became a definite individual deity, and was identified with the planet Jupiter. This development is a mark of superior culture and may have been spread through Babylonian influence. Both Baal and Astarte were venerated in Egypt at Thebes and Memphis in the XIXth Dynasty, and the former, through the influence of the Aramaeans who borrowed the Babylonian spelling Bel, ultimately became known as the Greek Belos who was identified with Zeus.

Of the worship of the Tyrian Baal, who is also called Melkart (king of the city), and is often identified with the Greek Heracles, but sometimes with the Olympian Zeus, we have many accounts in ancient writers, from Herodotus downwards. He had a magnificent temple in insular Tyre, founded by Hiram, to which gifts streamed from all countries, especially at the great feasts. The solar character of this deity appears especially in the annual feast of his awakening shortly after the winter solstice (Joseph. *C. Apion.* i. 18). At Tyre, as among the Hebrews, Baal had his symbolical pillars, one of gold and one of smaragdus, which, transported by phantasy to the farthest west, are still familiar to us as the Pillars of Hercules. The worship of the Tyrian Baal was carried to all the Phoenician colonies.[6] His name occurs as an element in Carthaginian proper names (Hanni*bal*, Hasdru*bal*, &c.), and a tablet found at Marseilles still survives to inform us of the charges made by the priests of the temple of Baal for offering sacrifices.

The history of Baalism among the Hebrews is obscured by the difficulty of determining whether the false worship which the prophets stigmatize is the heathen worship of Yahweh under a conception, and often with rites, which treated him as a local nature god; or whether Baalism was consciously recognized to be distinct from Yahwism from the first. Later religious practice was undoubtedly opposed to that of earlier times, and attempts were made to correct narratives containing views which had come to be regarded as contrary to the true worship of Yahweh. The Old Testament depicts the history of the people as a series of acts of apostasy alternating with subsequent penitence and return to Yahweh, and the question whether this gives effect to actual conditions depends upon the precise character of the elements of Yahweh worship brought by the Israelites into Palestine. This is still under dispute. There is strong evidence at all events that many of the conceptions are contrary to historical fact, and the points of similarity between native Canaanite cult and Israelite worship are so striking that only the persistent traditions of Israel's origin and of the work of Moses compel the conclusion that the germs of specific Yahweh

worship existed from his day. The earliest certain reaction against Baalism is ascribed to the reign of Ahab, whose marriage with Jezebel gave the impulse to the introduction of a particular form of the cult. In honour of his wife's god, the king, following the example of Solomon, erected a temple to the Tyrian Baal (see above). This, however, did not prevent him from remaining a follower of Yahweh, whose prophets he still consulted, and whose protection he still cherished when he named his sons Ahaziah and Jehoram ("Yah[weh] holds," "Y. is high"). The antagonism of Elijah was not against Baalism in general, but against the introduction of a rival deity. But by the time of Hosea (ii. 16 seq.) a further advance was marked, and the use of the term "Baal" was felt to be dangerous to true religion. Thus there gradually grew up a tendency to avoid the term, and in accordance with the idea of Ex. xxiii. 13, it was replaced by the contemptuous *bōsheth*, "shame" (see above). However, the books of Deuteronomy and Jeremiah (cf. also Zeph. i. 4) afford complete testimony for the prevalence of Baalism as late as the exile, but prove that the clearest distinction was then drawn between the pure worship of Yahweh the god of Israel and the inveterate and debased cults of the gods of the land. (See further Hebrew Religion; Prophet.)

Bibliography.—W. Robertson Smith, *Relig. Semites*, 2nd ed. pp. 93-113 (against his theory of the introduction of Baal among the Arabs see M. J. Lagrange, *Études d. relig. sem.* pp. 83-98). For the reading "Baal" in the Amarna tablets (Palestine, about 1400 B.C.) see Knudtzon, *Beitr. z. Assyriol.* (1901), pp. 320 seq., 415; other cuneiform evidence in E. Schrader's *Keilinsch. u. Alte Test.* 3rd ed. p. 357 (by H. Zimmern; see also his *Index*, sub voce). On *Baal-Shamem* (B. of the heavens) M. Lidzbarski's monograph (*Ephemeris*, i. 243-260, ii. 120) is invaluable, and this work, with his *Handbuch d. nordsemit. Epigraphik*, contains full account of the epigraphical material. See Baethgen, *Beitr. z. semit. Religionsgesch.* pp. 17-32; also the articles on Baal by E. Meyer in Roscher's *Lexikon*, and G. F. Moore in *Ency. Bib.* (On *Beltane* fires and other apparent points of connexion with Baal it may suffice to refer to Aug. Fick, *Vergleich. Worterbuch*, who derives the element *bel* from an old Celtic root meaning shining, &c.)

(W. R. S.; S. A. C.)

[1] Cf. its use as a noun of relation *e.g.* a *ba'al* of hair, "a hairy man" (2 Kings i. 8), *b.* of wings, "a winged creature," and in the plural, *b.* of arrows, "archers" (Gen. xlix. 23), *b.* of oath, "conspirators" (Neh. vi. 18).

[2] Compounds with geographical terms (towns, mountains), *e.g.* Baal of Tyre, of Lebanon, &c., are frequent; see G. B. Gray, *Heb. Proper Names,* pp. 124-126. Baal-berith or El-berith of Shechem (Judg. ix. 4, 46) is usually interpreted to be the Baal or God of the covenant, but whether of covenants in general or of a particular covenant concluded at Shechem is disputed. The Βαλμαρκως (near Beirut) apparently presided over dancing; another compound (in Cyprus) seems to represent a Baal of healing. On the "Baal of flies" see Beelzebub.

[3] The general analogy shows itself further in the idea of the deity as the husband (*ba'al*) of his worshippers or of the land in which they dwell. The Astarte of Gabal (Byblus) was regularly known as the *ba'alath* (fem. of *baal*), her real name not being pronounced (perhaps out of reverence).

[4] See further Clermont-Ganneau, *Pal. Explor. Fund Quart. Stat.*, 1901, pp. 239, 369 sqq.; Büchler, *Rev. d'études juives*, 1901, pp. 125 seq.

[5] The extent to which elements of heathen cult entered into purer types of religion is illustrated in the worship of Yahweh. The sacred cakes of Astarte and old holy wells associated with her cult were later even transferred to the worship of the Virgin (*Ency. Bib.* col. 3993; Rouvier, in *Bull. Archéol.*, 1900, p. 170).

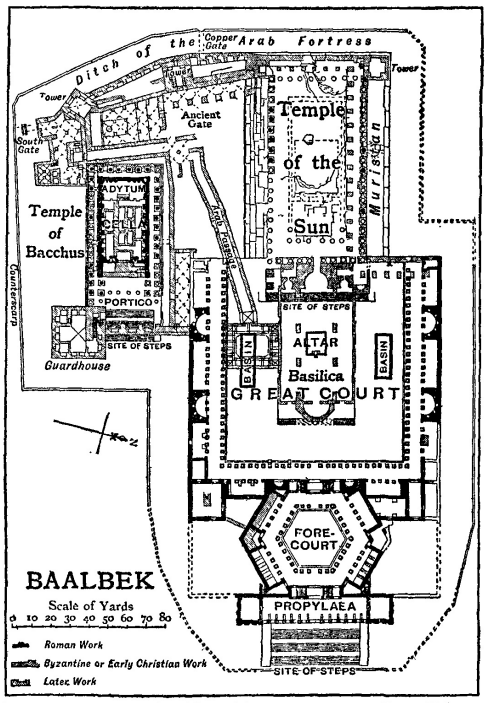
[6] The sanctuary of Heracles at Daphne near Antioch was properly that of the Semitic Baal, and at Amathus Jupiter Hospes takes the place of Heracles or Malika, in which the Tyrian Melkart is to be recognized (W. R. Smith, *Rel. Sem.* 2nd ed. pp. 178, 376). See further Phoenicia.

BAALBEK (anc. *Heliopolis*), a town of the Buka'a (Coelesyria), altitude 3850 ft., situated E. of the Litani and near the parting between its waters and those of the Asi. Pop. about 5000, including 2000 Metawali and 1000 Christians (Maronite and Orthodox). Since 1902 Baalbek has been connected by railway with Rayak (Rejak) on the Beirut-Damascus line, and since 1907 with Aleppo. It is famous for its temple ruins of the Roman period, before which we have no record of it, certain though it be that Heliopolis is a translation of an earlier native name, in which Baal was an element. It has been suggested, but without good reason, that this name was the Baalgad of Josh. xi. 17.

Heliopolis was made a *colonia* probably by Octavian (coins of 1st century A.D.), and there must have been a Baal temple there in which Trajan consulted the oracle. The foundation of the present buildings, however, dates from Antoninus Pius, and their dedication from Septimius Severus, whose coins first show the two temples. The great courts of approach were not finished before the reigns of Caracalla and Philip. In commemoration, no doubt, of the dedication of the new sanctuaries, Severus conferred the *jus Italicum* on the city. The greater of the two temples was sacred to Jupiter (Baal), identified with the Sun, with whom were associated Venus and Mercury as σύμβωμοι θεοί. The lesser temple was built in honour of Bacchus (not the Sun, as formerly believed). Jupiter-Baal was represented locally as a beardless god in long scaly drapery, holding a whip in his right hand and lightning and ears of corn in his left. Two bulls supported

him. In this guise he passed into European worship in the 3rd and 4th centuries A.D. The extreme licence of the Heliopolitan worship is often animadverted upon by early Christian writers, and Constantine, making an effort to curb the Venus cult, built a basilica. Theodosius erected another, with western apse, in the main court of the Jupiter temple.

When Abu Ubaida (or Obaida) attacked the place after the Moslem capture of Damascus (A.D. 635), it was still an opulent city and yielded a rich booty. It became a bone of contention between the various Syrian dynasties and the caliphs first of Damascus, then of Egypt, and in 748 was sacked with great slaughter. In 1090 it passed to the Seljuks, and in 1134 to Jenghiz Khan; but after 1145 it remained attached to Damascus and was captured by Saladin in 1175. The Crusaders raided its valley more than once, but never took the city. Three times shaken by earthquake in the 12th century, it was dismantled by Hulagu in 1260. But it revived, and most of
[v.03 p.0090] its fine Moslem mosque and fortress architecture, still extant, belongs to the reign of Sultan Kalaūn (1282) and the succeeding century, during which Abulfeda describes it as a very strong place. In 1400 Timur pillaged it, and in 1517 it passed, with the rest of Syria, to the Ottoman dominion. But Ottoman jurisdiction was merely nominal in the Lebanon district, and Baalbek was really in the hands of the Metawali (see LEBANON), who retained it against other Lebanon tribes, until "Jezzar" Pasha, the rebel governor of the Acre province, broke their power in the last half of the 18th century. The anarchy which succeeded his death in 1804 was only ended by the Egyptian occupation (1832). With the treaty of London (1840) Baalbek became really Ottoman, and since the settlement of the Lebanon (1864) has attracted great numbers of tourists.



After Puchstein, with permission of Georg Reimer — Emery Walker sc.

The ruins were brought to European notice by Pierre Belon in 1555, though previously visited, in 1507, by Martin von Baumgarten. Much damaged by the earthquake of 1759, they remained a wilderness of fallen blocks till 1901, when their clearance was undertaken by the German Archaeological Institute and entrusted to the direction of Prof. O. Puchstein. They lie mainly on the ancient Acropolis, which has been shored up with huge walls to form a terrace raised on vaults and measuring about 1100 ft. from E. to W. The *Propylaea* lie at the E. end, and were approached by a flight of steps now quarried away. These propylaea formed a covered hall, or vestibule, about 35 ft. deep, flanked with towers richly decorated within and without (much damaged by Arab reconstruction). Columns stood in front, whose bases still exist and bear the names of Antoninus Pius and Julia Domna. Hence, through a triple gateway in a richly ornamented screen, access is gained to the first or Hexagonal Court, which measures about 250 ft. from angle to angle. It is now razed almost to foundation level; but it can be seen that it was flanked with halls each having four columns in front. A portal on the W., 50 ft. wide, flanked by lesser ones 10 ft. wide (that on the N. is alone preserved), admitted to the Main Court, in whose centre was the High Altar of Burnt Sacrifice. This altar and a great tank on the N. were covered by the foundations of Theodosius' basilica and not seen till the recent German clearance. The Main Court measures about 440 ft. from E. to W. and 370 ft. from N. to S., thus covering about 3½ acres. It had a continuous fringe of covered halls of various dimensions and shapes, once richly adorned with statues and columnar screens. Some of these halls are in fair preservation. Stairs on the W. led up to the temple of Jupiter-Baal, now much ruined, having only 6 of the 54 columns of its peristyle erect. Three fell in the earthquake of 1759. Those still standing are Nos. 11 to 16 in the southern rank. Their bases and shafts are not finished, though the capitals and rich entablature seem completely worked. They have a height of 60 ft. and diameter of 7½ ft., and are mostly formed of three blocks. The architrave is threefold and bears a frieze with lion-heads, on which rest a moulding and cornice.

The temple of Bacchus stood on a platform of its own formed by a southern projection of the Acropolis. It was much smaller than the Jupiter temple, but is better preserved. The steps of the E. approach were intact up to 1688. The temple was peripteral with 46 columns in its peristyle. These were over 52 ft. in height and of the Corinthian order, and supported an entablature 7 ft. high with double frieze, connected with the cella walls by a coffered ceiling, which contained slabs with heads of gods and emperors. Richard Burton, when consul-general at Damascus in 1870, cleared an Arab screen out of the vestibule, and in consequence the exquisite doorway leading into the cella can now be well seen. On either side of it staircases constructed within columns lead to the roof. The cracked door-lintel, which shows an eagle on the soffit, was propped up first by Burton, and lately, more securely, by the Germans. The cella, now ruinous, had inner wall-reliefs and engaged columns, which supported rich entablatures.

The vaults below the Great Court of the Jupiter Temple, together with the supporting walls of the terrace, are noticeable. In the W. wall of the latter occur the three famous megaliths, which gave the name *Trilithon* to the Jupiter temple in Byzantine times. These measure from 63 to 64 ft. in length and 13 ft. in height and breadth, and have been raised 20 ft. above the ground. They are

the largest blocks known to have been used in actual construction, but are excelled by another block still attached to its bed in the quarries half a mile S.W. This is 68 ft. long by 14 ft. high and weighs about 1500 tons. For long these blocks were supposed, even by European visitors, to be relics of a primeval race of giant builders.

In the town, below the Acropolis, on the S.E. is a small temple of the late imperial age, consisting of a semicircular cella with a peristyle of eight Corinthian columns, supporting a projecting entablature. The cella is decorated without with a frieze, and within with pillars and arcading. This temple owes its preservation to its use as a church of St Barbara, a local martyr, also claimed by the Egyptian Heliopolis. Hence the building is known as Barbarat al-atika. Considerable remains of the N. gate of the city have also been exposed.

Bibliography.—These vast ruins, more imposing from their immensity than pleasing in detail, have been described by scores of travellers and tourists; but it will be sufficient here to refer to the following works:—(First discoverers) M. von Baumgarten, *Peregrinatio in ... Syriam* (1594); P. Belon, *De admirabili operum antiquorum praestantia* (1553); and *Observations*, &c. (1555). (Before earthquake of 1759) R. Wood, *Ruins of Baalbec* (1757). (Before excavation) H. Frauberger, *Die Akropolis von Baalbek* (1892). (After excavation) O. Puchstein, *Führer durch die Ruinen v. Baalbek* (1905), (with Th. v. Lüpke) *Ansichten*, &c. (1905). See also R. Phené Spiers, *Quart. Stat. Pal. Exp. Fund*, 1904, pp. 58-64, and the *Builder*, 11 Feb. 1905.

(D. G. H.)

BAARN, a small town in the province of Utrecht, Holland, 5 m. by rail E. of Hilversum, at the junction of a branch line to Utrecht. Like Hilversum it is situated in the midst of picturesque and wooded surroundings, and is a favourite summer resort of people from Amsterdam. The [v.03 p.0091] Baarnsche Bosch, or wood, stretches southward to Soestdyk, where there is a royal country-seat, originally acquired by the state in 1795. Louis Bonaparte, king of Holland, who was very fond of the spot, formed a zoological collection here which was removed to Amsterdam in 1809. In 1816 the estate was presented by the nation to the prince of Orange (afterwards King William II.) in recognition of his services at the battle of Quatre Bras. Since then the palace and grounds have been considerably enlarged and beautified. Close to Baarn in the south-west were formerly situated the ancient castles of Drakenburg and Drakenstein, and at Vuursche there is a remarkable dolmen.

BABADAG, or Babatag, a town in the department of Tulcea, Rumania; situated on a small lake formed by the river Taitza among the densely wooded highlands of the northern Dobrudja. Pop. (1900) about 3500. The Taitza lake is divided only by a strip of marshland from Lake Razim, a broad landlocked sheet of water which opens on the Black Sea. Babadag is a market for the wool and mutton of the Dobrudja. It was founded by Bayezid I., sultan of the Turks from 1389 to 1403. It occasionally served as the winter headquarters of the Turks in their wars with Russia, and was bombarded by the Russians in 1854.

BABBAGE, CHARLES (1792-1871), English mathematician and mechanician, was born on the 26th of December 1792 at Teignmouth in Devonshire. He was educated at a private school, and afterwards entered St Peter's College, Cambridge, where he graduated in 1814. Though he did not compete in the mathematical tripos, he acquired a great reputation at the university. In the years 1815-1817 he contributed three papers on the "Calculus of Functions" to the *Philosophical Transactions*, and in 1816 was made a fellow of the Royal Society. Along with Sir John Herschel and George Peacock he laboured to raise the standard of mathematical instruction in England, and especially endeavoured to supersede the Newtonian by the Leibnitzian notation in the infinitesimal calculus. Babbage's attention seems to have been very early drawn to the number and importance of the errors introduced into astronomical and other calculations through inaccuracies in the computation of tables. He contributed to the Royal Society some notices on the relation between notation and mechanism; and in 1822, in a letter to Sir H. Davy on the application of machinery to the calculation and printing of mathematical tables, he discussed the principles of a calculating engine, to the construction of which he devoted many years of his life. Government was induced to grant its aid, and the inventor himself spent a portion of his private fortune in the prosecution of his undertaking. He travelled through several of the countries of Europe, examining different systems of machinery; and some of the results of his investigations were published in the admirable little work, *Economy of Machines and Manufactures* (1834). The great calculating engine was never completed; the constructor apparently desired to adopt a new principle when the first specimen was nearly complete, to make it not a difference but an analytical engine, and the government declined to accept the further risk (see Calculating Machines). From 1828 to 1839 Babbage was Lucasian professor of mathematics at Cambridge. He contributed largely to several scientific periodicals, and was instrumental in founding the Astronomical (1820) and Statistical (1834) Societies. He only once endeavoured to enter public life, when, in 1832, he stood unsuccessfully for the borough of Finsbury. During the later years of his life he resided in London, devoting himself to the construction of machines capable of performing arithmetical and even algebraical calculations. He died at London on the 18th of October 1871. He gives a few biographical details in his *Passages from the Life of a Philosopher* (1864), a work which throws considerable light upon his somewhat peculiar character. His works, pamphlets and papers were very numerous; in the *Passages* he enumerates eighty separate writings. Of these the most important, besides the few already mentioned, are *Tables of Logarithms* (1826); *Comparative View of the Various Institutions for the Assurance of Lives* (1826); *Decline of Science in England* (1830); *Ninth Bridgewater Treatise* (1837); *The Exposition of 1851* (1851).

See *Monthly Notices, Royal Astronomical Society*, vol. 32.

BABEL, the native name of the city called Babylon (*q.v.*) by the Greeks, the modern *Hillah*. It means "gate of the god," not "gate of the gods," corresponding to the Assyrian *Bāb-ili*. According to Gen. xi 1-9 (J), mankind, after the deluge, travelled from the mountain of the East, where the ark had rested, and settled in Shinar. Here they attempted to build a city and a tower whose top might reach unto heaven, but were miraculously prevented by their language being confounded. In this way the diversity of human speech and the dispersion of mankind were accounted for; and in Gen. xi. 9 (J) an etymology was found for the name of Babylon in the Hebrew verb *bālal*, "to confuse or confound," Babel being regarded as a contraction of Balbel. In Gen. x. 10 it is said to have formed part of the kingdom of Nimrod.

The origin of the story has not been found in Babylonia. The tower was no doubt suggested by one of the temple towers of Babylon. W. A. Bennet (*Genesis*, p. 169; cf. Hommel in Hastings' *Dictionary of the Bible*) suggests E-Saggila, the great temple of Merodach (Marduk). The variety of languages and the dispersion of mankind were regarded as a curse, and it is probable that, as Prof. Cheyne (*Encyclopaedia Biblica*, col. 411) says, there was an ancient North Semitic myth to explain it. The event was afterwards localized in Babylon. The myth, as it appears in Genesis, is quite polytheistic and anthropomorphic. According to Cornelius Alexander (frag. 10) and Abydenus (frags. 5 and 6) the tower was overthrown by the winds; according to Yaqut (i. 448 f.) and the Lisan el-ʻArab (xiii. 72) mankind were swept together by winds into the plain afterwards called "Babil," and were scattered again in the same way (see further D. B. Macdonald in the *Jewish Encyclopaedia*). A tradition similar to that of the tower of Babel is found in Central America. Xelhua, one of the seven giants rescued from the deluge, built the great pyramid of Cholula in order to storm heaven. The gods, however, destroyed it with fire and confounded the language of the builders. Traces of a somewhat similar story have also been met with among the Mongolian Tharus in northern India (*Report of the Census of Bengal*, 1872, p. 160), and, according to Dr Livingstone, among the Africans of Lake Ngami. The Esthonian myth of "the Cooking of Languages" (Kohl, *Reisen in die Ostseeprovinzen*, ii. 251-255) may also be compared, as well as the Australian legend of the origin of the diversity of speech (Gerstäcker, *Reisen*, vol. iv. pp. 381 seq.).

BAB-EL-MANDEB (Arab, for "The Gate of Tears"), the strait between Arabia and Africa which connects the Red Sea (*q.v.*) with the Indian Ocean. It derives its name from the dangers attending its navigation, or, according to an Arabic legend, from the numbers who were drowned by the earthquake which separated Asia and Africa. The distance across is about 20 m. from Ras Menheli on the Arabian coast to Ras Siyan on the African. The island of Perim (*q.v.*), a British possession, divides the strait into two channels, of which the eastern, known as the Bab Iskender (Alexander's Strait), is 2 m. wide and 16 fathoms deep, while the western, or Dact-el-Mayun, has a width of about 16 m. and a depth of 170 fathoms. Near the African coast lies a group of smaller islands known as the "Seven Brothers." There is a surface current inwards in the eastern channel, but a strong under-current outwards in the western channel.

BABENBERG, the name of a Franconian family which held the duchy of Austria before the rise of the house of Habsburg. Its earliest known ancestor was one Poppo, who early in the 9th century was count in Grapfeld. One of his sons, Henry, called margrave and duke in Franconia, fell fighting against the Normans in 886; another, Poppo, was margrave in Thuringia from 880 to 892, when he was deposed by the German king Arnulf. The family had been favoured by the emperor Charles the Fat, but Arnulf reversed this policy in favour of the rival family of the Conradines. The leaders of the Babenbergs were the three sons of Duke Henry, who called themselves after their castle of Babenberg on the upper Main, round which their possessions centred. The rivalry between the two families was intensified by their efforts to extend their authority in the region of the middle Main, and this quarrel, known as the "Babenberg feud," [v.03 p.0092] came to a head at the beginning of the 10th century during the troubled reign of the German king, Louis the Child. Two of the Babenberg brothers were killed, and the survivor Adalbert was summoned before the imperial court by the regent Hatto I., archbishop of Mainz, a partisan of the Conradines. He refused to appear, held his own for a time in his castle at Theres against the king's forces, but surrendered in 906, and in spite of a promise of safe-conduct was beheaded. From this time the Babenbergs lost their influence in Franconia; but in 976 Leopold, a member of the family who was a count in the Donnegau, is described as margrave of the East Mark, a district not more than 60 m. in breadth on the eastern frontier of Bavaria which grew into the duchy of Austria. Leopold, who probably received the mark as a reward for his fidelity to the emperor Otto II. during the Bavarian rising in 976, extended its area at the expense of the Hungarians, and was succeeded in 994 by his son Henry I. Henry, who continued his father's policy, was followed in 1018 by his brother Adalbert and in 1055 by his nephew Ernest, whose marked loyalty to the emperors Henry III. and Henry IV. was rewarded by many tokens of favour. The succeeding margrave, Leopold II., quarrelled with Henry IV., who was unable to oust him from the mark or to prevent the succession of his son Leopold III. in 1096. Leopold supported Henry, son of Henry IV., in his rising against his father, but was soon drawn over to the emperor's side, and in 1106 married his daughter Agnes, widow of Frederick I., duke of Swabia. He declined the imperial crown in 1125. His zeal in founding monasteries earned for him his surname "the Pious," and canonization by Pope Innocent VIII. in 1485. He is regarded as the patron saint of Austria. One of Leopold's sons was Otto, bishop of Freising (*q.v.*). His eldest son, Leopold IV., became margrave in 1136, and in 1139 received from the German king Conrad III. the duchy of Bavaria, which had been forfeited by Duke Henry the Proud. Leopold's brother Henry (surnamed Jasomirgott from his favourite oath, "So help me God!") was made count

palatine of the Rhine in 1140, and became margrave of Austria on Leopold's death in 1141. Having married Gertrude, the widow of Henry the Proud, he was invested in 1143 with the duchy of Bavaria, and resigned his office as count palatine. In 1147 he went on crusade, and after his return renounced Bavaria at the instance of the new king Frederick I. As compensation for this, Austria, the capital of which had been transferred to Vienna in 1146, was erected into a duchy. The second duke was Henry's son Leopold I., who succeeded him in 1177 and took part in the crusades of 1182 and 1190. In Palestine he quarrelled with Richard I., king of England, captured him on his homeward journey and handed him over to the emperor Henry VI. Leopold increased the territories of the Babenbergs by acquiring Styria in 1192 under the will of his kinsman Duke Ottakar IV. He died in 1194, and Austria fell to one son, Frederick, and Styria to another, Leopold; but on Frederick's death in 1198 they were again united by Duke Leopold II., surnamed "the Glorious." The new duke fought against the infidel in Spain, Egypt and Palestine, but is more celebrated as a lawgiver, a patron of letters and a founder of towns. Under him Vienna became the centre of culture in Germany and the great school of Minnesingers (*q.v.*). His later years were spent in strife with his son Frederick, and he died in 1230 at San Germano, whither he had gone to arrange the peace between the emperor Frederick II. and Pope Gregory IX. His son Frederick II. followed as duke, and earned the name of "Quarrelsome" by constant struggles with the kings of Hungary and Bohemia and with the emperor. He deprived his mother and sisters of their possessions, was hated by his subjects on account of his oppressions, and in 1236 was placed under the imperial ban and driven from Austria. Restored when the emperor was excommunicated, he treated in vain with Frederick for the erection of Austria into a kingdom. He was killed in battle in 1246, when the male line of the Babenbergs became extinct. The city of Bamberg grew up around the ancestral castle of the family.

See G. Juritsch, *Geschichte der Babenberger und ihrer Länder* (Innsbruck, 1894); M. Schmitz, *Oesterreichs Scheyern-Wittelsbacher oder die Dynastie der Babenberger* (Munich, 1880).

BABER, or Babar (1483-1530), a famous conqueror of India and founder of the so-called Mogul dynasty. His name was Zahir ud-din-Mahomet, and he was given the surname of Baber, meaning the tiger. Born on the 14th of February 1483, he was a descendant of Timur, and his father, Omar Sheik, was king of Ferghana, a district of what is now Russian Turkestan. Omar died in 1495, and Baber, though only twelve years of age, succeeded to the throne. An attempt made by his uncles to dislodge him proved unsuccessful, and no sooner was the young sovereign firmly settled than he began to meditate an extension of his own dominions. In 1497 he attacked and gained possession of Samarkand, to which he always seems to have thought he had a natural and hereditary right. A rebellion among his nobles robbed him of his native kingdom, and while marching to recover it his troops deserted him, and he lost Samarkand also. After some reverses he regained both these places, but in 1501 his most formidable enemy, Shaibani (Sheibani) Khan, ruler of the Uzbegs, defeated him in a great engagement and drove him from Samarkand. For three years he wandered about trying in vain to recover his lost possessions; at last, in 1504, he gathered some troops, and crossing the snowy Hindu Kush besieged and captured the strong city of Kabul. By this dexterous stroke he gained a new and wealthy kingdom, and completely re-established his fortunes. In the following year he united with Hussain Mirza of Herat against Shaibani. The death of Hussain put a stop to this expedition, but Baber spent a year at Herat, enjoying the pleasures of that capital. He returned to Kabul in time to quell a formidable rebellion, but two years later a revolt among some of the leading Moguls drove him from his city. He was compelled to take to flight with very few companions, but his great personal courage and daring struck the army of his opponents with such dismay that they again returned to their allegiance and Baber regained his kingdom. Once again, in 1510, after the death of Shaibani, he endeavoured to obtain possession of his native country. He received considerable aid from Shah Ismael of Persia, and in 1511 made a triumphal entry into Samarkand. But in 1514 he was utterly defeated by the Uzbegs and with difficulty reached Kabul. He seems now to have resigned all hopes of recovering Ferghana, and as he at the same time dreaded an invasion of the Uzbegs from the west, his attention was more and more drawn towards India. Several preliminary incursions had been already made, when in 1521 an opportunity presented itself for a more extended expedition. Ibrahim, emperor of Delhi, had made himself detested, even by his Afghan nobles, several of whom called upon Baber for assistance. He at once assembled his forces, 12,000 strong, with some pieces of artillery and marched into India. Ibrahim, with 100,000 soldiers and numerous elephants, advanced against him. The great battle was fought at Panipat on the 21st of April 1526, when Ibrahim was slain and his army routed. Baber at once took possession of Agra. A still more formidable enemy awaited him; the Rana Sanga of Mewar collected the enormous force of 210,000 men, with which he moved against the invaders. On all sides there was danger and revolt, even Baber's own soldiers, worn out with the heat of this new climate, longed for Kabul. By vigorous measures and inspiriting speeches he restored their courage, though his own heart was nearly failing him, and in his distress he abjured the use of wine, to which he had been addicted. At Kanwaha, on the 10th of March 1527, he won a great victory and made himself absolute master of northern India. The remaining years of his life he spent in arranging the affairs and revenues of his new empire and in improving his capital, Agra. He died on the 26th of December 1530 in his forty-eighth year. Baber was above the middle height, of great strength and an admirable archer and swordsman. His mind was as well cultivated as his bodily powers; he wrote well, and his observations are generally acute and accurate; he was brave, kindly and generous.

Full materials for his life are found in his *Memoirs*, written by himself (translated into English by Leyden and Erskine (London, 1826); abridged in Caldecott, *Life of Baber* (London, 1844). See also Lane-Poole, *Baber* (Rulers of India Series), 1899.

BABEUF, FRANÇOIS NOEL (1760-1797), known as GRACCHUS BABEUF, French political agitator and journalist, was born at Saint Quentin on the 23rd of November 1760. His father, Claude Babeuf, had deserted the French army in 1738 and taken service under Maria Theresa, rising, it is said, to the rank of major. Amnestied in 1755 he returned to France, but soon sank into dire poverty, being forced to earn a pittance for his wife and family as a day labourer. The hardships endured by Babeuf during early years do much to explain his later opinions. He had received from his father the smatterings of a liberal education, but until the outbreak of the Revolution he was a domestic servant, and from 1785 occupied the invidious office of *commissaire à terrier*, his function being to assist the nobles and priests in the assertion of their feudal rights as against the unfortunate peasants. On the eve of the Revolution Babeuf was in the employ of a land surveyor at Roye. His father had died in 1780, and he was now the sole support, not only of his wife and two children, but of his mother, brothers and sisters. In the circumstances it is not surprising that he was the life and soul of the malcontents of the place. He was an indefatigable writer, and the first germ of his future socialism is contained in a letter of the 21st of March 1787, one of a series—mainly on literature—addressed to the secretary of the Academy of Arras. In 1789 he drew up the first article of the *cahier* of the electors of the *bailliage* of Roye, demanding the abolition of feudal rights. Then, from July to October, he was in Paris superintending the publication of his first work: *Cadastre perpétuel, dédié à l'assemblée nationale, l'an 1789 et le premier de la liberté française*, which was written in 1787 and issued in 1790. The same year he published a pamphlet against feudal aids and the *gabelle*, for which he was denounced and arrested, but provisionally released. In October, on his return to Roye, he founded the *Correspondant picard*, the violent character of which cost him another arrest. In November he was elected a member of the municipality of Roye, but was expelled. In March 1791 he was appointed commissioner to report on the national property (*biens nationaux*) in the town, and in September 1792 was elected a member of the council-general of the department of the Somme. Here, as everywhere, the violence of his attitude made his position intolerable to himself and others, and he was soon transferred to the post of administrator of the district of Montdidier. Here he was accused of fraud for having substituted one name for another in a deed of transfer of national lands. It is probable that his fault was one of negligence only; but, distrusting the impartiality of the judges of the Somme, he fled to Paris, and on the 23rd of August 1793 was condemned *in contumaciam* to twenty years' imprisonment. Meanwhile he had been appointed secretary to the relief committee (*comité des subsistances*) of the commune of Paris. The judges of Amiens, however, pursued him with a warrant for his arrest, which took place in Brumaire of the year II. (1794). The court of cassation quashed the sentence, through defect of form, but sent Babeuf for a new trial before the Aisne tribunal, by which he was acquitted on the 18th of July.

Babeuf now returned to Paris, and on the 3rd of September 1794 published the first number of his *Journal de la liberté de la presse*, the title of which was altered on the 5th of October to *Le Tribun du peuple*. The execution of Robespierre on the 28th of July had ended the Terror, and Babeuf—now self-styled "Gracchus" Babeuf—defended the men of Thermidor and attacked the fallen terrorists with his usual violence. But he also attacked, from the point of view of his own socialistic theories, the economic outcome of the Revolution. This was an attitude which had few supporters, even in the Jacobin club, and in October Babeuf was arrested and sent to prison at Arras. Here he came under the influence of certain terrorist prisoners, notably of Lebois, editor of the *Journal de l'égalité*, afterwards of the *Ami du peuple*, papers which carried on the traditions of Marat. He emerged from prison a confirmed terrorist and convinced that his Utopia, fully proclaimed to the world in No. 33 of his *Tribun*, could only be realized through the restoration of the constitution of 1793. He was now in open conflict with the whole trend of public opinion. In February 1795 he was again arrested, and the *Tribun du peuple* was solemnly burnt in the Théâtre des Bergères by the *jeunesse dorée*, the young men whose mission it was to bludgeon Jacobinism out of the streets and cafés. But for the appalling economic conditions produced by the fall in the value of *assignats*, Babeuf might have shared the fate of other agitators who were whipped into obscurity.

It was the attempts of the Directory to deal with this economic crisis that gave Babeuf his real historic importance. The new government was pledged to abolish the vicious system by which Paris was fed at the expense of all France, and the cessation of the distribution of bread and meat at nominal prices was fixed for the 20th of February 1796. The announcement caused the most wide-spread consternation. Not only the workmen and the large class of idlers attracted to Paris by the system, but *rentiers* and government officials, whose incomes were paid in *assignats* on a scale arbitrarily fixed by the government, saw themselves threatened with actual starvation. The government yielded to the outcry that arose; but the expedients by which it sought to mitigate the evil, notably the division of those entitled to relief into classes, only increased the alarm and the discontent. The universal misery gave point to the virulent attacks of Babeuf on the existing order, and at last gained him a hearing. He gathered round him a small circle of his immediate followers known as the *Société des Égaux*, soon merged with the rump of the Jacobins, who met at the Pantheon; and in November 1795 he was reported by the police to be openly preaching "insurrection, revolt and the constitution of 1793."

For a time the government, while keeping itself informed of his activities, left him alone; for it suited the Directory to let the socialist agitation continue, in order to frighten the people from joining in any royalist movement for the overthrow of the existing regime. Moreover the mass of the *ouvriers*, even of extreme views, were repelled by Babeuf's bloodthirstiness; and the police agents reported that his agitation was making many converts—for the government. The Jacobin club of the Faubourg Saint-Antoine refused to admit Babeuf and Lebois, on the ground that they were "*égorgeurs*." With the development of the economic crisis, however, Babeuf's influence

increased. After the club of the Pantheon was closed by Bonaparte, on the 27th of February 1796, his aggressive activity redoubled. In Ventôse and Germinal he published, under the *nom de plume* of "Lalande, soldat de la patrie," a new paper, the *Éclaireur du peuple, ou le défenseur de vingt-cinq millions d'opprimés*, which was hawked clandestinely from group to group in the streets of Paris. At the same time No. 40 of the *Tribun* excited an immense sensation. In this he praised the authors of the September massacres as "deserving well of their country," and declared that a more complete "September 2nd" was needed to annihilate the actual government, which consisted of "starvers, bloodsuckers, tyrants, hangmen, rogues and mountebanks." The distress among all classes continued to be appalling; and in March the attempt of the Directory to replace the *assignats* (*q.v.*) by a new issue of *mandats* created fresh dissatisfaction after the breakdown of the hopes first raised. A cry went up that national bankruptcy had been declared, and thousands of the lower class of *ouvrier* began to rally to Babeuf's flag. On the 4th of April it was reported to the government that 500,000 people in Paris were in need of relief. From the 11th Paris was placarded with posters headed *Analyse de la doctrine de Babœuf* (sic), *tribun du peuple*, of which the opening sentence ran: "Nature has given to every man the right to the enjoyment of an equal share in all property," and which ended with a call to restore the constitution of 1793. Babeuf's song *Mourant de faim, mourant de froid* (Dying of hunger, dying of cold), set to a popular air, began to be sung in the cafés, with immense applause; and reports were current that the disaffected troops in the camp of Grenelle were ready to join an *émeute* against the government. The Directory thought it time to act; the *bureau central* had accumulated through its agents, notably the ex-captain Georges Grisel, who had been initiated into Babeuf's society, complete evidence of a conspiracy for an armed rising fixed for Floréal 22, year IV. (11th of May 1796), in which Jacobins and socialists were combined. On the 10th of May Babeuf was arrested with many of his associates, among whom were A. Darthé and P. M. Buonarroti, the ex-members of the Convention, Robert Lindet, J. A. B. Amar, M. G. A. Vadier and Jean Baptiste Drouet, famous as the postmaster of Saint-Menehould who had arrested Louis XVI., and now a member of the Council of Five Hundred.

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The *coup* was perfectly successful. The last number of the *Tribun* appeared on the 24th of April, but Lebois in the *Ami du peuple* tried to incite the soldiers to revolt, and for a while there were rumours of a military rising. The trial of Babeuf and his accomplices was fixed to take place before the newly constituted high court of justice at Vendôme. On Fructidor 10 and 11 (27th and 28th of August), when the prisoners were removed from Paris, there were tentative efforts at a riot with a view to rescue, but these were easily suppressed. The attempt of five or six hundred Jacobins (7th of September) to rouse the soldiers at Grenelle met with no better success. The trial of Babeuf and the others, begun at Vendôme on the 20th of February 1797, lasted two months. The government for reasons of their own made the socialist Babeuf the leader of the conspiracy, though more important people than he were implicated; and his own vanity played admirably into their hands. On Prairial 7 (26th of April 1797) Babeuf and Darthé were condemned to death; some of the prisoners, including Buonarroti, were exiled; the rest, including Vadier and his fellow-conventionals, were acquitted. Drouet had succeeded in making his escape, according to Barras, with the connivance of the Directory. Babeuf and Darthé were executed at Vendôme on Prairial 8 (1797).

Babeuf's character has perhaps been sufficiently indicated above. He was a type of the French revolutionists, excitable, warm-hearted, half-educated, who lost their mental and moral balance in the chaos of the revolutionary period. Historically, his importance lies in the fact that he was the first to propound socialism as a practical policy, and the father of the movements which played so conspicuous a part in the revolutions of 1848 and 1871.

See V. Advielle, *Hist. de Gracchus Babeuf et de Babouvisme* (2 vols., Paris, 1884); P. M. Buonarroti, *Conspiration pour l'égalité, dite de Babeuf* (2 vols., Brussels, 1828; later editions, 1850 and 1869), English translation by Bronterre O'Brien (London, 1836); *Cambridge Modern History*, vol. viii.; Adolf Schmidt, *Pariser Zustände wahrend der Revolutionszeit von 1789-1800* (Jena, 1874). French trans. by P. Viollet, *Paris pendant la Révolution d'après les rapports de la police secrète, 1789-1800* (4 vols., 1880-1894); A. Schmidt, *Tableaux de la Révolution française, &c.* (Leipzig, 1867-1870), a collection of reports of the secret police on which the above work is based. A full report of the trial at Vendôme was published in four volumes at Paris in 1797, *Débats du procès, &c.*

(W. A. P.)

BÁBÍISM, the religion founded in Persia in A.D. 1844-1845 by Mírzá ʻAlí Muhammad of Shíráz, a young Sayyid who was at that time not twenty-five years of age. Before his "manifestation" (*zuhúr*), of which he gives in the Persian *Bayán* a date corresponding to 23rd May 1844, he was a disciple of Sayyid Kázim of Rasht, the leader of the Shaykhís, a sect of extreme Shíʻites characterized by the doctrine (called by them *Rukn-i-rábi*ʻ, "the fourth support") that at all times there must exist an intermediary between the twelfth Imám and his faithful followers. This intermediary they called "the perfect Shíʻite," and his prototype is to be found in the four successive *Bábs* or "gates" through whom alone the twelfth Imám, during the period of his "minor occultation" (*Ghaybat-i-sughrá*, A.D. 874-940), held communication with his partisans. It was in this sense, and not, as has been often asserted, in the sense of "Gate of God" or "Gate of Religion," that the title *Báb* was understood and assumed by Mírzá ʻAlí Muhammad; but, though still generally thus styled by non-Bábís, he soon assumed the higher title of *Nuqta* ("Point"), and the title *Báb*, thus left vacant, was conferred on his ardent disciple, Mullá Husayn of Bushrawayh.

The history of the Bábís, though covering a comparatively short period, is so full of incident and

the particulars now available are so numerous, that the following account purports to be only the briefest sketch. The Báb himself was in captivity first at Shíráz, then at Mákú, and lastly at Chihríq, during the greater part of the six years (May 1844 until July 1850) of his brief career, but an active propaganda was carried on by his disciples, which resulted in several serious revolts against the government, especially after the death of Muhammad Sháh in September 1848. Of these risings the first (December 1848-July 1849) took place in Mázandarán, at the ruined shrine of Shaykh Tabarsí, near Bárfurúsh, where the Bábís, led by Mullá Muhammad ʻAlí of Bárfurúsh and Mullá Husayn of Bushrawayh ("the first who believed"), defied the shah's troops for seven months before they were finally subdued and put to death. The revolt at Zanján in the north-west of Persia, headed by Mullá Muhammad ʻAli Zanjání, also lasted seven or eight months (May-December 1850), while a serious but less protracted struggle was waged against the government at Níríz in Fárs by Agá Sayyid Yahyá of Níríz. Both revolts were in progress when the Báb, with one of his devoted disciples, was brought from his prison at Chihríq to Tabríz and publicly shot in front of the *arg* or citadel. The body, after being exposed for some days, was recovered by the Bábís and conveyed to a shrine near Tehrán, whence it was ultimately removed to Acre in Syria, where it is now buried. For the next two years comparatively little was heard of the Bábís, but on the 15th of August 1852 three of them, acting on their own initiative, attempted to assassinate Násiru'd-Dín Sháh as he was returning from the chase to his palace at Niyávarán. The attempt failed, but was the cause of a fresh persecution, and on the 31st of August 1852 some thirty Bábís, including the beautiful and talented poetess Qurratu'l-'Ayn, were put to death in Tehrán with atrocious cruelty. Another of the victims of that day was Hájji Mírzá Jání of Káshán, the author of the oldest history of the movement from the Bábí point of view. Only one complete MS. of his invaluable work (obtained by Count Gobineau in Persia) exists in any public library, the Bibliothèque Nationale at Paris. The so-called "New History" (of which an English translation was published at Cambridge in 1893 by E. G. Browne) is based on Mírzá Jání's work, but many important passages which did not accord with later Bábí doctrine or policy have been suppressed or modified, while some additions have been made. The Báb was succeeded on his death by Mírzá Yahyá of Núr (at that time only about twenty years of age), who escaped to Bagdad, and, under the title of *Subh-i-Ezel* ("the Morning of Eternity"), became the pontiff of the sect. He lived, however, in great seclusion, leaving the direction of affairs almost entirely in the hands of his elder half-brother (born 12th November 1817), Mírzá Husayn ʻAlí, entitled *Bahá' u'lláh* ("the Splendour of God"), who thus gradually became the most conspicuous and most influential member of the sect, though in the *Iqán*, one of the most important polemical works of the Bábís, composed in 1858-1859, he still implicitly recognized the supremacy of *Subh-i-Ezel*. In 1863, however, Bahá declared himself to be "He whom God shall manifest" (*Man Yuz-hiruhu'lláh*, with prophecies of whose advent the works of the Báb are filled), and called on all the Bábís to recognize his claim. The majority responded, but *Subh-i-Ezel* and some of his faithful adherents refused. After that date the Bábís divided into two sects, Ezelís and Bahá'ís, of which the former steadily lost and the latter gained ground, so that in 1908 there were probably from half a million to a million of the latter, and at most only a hundred or two of the former. In 1863 the Bábís were, at the instance of the Persian government, removed from Bagdad to Constantinople, whence they were shortly afterwards transferred to Adrianople. In 1868 Bahá and his followers were exiled to Acre in Syria, and *Subh-i-Ezel* with his few adherents to Famagusta in Cyprus, where he was still living in 1908. Bahá'u'lláh died at Acre on the 16th of May 1892. His son ʻAbbás Efendí (also called ʻAbdu'l-Bahá, "the servant of Bahá") was generally recognized as his successor, but another of his four sons, Muhammad ʻAlí, put forward a rival claim. This caused a fresh and bitter schism, but ʻAbbás Efendí steadily gained ground, and there could be little doubt
[v.03 p.0095] as to his eventual triumph. The controversial literature connected with this latest schism is abundant, not only in Persian, but in English, for since 1900 many Americans have adopted the religion of Bahá. The original apostle of America was Ibráhím George Khayru'lláh, who began his propaganda at the Chicago Exhibition and later supported the claims of Muhammad ʻAlí. Several Persian missionaries, including the aged and learned Mírzá Abu'l-Fazl of Gulpáyagán, were thereupon despatched to America by ʻAbbás Efendí, who was generally accepted by the American Bahá'ís as "the Master." The American press contained many notices of the propaganda and its success. An interesting article on the subject, by Stoyan Krstoff Vatralsky of Boston, Mass., entitled "Mohammedan Gnosticism in America," appeared in the *American Journal of Theology* for January 1902, pp. 57-58.

A correct understanding of the doctrines of the early Bábís (now represented by the Ezelís) is hardly possible save to one who is conversant with the theology of Islám and its developments, and especially the tenets of the Shíʻa. The Bábís are Muhammadans only in the sense that the Muhammadans are Christians or the Christians Jews; that is to say, they recognize Muhammad (Mahomet) as a true prophet and the Qur'án (Koran) as a revelation, but deny their finality. Revelation, according to their view, is progressive, and no revelation is final, for, as the human race progresses, a fuller measure of truth, and ordinances more suitable to the age, are vouchsafed. The Divine Unity is incomprehensible, and can be known only through its Manifestations; to recognize the Manifestation of the cycle in which he lives is the supreme duty of man. Owing to the enormous volume and unsystematic character of the Bábí scriptures, and the absence of anything resembling church councils, the doctrine on many important points (such as the future life) is undetermined and vague. The resurrection of the body is denied, but some form of personal immortality is generally, though not universally, accepted. Great importance was attached to the mystical values of letters and numbers, especially the numbers 18 and 19 ("the number of the unity") and $19^2 = 361$ ("the number of all things"). In general, the Báb's doctrines most closely resembled those of the Ismaʻílís and Hurúfís. In the hands of Bahá the aims of the sect became much more practical and ethical, and the wilder pantheistic tendencies

and metaphysical hair-splittings of the early Bábís almost disappeared. The intelligence, integrity and morality of the Bábís are high, but their efforts to improve the social position of woman have been much exaggerated. They were in no way concerned (as was at the time falsely alleged) in the assassination of Násiru'd-Dín Sháh in May 1896. Of recent persecutions of the sect the two most notable took place at Yazd, one in May 1891, and another of greater ferocity in June 1903. Some account of the latter is given by Napier Malcolm in his book *Five Years in a Persian Town* (London, 1905), pp. 87-89 and 186. In the constitutional movement in Persia (1907) the Bábís, though their sympathies are undoubtedly with the reformers, wisely refrained from outwardly identifying themselves with that party, to whom their open support, by alienating the orthodox *mujtahids* and *mullás*, would have proved fatal. Here, as in all their actions, they clearly obeyed orders issued from headquarters.

LITERATURE.—The literature of the sect is very voluminous, but mostly in manuscript. The most valuable public collections in Europe are at St Petersburg, London (British Museum) and Paris (Bibliothèque Nationale), where two or three very rare MSS. collected by Gobineau, including the precious history of the Báb's contemporary, Hájji Mírzá Jání of Káshán, are preserved. For the bibliography up to 1889, see vol. ii. pp. 173-211 of the *Traveller's Narrative, written to illustrate the Episode of the Báb*, a Persian work composed by Bahá's son, ʻAbbás Efendí, edited, translated and annotated by E. G. Browne (Cambridge, 1891). More recent works are:—Browne, *The New History of the Báb* (Cambridge, 1893); and "Catalogue and Description of the 27 Bábí Manuscripts," *Journal of R. Asiat. Soc.* (July and October 1892); Andreas, *Die Bábí's in Persien* (1896); Baron Victor Rosen, *Collections scientifiques de l'Institut des Langues orientales*, vol. i. (1877), pp. 179-212; vol. iii. (1886), pp. 1-51; vol. vi. (1891), pp. 141-255; "Manuscrits Bâbys"; and other important articles in Russian by the same scholar; and by Captain A. G. Toumansky in the *Zapiski vostochnava otdyèleniya Imperatorskava Russkava Archeologicheskava Obshchestva* (vols. iv.-xii., St Petersburg, 1890-1900); also an excellent edition by Toumansky, with Russian translation, notes and introduction, of the *Kitáb-i-Aqdas* (the most important of Bahá's works), &c. (St Petersburg, 1899). Mention should also be made of an Arabic history of the Bábís (unsympathetic but well-informed) written by a Persian, Mírzá Muhammad Mahdí Khan, *Zaʻimu'd-Duwla*, printed in Cairo in A.H. 1321 (= A.D. 1903-1904). Of the works composed in English for the American converts the most important are:—*Bahá'u'lláh* (The Glory of God), by Ibráhím Khayru'lláh, assisted by Howard MacNutt (Chicago, 1900); *The Three Questions* (n.d.) and *Facts for Baháists* (1901), by the same; *Life and Teachings of ʻAbbás Efendí*, by Myron H. Phelps, with preface by E. G. Browne (New York, 1903); Isabella Brittingham, *The Revelations of Bahá'u'lláh, in a Sequence of Four Lessons* (1902); Laura Clifford Burney, *Some Answered Questions Collected* [in Acre, 1904-1906] *and Translated from the Persian of ʻAbdu'l-Bahá* [*i.e.* ʻAbbás Efendí] (London, 1908). In French, A. L. M. Nicolas (first dragoman at the French legation at Tehrán) has published several important translations, viz. *Le Livre des sept preuves de la mission du Báb* (Paris, 1902); *Le Livre de la certitude* (1904); and *Le Beyân arabe* (1905); and there are other notable works by H. Dreyfus, an adherent of the Bábí faith. Lastly, mention should be made of a remarkable but scarce little tract by Gabriel Sacy, printed at Cairo in June 1902, and entitled *Du règne de Dieu et de l'Agneau, connu sous le nom de Babysme*.

(E. G. B.)

BABINGTON, ANTHONY (1561-1586), English conspirator, son of Henry Babington of Dethick in Derbyshire, and of Mary, daughter of George, Lord Darcy, was born in October 1561, and was brought up secretly a Roman Catholic. As a youth he served at Sheffield as page to Mary queen of Scots, for whom he early felt an ardent devotion. In 1580 he came to London, attended the court of Elizabeth, and joined the secret society formed that year supporting the Jesuit missionaries. In 1582 after the execution of Father Campion he withdrew to Dethick, and attaining his majority occupied himself for a short time with the management of his estates. Later he went abroad and became associated at Paris with Mary's supporters who were planning her release with the help of Spain, and on his return he was entrusted with letters for her. In April 1586 he became, with the priest John Ballard, leader of a plot to murder Elizabeth and her ministers, and organize a general Roman Catholic rising in England and liberate Mary. The conspiracy was regarded by Mendoza, the Spanish ambassador, one of its chief instigators, and also by Walsingham, as the most dangerous of recent years; it included, in its general purpose of destroying the government, a large number of Roman Catholics, and had ramifications all over the country. Philip II. of Spain, who ardently desired the success of an enterprise "so Christian, just and advantageous to the holy Catholic faith,"[1] promised to assist with an expedition directly the assassination of the queen was effected. Babington's conduct was marked by open folly and vanity. Desirous of some token of appreciation from Mary for his services, he entered into a long correspondence with her, which was intercepted by the spies of Walsingham. On the 4th of August Ballard was seized and betrayed his comrades, probably under torture. Babington then applied for a passport abroad, for the ostensible purpose of spying upon the refugees, but in reality to organize the foreign expedition and secure his own safety. The passport being delayed, he offered to reveal to Walsingham a dangerous conspiracy, but the latter sent no reply, and meanwhile the ports were closed and none allowed to leave the kingdom for some days. He was still allowed his liberty, but one night while supping with Walsingham's servant he observed a memorandum of the minister's concerning himself, fled to St John's Wood, where he was joined by some of his companions, and after disguising himself succeeded in reaching Harrow, where he was sheltered by a recent convert to Romanism. Towards the end of August he was discovered and imprisoned in the Tower. On the 13th and 14th of September he was tried with Ballard and five others by a special commission, when he confessed his guilt, but strove to place all the blame

upon Ballard. All were condemned to death for high treason. On the 19th he wrote to Elizabeth praying for mercy, and the same day offered £1000 for procuring his pardon; and on the 20th, having disclosed the cipher used in the correspondence between himself and Mary, he was executed with the usual barbarities in Lincoln's Inn Fields. The detection of the plot led to Mary's own destruction. There is no positive documentary proof in Mary's own hand that she had knowledge of the intended assassination of Elizabeth, but her circumstances, together with the tenour of her correspondence with Babington, place her complicity beyond all reasonable doubt.

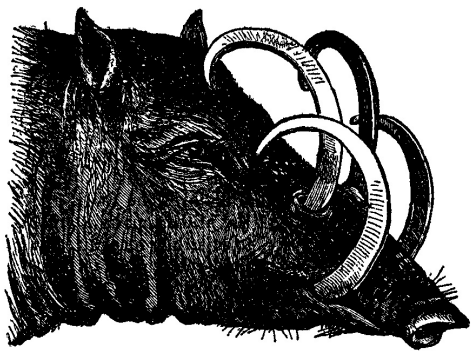
[v.03 p.0096]

[1] *Cata. of State Papers Simancas*, iii. 606, Mendoza to Philip.

BABINGTON, CHURCHILL (1821-1889), English classical scholar and archaeologist, was born at Roecliffe, in Leicestershire, on the 11th of March 1821. He was educated by his father till he was seventeen, when he was placed under the tuition of Charles Wycliffe Goodwin, the orientalist and archaeologist. He entered St John's College, Cambridge, in 1839, and graduated B.A. in 1843, being seventh in the first class of the classical tripos and a senior optime. In 1845 he obtained the Hulsean Prize for his essay *The Influence of Christianity in promoting the Abolition of Slavery in Europe*. In 1846 he was elected to a fellowship and took orders. He proceeded to the degree of M.A. in 1846 and D.D. in 1879. From 1848 to 1861 he was vicar of Horningsea, near Cambridge, and from 1866 to his death on the 12th of January 1889, vicar of Cockfield in Suffolk. From 1865 to 1880 he held the Disney professorship of archaeology at Cambridge. In his lectures, illustrated from his own collections of coins and vases, he dealt chiefly with Greek and Roman pottery and numismatics.

Dr Babington was a many-sided man and wrote on a variety of subjects. His early familiarity with country life gave him a taste for natural history, especially botany and ornithology. He was also an authority on conchology. He was the author of the appendices on botany (in part) and ornithology in Potter's *History and Antiquities of Charnwood Forest* (1842); *Mr Macaulay's Character of the Clergy ... considered* (1849), a defence of the clergy of the 17th century, which received the approval of Mr Gladstone, against the strictures of Macaulay. He also brought out the *editio princeps* of the speeches of Hypereides *Against Demosthenes* (1850), *On Behalf of Lycophron and Euxenippus* (1853), and his *Funeral Oration* (1858). It was by his edition of these speeches from the papyri discovered at Thebes (Egypt) in 1847 and 1856 that Babington's fame as a Greek scholar was made. In 1855 he published an edition of *Benefizio della Morte di Cristo*, a remarkable book of the Reformation period, attributed to Paleario, of which nearly all the copies had been destroyed by the Inquisition. Babington's edition was a facsimile of the *editio princeps* published at Venice in 1543, with Introduction and French and English versions. He also edited the first two volumes of Higden's *Polychronicon* (1858) and Bishop Pecock's *Repressor of Overmuch Blaming of the Clergy* (1860), undertaken at the request of the Master of the Rolls; *Introductory Lecture on Archaeology* (1865); *Roman Antiquities found at Rougham* [1872]; *Catalogue of Birds of Suffolk* (1884-1886); *Flora of Suffolk* (with W. M. Hind, 1889), and (1855, 1865) some inscriptions found in Crete by T. A. B. Spratt, the explorer of the island. In addition to contributing to various classical and scientific journals, he catalogued the classical MSS. in the University Library and the Greek and English coins in the Fitzwilliam museum.

BABIRUSA ("pig-deer"), the Malay name of the wild swine of Celebes and Buru, which has been adopted in zoology as the scientific designation of this remarkable animal (the only representative of its genus), in the form of *Babirusa alfurus*. The skin is nearly naked, and very rough and rugged. The total number of teeth is 34, with the formula *i.2/3. c.1/1. p.2/3. m.3/3.* The molars, and more especially the last, are smaller and simpler than in the pigs of the genus *Sus*, but the peculiarity of this genus is the extraordinary development of the canines, or tusks, of the male. These teeth are ever-growing, long, slender and curved, and without enamel. Those of the upper jaw are directed upwards from their bases, so that they never enter the mouth, but pierce the skin of the face, thus resembling horns rather than teeth; they curve backwards, downwards, and finally often forwards again, almost or quite touching the forehead. Dr A. R. Wallace remarks that "it is difficult to understand what can be the use of these horn-like teeth. Some of the old writers supposed that they served as hooks by which the creature could rest its head on a branch. But the way in which they usually diverge just over and in front of the eye has suggested the more probable idea, that they serve to guard these organs from thorns and spines while hunting for fallen fruits among the tangled thickets of rattans and other spiny plants. Even this, however, is not satisfactory, for the female, who must seek her food in the same way, does not possess them. I should be inclined to believe rather that these tusks were once useful, and were then worn down as fast as they grew, but that changed conditions of life have rendered them unnecessary, and they now develop into a monstrous form, just as the incisors of the beaver and rabbit will go on growing if the opposite teeth do not wear them away. In old animals they reach an enormous size, and are generally broken off as if by fighting." On this latter view we may regard the tusks of the male babirusa as examples of redundant development, analogous to that of the single pair of lower teeth in some of the beaked whales. Unlike ordinary wild pigs, the babirusa produces uniformly coloured young. (See SWINE.)



Old Male Babirusa (*Babirusa alfurus*).

(R. L.*)

BABOON (from the Fr. *babuin*, which is itself derived from *Babon*, the Egyptian deity to whom it was sacred), properly the designation of the long-muzzled, medium-tailed Egyptian monkey, scientifically known as *Papio anubis*; in a wider sense applied to all the members of the genus *Papio* (formerly known as *Cynocephalus*) now confined to Africa and Arabia, although in past times extending into India. Baboons are for the most part large terrestrial monkeys with short or medium-sized tails, and long naked dog-like muzzles, in the truncated extremity of which are pierced the nostrils. As a rule, they frequent barren rocky districts in large droves, and are exceedingly fierce and dangerous to approach. They have large cheek-pouches, large naked callosities, often brightly coloured, on the buttocks, and short thick limbs, adapted rather to walking than to climbing. Their diet includes practically everything eatable they can capture or kill. The typical representative of the genus is the yellow baboon (*P. cynocephalus*, or *babuin*), distinguished by its small size and grooved muzzle, and ranging from Abyssinia to the Zambezi. The above-mentioned anubis baboon, *P. anubis* (with the subspecies *neumanni*, *pruinosus*, *heuglini* and *doguera*), ranging from Egypt all through tropical Africa, together with *P. sphinx*, *P. olivaceus*, the Abyssinian *P. lydekkeri*, and the chacma, *P. porcarius* of the Cape, represent the subgenus *Choeropithecus*. The named Arabian baboon, *P. hamadryas* of North Africa and Arabia, dedicated by the ancient Egyptians to the god Thoth, and the South Arabian *P. arabicus*, typify *Hamadryas*; while the drill and mandrill of the west coast, *P. leucophaeus* and *P. maimon*, constitute the subgenus *Maimon*. The anubis baboons, as shown by the frescoes, were tamed by the ancient Egyptians and trained to pluck sycamore-figs from the trees. (See Primates; Chacma; Drill; Gelada and Mandrill).

(R. L.*)

BABRIUS, author of a collection of fables written in Greek. Practically nothing is known of him. He is supposed to have been a Roman, whose gentile name was possibly Valerius, living in the
[v.03 p.0097] East, probably in Syria, where the fables seem first to have gained popularity. The address to "a son of King Alexander" has caused much speculation, with the result that dates varying between the 3rd century B.C. and the 3rd century A.D. have been assigned to Babrius. The Alexander referred to may have been Alexander Severus (A.D. 222-235), who was fond of having literary men of all kinds about his court. "The son of Alexander" has further been identified with a certain Branchus mentioned in the fables, and it is suggested that Babrius may have been his tutor; probably, however, Branchus is a purely fictitious name. There is no mention of Babrius in ancient writers before the beginning of the 3rd century A.D., and his language and style seem to show that he belonged to that period. The first critic who made Babrius more than a mere name was Richard Bentley, in his *Dissertation on the Fables of Aesop*. In a careful examination of these prose Aesopian fables, which had been handed down in various collections from the time of Maximus Planudes, Bentley discovered traces of versification, and was able to extract a number of verses which he assigned to Babrius. Tyrwhitt (*De Babrio*, 1776) followed up the researches of Bentley, and for some time the efforts of scholars were directed towards reconstructing the metrical original of the prose fables. In 1842 M. Minas, a Greek, the discoverer of the *Philosophoumena* of Hippolytus, came upon a MS. of Babrius in the convent of St Laura on Mount Athos, now in the British Museum. This MS. contained 123 fables out of the supposed original number, 160. They are arranged alphabetically, but break off at the letter O. The fables are written in choliambic, *i.e.* limping or imperfect iambic verse, having a spondee as the last foot, a metre originally appropriated to satire. The style is extremely good, the expression being terse and pointed, the versification correct and elegant, and the construction of the stories is fully equal to that in the prose versions. The genuineness of this collection of the fables was generally admitted by scholars. In 1857 Minas professed to have discovered at Mount Athos another MS. containing 94 fables and a preface. As the monks refused to sell this MS., he made a copy of it, which was sold to the British Museum, and was published in 1859 by Sir G. Cornewall Lewis. This, however, was soon proved to be a forgery. Six more fables were brought to light by P. Knöll from a Vatican MS. (edited by A. Eberhard, *Analecta Babriana*, 1879).

Editions.—Boissonade (1844); Lachmann (1845); Schneider (1853); Eberhard (1876); Gitlbauer (1882); Rutherford (1883); Knöll, *Fabularum Babrianarum Paraphrasis Bodleiana* (1877); Feuillet (1890); Desrousseaux (1890); Passerat (1892); Croiset (1892); Crusius (1897). See also Mantels, *Über die Fabeln des B.* (1840); Crusius, *De Babrii Aetate* (1879); Ficus, *De Babrii Vita* (1889); J. Weiner, *Quaestiones Babrianae* (1891); Conington, *Miscellaneous Writings*, ii. 460-491; Marchiano, *Babrio* (1899); Fusci, *Babrio* (1901); Christoffersson, *Studia de Fabulis Babrianis* (1901). There are translations in English by Davies (1860) and in French by Levèque (1890), and in many other languages.

BABU, a native Indian clerk. The word is really a term of respect attached to a proper name, like "master" or "Mr," and *Babu-ji* is still used in many parts of India, meaning "sir"; but without the suffix the word itself is now generally used contemptuously as signifying a semi-literate native, with a mere veneer of modern education.

BABY-FARMING,[1] a term meaning generally the taking in of infants to nurse for payment, but usually with an implication of improper treatment. Previous to the year 1871 the abuse of the practice of baby-farming in England had grown to an alarming extent, while the trials of Margaret Waters and Mary Hall called attention to the infamous relations between the lying-in houses and the baby-farming houses of London. The evil was, no doubt, largely connected with the question of illegitimacy, for there was a wide-spread existence of baby-farms where children

were received without question on payment of a lump sum. Such children were nearly all illegitimate, and in these cases it was to the pecuniary advantage of the baby-farmer to hasten the death of the child. It had become also the practice for factory operatives and mill-hands to place out their children by the day, and since in many cases the children were looked upon as a burden and a drain on their parents' resources, too particular inquiry was not always made as to the mode in which the children were cared for. The form was gone through too of paying a ridiculously insufficient sum for the maintenance of the child. In 1871 the House of Commons found it necessary to appoint a select committee "to inquire as to the best means of preventing the destruction of the lives of infants put out to nurse for hire by their parents." "Improper and insufficient food," said the committee, "opiates, drugs, crowded rooms, bad air, want of cleanliness, and wilful neglect are sure to be followed in a few months by diarrhoea, convulsions and wasting away." These unfortunate children were nearly all illegitimate, and the mere fact of their being hand-nursed, and not breast-nursed, goes some way (according to the experience of the Foundling hospital and the Magdalene home) to explain the great mortality among them. Such children, when nursed by their mothers in the workhouse, generally live. The practical result of the committee of 1871 was the act of 1872, which provided for the compulsory registration of all houses in which more than one child under the age of one year were received for a longer period than twenty-four hours. No licence was granted by the justices of the peace, unless the house was suitable for the purpose, and its owner a person of good character and able to maintain the children. Offences against the act, including wilful neglect of the children even in a suitable house, were punishable by a fine of £5 or six months' imprisonment with or without hard labour. In 1896 a select committee of the House of Lords sat and reported on the working of this act. In consequence of this report the act of 1872 was repealed and superseded by the Infant Life Protection Act 1897, which did away with the system of registration and substituted for it one of notice to a supervening authority. By the act all persons retaining or receiving for hire more than one infant under the age of *five* had to give written notice of the fact to the local authority. The local authorities were empowered to appoint inspectors, and required to arrange for the periodical inspection of infants so taken in, while they could also fix the number of infants which might be retained. By a special clause any person receiving an infant under the age of two years for a sum of money not exceeding twenty pounds had to give notice of the fact to the local authority. If any infants were improperly kept, the inspector might obtain an order for their removal to a work-house or place of safety until restored to their parents or guardians, or otherwise legally disposed of. The act of 1897 was repealed and amended by the Children Act 1908, which codified the law relating to children, and added many new provisions. This act is dealt with in the article CHILDREN, LAW RELATING TO.

In the United States the law is noticeably strict in most states. In Massachusetts, a law of 1891 directs that "every person who receives for board, or for the purpose of procuring adoption, an infant under the age of three years shall use diligence to ascertain whether or not such infant is illegitimate, and if he knows or has reason to believe it to be illegitimate shall forthwith notify the State Board of Charity of the fact of such reception; and said board and its officers or agents may enter and inspect any building where they may have reason to believe that any such illegitimate infant is boarded, and remove such infant when, in their judgment, such removal is necessary by reason of neglect, abuse or other causes, in order to preserve the infant's life, and such infant so removed shall be in the custody of said Board of Charity, which shall make provision therefor according to law." The penal code of the state of New York requires a licence for baby-farming to be issued by the board of health of the city or town where such children are boarded or kept, and "every person so licensed must keep a register wherein he shall enter the names and ages of all such children, and of all children born on such premises, and the names and residences of their parents, as far as known, the time of reception and the discharge of such children, and the reasons therefor, and also a correct register of every child under five years of age who is given out, adopted, taken away, or indentured from such place to or by any one, together with the name and residence of the person so adopting" (Pen. Code, § 288, subsec. 4).

[v.03 p.0098]

Persons neglecting children may be prosecuted under § 289 of the N.Y. penal code, which provides that any person who "wilfully causes or permits the life or limb of any child, actually or apparently under the age of sixteen years, to be endangered, or its health to be injured, or its morals to become depraved ... is guilty of a misdemeanour."

In Australia particular care has been taken by most of the states to prevent the evils of baby-farming. In South Australia there is a State Children's Council, which, under the State Children Act of 1895, has large powers with respect to the oversight of infants under two years boarded out by their mother. "Foster-mothers," as the women who take in infants as boarders are called, must be licensed, while the number of children authorized to be kept by the foster-mother is fixed by licence; every licensed foster-mother must keep a register containing the name, age and place of birth of every child received by her, the names, addresses and description of the parents, or of any person other than the parents from or to whom the child was received or delivered over, the date of receipt or delivery over, particulars of any accident to or illness of the child, and the name of the medical practitioner (if any) by whom attended. In New South Wales the Children's Protection Act of 1892, with the amendments of 1902, requires the same state supervision over the homes in which children are boarded out, with licensing of foster-mothers. In Victoria an act was passed in 1890 for "making better provision for the protection of infant life." In New Zealand, there is legislation to the same effect by the "Adoption of Children Act 1895" and the "Infant Life Protection Act 1896."

[1] Baby is a diminutive or pet form of "babe," now chiefly used in poetry or scriptural

language. "Babe" is probably a form of the earlier *baban*, a reduplicated form of the infant sound *ba*.

BABYLON (mod. *Hillah*), an ancient city on the left bank of the Euphrates, about 70 m. S. of Bagdad. "Babylon" is the Greek form of Babel or Bab-ili, "the gate of the god" (sometimes incorrectly written "of the gods"), which again is the Semitic translation of the original Sumerian name Ka-dimirra. The god was probably Merodach or Marduk (*q.v.*), the divine patron of the city. In an inscription of the Kassite conqueror Gaddas the name appears as Ba-ba-lam, as if from the Assyrian *babalu*, "to bring"; another foreign *Volksetymologie* is found in Genesis xi. 9, from *balbal*, "to confound." A second name of the city, which perhaps originally denoted a separate village or quarter, was Su-anna, and in later inscriptions it is often represented ideographically by E-ki, the pronunciation and meaning of which are uncertain. One of its oldest names, however, was Din-tir, of which the poets were especially fond; Din-tir signifies in Sumerian "the life of the forest," though a native lexicon translates it "seat of life." Uru-azagga, "the holy city," was also a title sometimes applied to Babylon as to other cities in Babylonia. Ka-dimirra, the Semitic Bab-ili, probably denoted at first E-Saggila, "the house of the lofty head," the temple dedicated to Bel-Merodach, along with its immediate surroundings. Like the other great sanctuaries of Babylonia the temple had been founded in pre-Semitic times, and the future Babylon grew up around it. Since Merodach was the son of Ea, the culture god of Eridu near Ur on the Persian Gulf, it is possible that Babylon was a colony of Eridu. Adjoining Babylon was a town called Borsippa (*q.v.*).

The earliest mention of Babylon is in a dated tablet of the reign of Sargon of Akkad (3800 B.C.), who is stated to have built sanctuaries there to Anunit and Aē (or Ea), and H. Winckler may be right in restoring a mutilated passage in the annals of this king so as to make it mean that Babylon owed its name to Sargon, who made it the capital of his empire. If so, it fell back afterwards into the position of a mere provincial town and remained so for centuries, until it became the capital of "the first dynasty of Babylon" and then of Khammurabi's empire (2250 B.C.). From this time onward it continued to be the capital of Babylonia and the holy city of western Asia. The claim to supremacy in Asia, however real in fact, was not admitted *de jure* until the claimant had "taken the hands" of Bel-Merodach at Babylon, and thereby been accepted as his adopted son and the inheritor of the old Babylonian empire. It was this which made Tiglath-pileser III. and other Assyrian kings so anxious to possess themselves of Babylon and so to legitimize their power. Sennacherib alone seems to have failed in securing the support of the Babylonian priesthood; at all events he never underwent the ceremony, and Babylonia throughout his reign was in a constant state of revolt which was finally suppressed only by the complete destruction of the capital. In 689 B.C. its walls, temples and palaces were razed to the ground and the rubbish thrown into the Arakhtu, the canal which bordered the earlier Babylon on the south. The act shocked the religious conscience of western Asia; the subsequent murder of Sennacherib was held to be an expiation of it, and his successor Esar-haddon hastened to rebuild the old city, to receive there his crown, and make it his residence during part of the year. On his death Babylonia was left to his elder son Samas-sum-yukin, who eventually headed a revolt against his brother Assur-bani-pal of Assyria. Once more Babylon was besieged by the Assyrians and starved into surrender. Assur-bani-pal purified the city and celebrated a "service of reconciliation," but did not venture to "take the hands" of Bel. In the subsequent overthrow of the Assyrian empire the Babylonians saw another example of divine vengeance.

With the recovery of Babylonian independence under Nabopolassar a new era of architectural activity set in, and his son Nebuchadrezzar made Babylon one of the wonders of the ancient world. It surrendered without a struggle to Cyrus, but two sieges in the reign of Darius Hystaspis, and one in the reign of Xerxes, brought about the destruction of the defences, while the monotheistic rule of Persia allowed the temples to fall into decay. Indeed part of the temple of E-Saggila, which like other ancient temples served as a fortress, was intentionally pulled down by Xerxes after his capture of the city. Alexander was murdered in the palace of Nebuchadrezzar, which must therefore have been still standing, and cuneiform texts show that, even under the Seleucids, E-Saggila was not wholly a ruin. The foundation of Seleucia in its neighbourhood, however, drew away the population of the old city and hastened its material decay. A tablet dated 275 B.C. states that on the 12th of Nisan the inhabitants of Babylon were transported to the new town, where a palace was built as well as a temple to which the ancient name of E-Saggila was given. With this event the history of Babylon comes practically to an end, though more than a century later we find sacrifices being still performed in its old sanctuary.

Our knowledge of its topography is derived from the classical writers, the inscriptions of Nebuchadrezzar, and the excavations of the *Deutsche Orientgesellschaft*, which were begun in 1899. The topography is necessarily that of the Babylon of Nebuchadrezzar; the older Babylon which was destroyed by Sennacherib having left few, if any, traces behind. Most of the existing remains lie on the E. bank of the Euphrates, the principal being three vast mounds, the *Babil* to the north, the *Qasr* or "Palace" (also known as the *Mujelliba*) in the centre, and the Ishān ʿAmran ibn ʿAli, with the outlying spur of the Jumjuma, to the south. Eastward of these come the Ishān el-Aswad or "Black Mound" and three lines of rampart, one of which encloses the *Babil* mound on the N. and E. sides, while a third forms a triangle with the S.E. angle of the other two. W. of the Euphrates are other ramparts and the remains of the ancient Borsippa.

We learn from Herodotus and Ctesias that the city was built on both sides of the river in the form of a square, and enclosed within a double row of lofty walls to which Ctesias adds a third. Ctesias makes the outermost wall 360 stades (42 m.) in circumference, while according to Herodotus it measured 480 stades (56 m.), which would include an area of about 200 sq. m. The estimate of

Ctesias is essentially the same as that of Q. Curtius (v. 1. 26), 368 stades, and Clitarchus (*ap.* Diod. Sic. ii. 7), 365 stades; Strabo (xvi. 1. 5) makes it 385 stades. But even the estimate of Ctesias, assuming the stade to be its usual length, would imply an area of about 100 sq. m. [v.03 p.0099] According to Herodotus the height of the walls was about 335 ft. and their width 85 ft; according to Ctesias the height was about 300 ft. The measurements seem exaggerated, but we must remember that even in Xenophon's time (*Anab.* iii. 4. 10) the ruined wall of Nineveh was still 150 ft high, and that the spaces between the 250 towers of the wall of Babylon (Ctes. 417, *ap.* Diod. ii. 7) were broad enough to let a four-horse chariot turn (Herod. i. 179). The clay dug from the moat served to make the bricks of the wall, which had 100 gates, all of bronze, with bronze lintels and posts. The two inner enclosures were faced with enamelled tiles and represented hunting-scenes. Two other walls ran along the banks of the Euphrates and the quays with which it was lined, each containing 25 gates which answered to the number of streets they led into. Ferry-boats plied between the landing-places of the gates, and a movable drawbridge (30 ft. broad), supported on stone piers, joined the two parts of the city together.

The account thus given of the walls must be grossly exaggerated and cannot have been that of an eye-witness. Moreover, the two walls—Imgur-Bel, the inner wall, and Nimitti-Bel, the outer—which enclosed the city proper on the site of the older Babylon have been confused with the outer ramparts (enclosing the whole of Nebuchadrezzar's city), the remains of which can still be traced to the east. According to Nebuchadrezzar, Imgur-Bel was built in the form of a square, each side of which measured "30 *aslu* by the great cubit"; this would be equivalent, if Professor F. Hommel is right, to 2400 metres. Four thousand cubits to the east the great rampart was built "mountain high," which surrounded both the old and the new town; it was provided with a moat, and a reservoir was excavated in the triangle on the inner side of its south-east corner, the western wall of which is still visible. The Imgur-Bel of Sargon's time has been discovered by the German excavators running south of the *Qasr* from the Euphrates to the Gate of Ishtar.

The German excavations have shown that the *Qasr* mound represents both the old palace of Nabopolassar, and the new palace adjoining it built by Nebuchadrezzar, the wall of which he boasts of having completed in 15 days. They have also laid bare the site of the "Gate of Ishtar" on the east side of the mound and the little temple of Nin-Makh (Beltis) beyond it, as well as the raised road for solemn processions (*A-ibur-sabu*) which led from the Gate of Ishtar to E-Saggila and skirted the east side of the palace. The road was paved with stone and its walls on either side lined with enamelled tiles, on which a procession of lions is represented. North of the mound was a canal, which seems to have been the Libilkhegal of the inscriptions, while on the south side was the Arakhtu, "the river of Babylon," the brick quays of which were built by Nabopolassar.

The site of E-Saggila is still uncertain. The German excavators assign it to the ʿAmrān mound, its tower having stood in a depression immediately to the north of this, and so place it south of the *Qasr*; but E. Lindl and F. Hommel have put forward strong reasons for considering it to have been north of the latter, on a part of the site which has not yet been explored. A tablet copied by George Smith gives us interesting details as to the plan and dimensions of this famous temple of Bel; a plan based on these will be found in Hommel's *Grundriss der Geographie und Geschichte des alten Orients*, p. 321. There were three courts, the outer or great court, the middle court of Ishtar and Zamama, and the inner court on the east side of which was the tower of seven stages (known as the House of the Foundation of Heaven and Earth), 90 metres high according to Hommel's calculation of the measurements in the tablet; while on the west side was the temple proper of Merodach and his wife Sarpanit or Zarpanit, as well as chapels of Anu, Ea and Bel on either side of it. A winding ascent led to the summit of the tower, where there was a chapel, containing, according to Herodotus, a couch and golden table (for the showbread) but no image. The golden image of Merodach 40 ft. high, stood in the temple below, in the sanctuary called E-Kua or "House of the Oracle," together with a table, a mercy-seat and an altar—all of gold. The deities whose chapels were erected within the precincts of the temple enclosure were regarded as forming his court. Fifty-five of these chapels existed altogether in Babylon, but some of them stood independently in other parts of the city.

There are numerous gates in the walls both of E-Saggila and of the city, the names of many of which are now known. Nebuchadrezzar says that he covered the walls of some of them with blue enamelled tiles "on which bulls and dragons were pourtrayed," and that he set up large bulls and serpents of bronze on their thresholds.

The *Babil* mound probably represents the site of a palace built by Nebuchadrezzar at the northern extremity of the city walls and attached to a defensive outwork 60 cubits in length. Since H. Rassam found remains of irrigation works here it might well be the site of the Hanging Gardens. These consisted, we are told, of a garden of trees and flowers, built on the topmost of a series of arches some 75 ft. high, and in the form of a square, each side of which measured 400 Greek ft. Water was raised from the Euphrates by means of a screw (Strabo xvi. 1. 5; Diod. ii. 10. 6). In the Jumjuma mound at the southern extremity of the old city the contract and other business tablets of the Egibi firm were found.

See C. J. Rich, *Memoir on the Ruins of Babylon* (1816), and *Collected Memoirs* (1839); A. H. Layard, *Nineveh and Babylon* (1853); C. P. Tiele, *De Hoofdtempel van Babel* (1886); A. H. Sayce, *Religion of the Ancient Babylonians*, App. ii. (1887); C. J. Ball in *Records of the Past* (new ser. iii. 1890); *Mittheilungen der deutschen Orientgesellschaft* (1899-1906); F. Delitzsch, *Im Lande des einstigen Paradieses* (1903); F. H. Weissbach, *Das Stadtbild von Babylon* (1904); F. Hommel, *Grundriss der Geographie und Geschichte des alten Orients* (1904).

(A. H. S.)

BABYLONIA AND ASSYRIA. I. *Geography.*—Geographically as well as ethnologically and historically, the whole district enclosed between the two great rivers of western Asia, the Tigris and Euphrates, forms but one country. The writers of antiquity clearly recognized this fact, speaking of the whole under the general name of Assyria, though Babylonia, as will be seen, would have been a more accurate designation. It naturally falls into two divisions, the northern being more or less mountainous, while the southern is flat and marshy; the near approach of the two rivers to one another, at a spot where the undulating plateau of the north sinks suddenly into the Babylonian alluvium, tends to separate them still more completely. In the earliest times of which we have any record, the northern portion was included in Mesopotamia; it was definitely marked off as Assyria only after the rise of the Assyrian monarchy. With the exception of Assur, the original capital, the chief cities of the country, Nineveh, Calah and Arbela, were all on the left bank of the Tigris. The reason of this preference for the eastern bank of the Tigris was due to its abundant supply of water, whereas the great Mesopotamian plain on the western side had to depend upon the streams which flowed into the Euphrates. This vast flat, the modern El-Jezireh, is about 250 miles in length, interrupted only by a single limestone range, rising abruptly out of the plain, and branching off from the Zagros mountains under the names of *Sarazūr*, *Hamrin* and *Sinjar*. The numerous remains of old habitations show how thickly this level tract must once have been peopled, though now for the most part a wilderness. North of the plateau rises a well-watered and undulating belt of country, into which run low ranges of limestone hills, sometimes arid, sometimes covered with dwarf-oak, and often shutting in, between their northern and north-eastern flank and the main mountain-line from which they detach themselves, rich plains and fertile valleys. Behind them tower the massive ridges of the Niphates and Zagros ranges, where the Tigris and Euphrates take their rise, and which cut off Assyria from Armenia and Kurdistan.

The name Assyria itself was derived from that of the city of Assur (*q.v.*) or Asur, now Qal`at Sherqat (Kaleh Shergat), which stood on the right bank of the Tigris, midway between the Greater and the Lesser Zab. It remained the capital long after the Assyrians had become the dominant power in western Asia, but was finally supplanted by Calah (*Nimrūd*), Nineveh (*Nebi Yunus* and *Kuyunjik*), and Dur-Sargina (*Khorsabad*), some 60 m. farther north (see NINEVEH).

[v.03 p.0100] In contrast with the arid plateau of Mesopotamia, stretched the rich alluvial plain of Chaldaea, formed by the deposits of the two great rivers by which it was enclosed. The soil was extremely fertile, and teemed with an industrious population. Eastward rose the mountains of Elam, southward were the sea-marshes and the Kaldā or Chaldaeans and other Aramaic tribes, while on the west the civilization of Babylonia encroached beyond the banks of the Euphrates, upon the territory of the Semitic nomads (or Suti). Here stood Ur (*Mugheir*, more correctly *Muqayyar*) the earliest capital of the country; and Babylon, with its suburb, Borsippa (*Birs Nimrūd*), as well as the two Sipparas (the Sepharvaim of Scripture, now *Abu Habba*), occupied both the Arabian and Chaldaean sides of the river (see BABYLON). The Arakhtu, or "river of Babylon," flowed past the southern side of the city, and to the south-west of it on the Arabian bank lay the great inland freshwater sea of *Nejef*, surrounded by red sandstone cliffs of considerable height, 40 m. in length and 35 in breadth in the widest part. Above and below this sea, from Borsippa to Kufa, extend the famous Chaldaean marshes, where Alexander was nearly lost (Arrian, *Exp. Al.* vii. 22; Strab. xvi. 1, § 12); but these depend upon the state of the Hindiya canal, disappearing altogether when it is closed.

Eastward of the Euphrates and southward of Sippara, Kutha and Babylon were Kis (*Uhaimir*, 9 m. E. of *Hillah*), Nippur (*Niffer*)—where stood the great sanctuary of El-lil, the older Bel—Uruk or Erech (*Warka*) and Larsa (*Senkera*) with its temple of the sun-god, while eastward of the Shatt el-Hai, probably the ancient channel of the Tigris, was Lagash (*Tello*), which played an important part in early Babylonian history. The primitive seaport of the country, Eridu, the seat of the worship of Ea the culture-god, was a little south of Ur (at *Abu Shahrain* or *Nowāwis* on the west side of the Euphrates). It is now about 130 m. distant from the sea; as about 46 m. of land have been formed by the silting up of the shore since the foundation of Spasinus Charax (*Muhamrah*) in the time of Alexander the Great, or some 115 ft. a year, the city would have been in existence at least 6000 years ago. The marshes in the south like the adjoining desert were frequented by Aramaic tribes; of these the most famous were the Kaldā or Chaldaeans who under Merodach-baladan made themselves masters of Babylon and gave their name in later days to the whole population of the country. The combined stream of the Euphrates and Tigris as it flowed through the marshes was known to the Babylonians as the *nār marrati*, "the salt river" (cp. Jer. l. 21), a name originally applied to the Persian Gulf.

The alluvial plain of Babylonia was called Edin, the Eden of Gen. ii., though the name was properly restricted to "the plain" on the western bank of the river where the Bedouins pastured the flocks of their Babylonian masters. This "bank" or *kisad*, together with the corresponding western bank of the Tigris (according to Hommel the modern Shatt el-Hai), gave its name to the land of Chesed, whence the *Kasdim* of the Old Testament. In the early inscriptions of Lagash the whole district is known as Gu-Edinna, the Sumerian equivalent of the Semitic *Kisad Edini*. The coast-land was similarly known as Gu-ābba (Semitic *Kisad tamtim*), the "bank of the sea." A more comprehensive name of southern Babylonia was Kengi, "the land," or Kengi Sumer, "the land of Sumer," for which Sumer alone came afterwards to be used. Sumer has been supposed to be the original of the Biblical Shinar; but Shinar represented northern rather than southern Babylonia, and was probably the Sankhar of the Tell el-Amarna tablets (but see SUMER). Opposed to Kengi and Sumer were Urra (Uri) and Akkad or northern Babylonia. The original meaning of *Urra* was

perhaps "clayey soil," but it came to signify "the upper country" or "highlands," *kengi* being "the lowlands." In Semitic times *Urra* was pronounced *Uri* and confounded with *uru*, "city"; as a geographical term, however, it was replaced by Akkadu (Akkad), the Semitic form of Agadē—written Akkattim in the Elamite inscriptions—the name of the elder Sargon's capital, which must have stood close to Sippara, if indeed it was not a quarter of Sippara itself. The rise of Sargon's empire was doubtless the cause of this extension of the name of Akkad; from henceforward, in the imperial title, "Sumer and Akkad" denoted the whole of Babylonia. After the Kassite conquest of the country, northern Babylonia came to be known as Kar-Duniyas, "the wall of the god Duniyas," from a line of fortification similar to that built by Nebuchadrezzar between Sippara and Opis, so as to defend his kingdom from attacks from the north. As this last was "the Wall of Semiramis" mentioned by Strabo (xi. 14. 8), Kar-Duniyas may have represented the Median Wall of Xenophon (*Anab.* ii. 4. 12), traces of which were found by F. R. Chesney extending from Faluja to Jibbar.

The country was thickly studded with towns, the sites of which are still represented by mounds, though the identification of most of them is still doubtful. The latest to be identified are Bismya, between Nippur and Erech, which recent American excavations have proved to be the site of Udab (also called Adab and Usab) and the neighbouring Fāra, the site of the ancient Kisurra. The dense population was due to the elaborate irrigation of the Babylonian plain which had originally reclaimed it from a pestiferous and uninhabitable swamp and had made it the most fertile country in the world. The science of irrigation and engineering seems to have been first created in Babylonia, which was covered by a network of canals, all skilfully planned and regulated. The three chief of them carried off the waters of the Euphrates to the Tigris above Babylon,—the Zabzallat canal (or *Nahr Sarsar*) running from Faluja to Ctesiphon, the Kutha canal from Sippara to Madain, passing Tell Ibrahim or Kutha on the way, and the King's canal or Ar-Malcha between the other two. This last, which perhaps owed its name to Khammurabi, was conducted from the Euphrates towards Upi or Opis, which has been shown by H. Winckler (*Altorientalische Forschungen*, ii. pp. 509 seq.) to have been close to Seleucia on the western side of the Tigris. The Pallacopas, called Pallukkatu in the Neo-Babylonian texts, started from Pallukkatu or Faluja, and running parallel to the western bank of the Euphrates as far as Iddaratu or Teredon (?) watered an immense tract of land and supplied a large lake near Borsippa. B. Meissner may be right in identifying it with "the Canal of the Sun-god" of the early texts. Thanks to this system of irrigation the cultivation of the soil was highly advanced in Babylonia. According to Herodotus (i. 193) wheat commonly returned two hundred-fold to the sower, and occasionally three hundred-fold. Pliny (*H. N.* xviii. 17) states that it was cut twice, and afterwards was good keep for sheep, and Berossus remarked that wheat, sesame, barley, ochrys, palms, apples and many kinds of shelled fruit grew wild, as wheat still does in the neighbourhood of Anah. A Persian poem celebrated the 360 uses of the palm (Strabo xvi. 1. 14), and Ammianus Marcellinus (xxiv. 3) says that from the point reached by Julian's army to the shores of the Persian Gulf was one continuous forest of verdure.

II. *Classical Authorities*.—Such a country was naturally fitted to be a pioneer of civilization. Before the decipherment of the cuneiform texts our knowledge of its history, however, was scanty and questionable. Had the native history of Berossus survived, this would not have been the case; all that is known of the Chaldaean historian's work, however, is derived from quotations in Josephus, Ptolemy, Eusebius and the Syncellus. The authenticity of his list of 10 antediluvian kings who reigned for 120 *sari* or 432,000 years, has been partially confirmed by the inscriptions; but his 8 postdiluvian dynasties are difficult to reconcile with the monuments, and the numbers attached to them are probably corrupt. It is different with the 7th and 8th dynasties as given by Ptolemy in the *Almagest*, which prove to have been faithfully recorded:—

1. Nabonassar (747 B.C.)	14	years
2. Nadios	2	"
3. Khinziros and Poros (Pul)	5	"
4. Ilulaeos	5	"
5. Mardokempados (Merodach-Baladan)	12	"
6. Arkeanos (Sargon)	5	"
7. Interregnum	2	"
8. Hagisa	1	month
9. Belibos (702 B.C.)	3	years
10. Assaranadios (Assur-nadin-sum)	6	"
11. Rēgebelos	1	year
12. Mesēsimordakos	4	years
13. Interregnum	8	"
14. Asaridinos (Esar-haddon)	13	"
15. Saosdukhinos (Savul-sum-yukin)	20	"
16. Sinēladanos (Assur-bani-pal)	22	"

The account of Babylon given by Herodotus is not that of an eye-witness, and his historical notices are meagre and untrustworthy. He was controverted by Ctesias, who, however, has mistaken mythology for history, and Greek romance owed to him its Ninus and Semiramis, its Ninyas and Sardanapalus. The only ancient authority of value on Babylonian and Assyrian history is the Old Testament.

III. *Modern Discovery.*—The excavations of P. E. Botta and A. H. Layard at Nineveh opened up a new world, coinciding as they did with the successful decipherment of the cuneiform system of writing. Layard's discovery of the library of Assur-bani-pal put the materials for reconstructing the ancient life and history of Assyria and Babylonia into the hands of scholars. He also was the first to excavate in Babylonia, where C. J. Rich had already done useful topographical work. Layard's excavations in this latter country were continued by W. K. Loftus, who also opened trenches at Susa, as well as by J. Oppert on behalf of the French government. But it was only in the last quarter of the 19th century that anything like systematic exploration was attempted. After the death of George Smith at Aleppo in 1876, an expedition was sent by the British Museum (1877-1879), under the conduct of Hormuzd Rassam, to continue his work at Nineveh and its neighbourhood. Excavations in the mounds of Balawāt, called Imgur-Bel by the Assyrians, 15 m. east of Mosul, resulted in the discovery of a small temple dedicated to the god of dreams by Assur-nazir-pal III. (883 B.C.), containing a stone coffer or ark in which were two inscribed tables of alabaster of rectangular shape, as well as of a palace which had been destroyed by the Babylonians but restored by Shalmaneser II. (858 B.C.). From the latter came the bronze gates with hammered reliefs, which are now in the British Museum. The remains of a palace of Assur-nazir-pal III. at Nimrūd (Calah) were also excavated, and hundreds of enamelled tiles were disinterred. Two years later (1880-1881) Rassam was sent to Babylonia, where he discovered the site of the temple of the sun-god of Sippara at Abu-Habba, and so fixed the position of the two Sipparas or Sepharvaim. Abu-Habba lies south-west of Bagdad, midway between the Euphrates and Tigris, on the south side of a canal, which may once have represented the main stream of the Euphrates, Sippara of the goddess Anunit, now *Dēr*, being on its opposite bank.

Meanwhile (1877-1881) the French consul, de Sarzec, had been excavating at Tello, the ancient Lagash, and bringing to light monuments of the pre-Semitic age, which included the diorite statues of Gudea now in the Louvre, the stone of which, according to the inscriptions upon them, had been brought from Magan, the Sinaitic peninsula. The subsequent excavations of de Sarzec in Tello and its neighbourhood carried the history of the city back to at least 4000 B.C., and a collection of more than 30,000 tablets has been found, which were arranged on shelves in the time of Gudea (*c.* 2700 B.C.). In 1886-1887 a German expedition under Dr Koldewey explored the cemetery of El Hibba (immediately to the south of Tello), and for the first time made us acquainted with the burial customs of ancient Babylonia. Another German expedition, on a large scale, was despatched by the *Orientgesellschaft* in 1899 with the object of exploring the ruins of Babylon; the palace of Nebuchadrezzar and the great processional road were laid bare, and Dr W. Andrae subsequently conducted excavations at Qal`at Sherqat, the site of Assur. Even the Turkish government has not held aloof from the work of exploration, and the Museum at Constantinople is filled with the tablets discovered by Dr V. Scheil in 1897 on the site of Sippara. J. de Morgan's exceptionally important work at Susa lies outside the limits of Babylonia; not so, however, the American excavations (1903-1904) under E. J. Banks at Bismya (Udab), and those of the university of Pennsylvania at Niffer (see NIPPUR) first begun in 1889, where Mr J. H. Haynes has systematically and patiently uncovered the remains of the great temple of El-lil, removing layer after layer of débris and cutting sections in the ruins down to the virgin soil. Midway in the mound is a platform of large bricks stamped with the names of Sargon of Akkad and his son Naram-Sin (3800 B.C.); as the débris above them is 34 ft. thick, the topmost stratum being not later than the Parthian era (H. V. Hilprecht, *The Babylonian Expedition*, i. 2, p. 23), it is calculated that the débris underneath the pavement, 30 ft. thick, must represent a period of about 3000 years, more especially as older constructions had to be levelled before the pavement was laid. In the deepest part of the excavations, however, inscribed clay tablets and fragments of stone vases are still found, though the cuneiform characters upon them are of a very archaic type, and sometimes even retain their primitive pictorial forms.

IV. *Chronology.*[1] The later chronology of Assyria has long been fixed, thanks to the lists of *limmi*, or archons, who gave their names in succession to their years of office. Several copies of these lists from the library of Nineveh are in existence, the earliest of which goes back to 911 B.C., while the latest comes down to the middle of the reign of Assur-bani-pal. The beginning of a king's reign is noted in the lists, and in some of them the chief events of the year are added to the name of its archon. Assyrian chronology is, therefore, certain from 911 B.C. to 666, and an eclipse of the sun which is stated to have been visible in the month Sivan, 763 B.C., is one that has been calculated to have taken place on the 15th of June of that year. The system of reckoning time by *limmi* was of Assyrian origin, and recent discoveries have made it clear that it went back to the first days of the monarchy. Even in the distant colony at Kara Euyuk near Kaisariyeh (Caesarea) in Cappadocia cuneiform tablets show that the Assyrian settlers used it in the 15th century B.C. In Babylonia a different system was adopted. Here the years were dated by the chief events that distinguished them, as was also the case in Egypt in the epoch of the Old Empire. What the event should be was determined by the government and notified to all its officials; one of these notices, sent to the Babylonian officials in Canaan in the reign of Samsu-iluna, the son of Khammurabi, has been found in the Lebanon. A careful register of the dates was kept, divided into reigns, from which dynastic lists were afterwards compiled, giving the duration of each king's reign as well as that of the several dynasties. Two of these dynastic compilations have been discovered, unfortunately in an imperfect state.[2] In addition to the chronological tables, works of a more ambitious and literary character were also attempted of the nature of chronicles. One of these is the so-called "Synchronous History of Assyria and Babylonia," consisting of brief notices, written by an Assyrian, of the occasions on which the kings of the two countries had entered into relation, hostile or otherwise, with one another; a second is the *Babylonian Chronicle* discovered by Dr Th. G. Pinches, which gave a synopsis of Babylonian history from a Babylonian point of

view, and was compiled in the reign of Darius. It is interesting to note that its author says of the battle of Khalulē, which we know from the Assyrian inscriptions to have taken place in 691 or 690 B.C., that he does "not know the year" when it was fought: the records of Assyria had been already lost, even in Babylonia. The early existence of an accurate system of dating is not surprising; it was necessitated by the fact that Babylonia was a great trading community, in which it was not only needful that commercial and legal documents should be dated, but also that it should be possible to refer easily to the dates of former business transactions. The Babylonian and Assyrian kings had consequently no difficulty in determining the age of their predecessors or of past events. Nabonidus (Nabunaid), who was more of an antiquarian than a politician, and spent his time in excavating the older temples of his country and ascertaining the names of their builders, tells us that Naram-Sin, the son of Sargon of Akkad, lived 3200 years before himself (*i.e.* 3750 B.C.), and Sagarakti-suryas 800 years; and we learn from Sennacherib that Shalmaneser I. reigned 600 years earlier, and that Tiglath-pileser I. fought with Merodach-nadin-akhi (Marduk-nadin-akhē) of Babylon 418 years before the campaign of 689 B.C.; while, according to Tiglath-pileser I., the high-priest Samas-Hadad, son of Isme-Dagon, built the temple of Anu and Hadad at Assur 701 years before his own time. Shalmaneser I. in his turn states that the high-priest Samas-Hadad, the son of Bel-kabi, governed Assur 580 years previously, and that 159 years before this the high-priest Erisum was reigning there. The raid of the Elamite king Kutur-Nakhkhuntē is placed by Assur-bani-pal 1635 years before his own conquest of Susa, and Khammurabi is said by Nabonidus to have preceded Burna-buryas by 700 years.

V. *History*.—In the earliest period of which we have any knowledge Babylonia was divided into several independent states, the limits of which were defined by canals and boundary stones. Its culture may be traced back to two main centres, Eridu in the south and Nippur in the north. But the streams of civilization which flowed from them were in strong contrast. El-lil, around whose sanctuary Nippur had grown up, was lord of the ghost-land, and his gifts to mankind were the spells and incantations which the spirits of good or evil were compelled to obey. The world which he governed was a mountain; the creatures whom he had made lived underground. Eridu, on the other hand, was the home of the culture-god Ea, the god of light and beneficence, who employed his divine wisdom in healing the sick and restoring the dead to life. Rising each morning from his palace in the deep, he had given man the arts and sciences, the industries and manners of civilization. To him was due the invention of writing, and the first law-book was his creation. Eridu had once been a seaport, and it was doubtless its foreign trade and intercourse with other lands which influenced the development of its culture. Its cosmology was the result of its geographical position: the earth, it was believed, had grown out of the waters of the deep, like the ever-widening coast at the mouth of the Euphrates. Long before history begins, however, the cultures of Eridu and Nippur had coalesced. While Babylon seems to have been a colony of Eridu, Ur, the immediate neighbour of Eridu, must have been colonized from Nippur, since its moon-god was the son of El-lil of Nippur. But in the admixture of the two cultures the influence of Eridu was predominant.

Early Sumerian period.

We may call the early civilization of Babylonia Sumerian. The race who first developed it spoke an agglutinative language, and to them was due the invention of the pictorial hieroglyphs which became the running-hand or cuneiform characters of later days, as well as the foundation of the chief cities of the country and the elements of its civilization. The great engineering works by means of which the marshes were drained and the overflow of the rivers regulated by canals went back to Sumerian times, like a considerable part of later Babylonian religion and the beginnings of Babylonian law. Indeed Sumerian continued to be the language of religion and law long after the Semites had become the ruling race.

Arrival of the Semites.—When the Semites first entered the Edin or plain of Babylonia is uncertain, but it must have been at a remote period. The cuneiform system of writing was still in process of growth when it was borrowed and adapted by the new comers, and the Semitic Babylonian language was profoundly influenced by the older language of the country, borrowing its words and even its grammatical usages. Sumerian in its turn borrowed from Semitic Babylonian, and traces of Semitic influence in some of the earliest Sumerian texts indicate that the Semite was already on the Babylonian border. His native home was probably Arabia; hence Eridu ("the good city") and Ur ("the city") would have been built in Semitic territory, and their population may have included Semitic elements from the first. It was in the north, however, that the Semites first appear on the monuments. Here in Akkad the first Semitic empire was founded, Semitic conquerors or settlers spread from Sippara to Susa, Khana to the east of the Tigris was occupied by "West Semitic" tribes, and "out of" Babylonia "went forth the Assyrian." As in Assyria, so too in the states of Babylonia the *patesi* or high-priest of the god preceded the king. The state had grown up around a sanctuary, the god of which was nominally its ruler, the human *patesi* being his viceregent. In course of time many of the high-priests assumed the functions and title of king; while retaining their priestly office they claimed at the same time to be supreme in the state in all secular concerns. The god remained nominally at its head; but even this position was lost to him when Babylonia was unified under Semitic princes, and the earthly king became an incarnate god. A recollection of his former power survived, however, at Babylon, where Bel-Merodach adopted the king before his right to rule was allowed.

Semitic Influence.

Early Princes.—The earliest monuments that can be approximately dated come from Lagash (Tello). Here we hear of a "king of Kengi," as well as of a certain Me-silim, king of Kis, who had dealings with Lugal-suggur, high-

Ur-ninā dynasty.

priest of Lagash, and the high-priest of a neighbouring town, the name of which is provisionally transcribed Gis-ukh (formerly written Gis-ban and confounded with the name of Opis). According to Scheil, Gis-ukh is represented by Jokha, south of Fāra and west of the Shatt el-Hai, and since two of its rulers are called kings of Tē on a seal-cylinder, this may have been the pronunciation of the name.[3] At a later date the high-priests of Lagash made themselves kings, and a dynasty was founded there by Ur-Ninā. In the ruins of a building, attached by him to the temple of Ninā, terra-cotta bas-reliefs of the king and his sons have been found, as well as the heads of lions in onyx, which remind us of Egyptian work and onyx plates. These were "booty" dedicated to the goddess Bau. E-anna-du, the grandson of Ur-Ninā, made himself master of the whole of southern Babylonia, including "the district of Sumer" together with the cities of Erech, Ur and Larsa (?). He also annexed the kingdom of Kis, which, however, recovered its independence after his death. Gis-ukh was made tributary, a certain amount of grain being levied upon each person in it, which had to be paid into the treasury of the goddess Ninā and the god Ingurisa. The so-called "Stele of the Vultures," now in the Louvre, was erected as a monument of the victory. On this various incidents in the war are represented. In one scene the king stands in his chariot with a curved weapon in his right hand formed of three bars of metal bound together by rings (similar, as M. L. Heuzey has pointed out, to one carried by the chief of an Asiatic tribe in a tomb of the 12th dynasty at Beni-Hasan in Egypt), while his kilted followers with helmets on their heads and lances in their hands march behind him. In another a flock of vultures is feeding on the bodies of the fallen enemy; in a third a tumulus is being heaped up over those who had been slain on the side of Lagash. Elsewhere we see the victorious prince beating down a vanquished enemy, and superintending the execution of other prisoners who are being sacrificed to the gods, while in one curious scene he is striking with his mace a sort of wicker-work cage filled with naked men. In his hand he holds the crest of Lagash and its god—a lion-headed eagle with outstretched wings, supported by two lions which are set heraldically back to back. The sculptures belong to a primitive period of art.

E-anna-du's campaigns extended beyond the confines of Babylonia. He overran a part of Elam and took the city of Az on the Persian Gulf. Temples and palaces were repaired or erected at
[v.03 p.0103] Lagash and elsewhere, the town of Ninā—which probably gave its name to the later Ninā or Nineveh—was rebuilt, and canals and reservoirs were excavated. He was succeeded by his brother En-anna-tum I., under whom Gis-ukh once more became the dominant power. As En-anna-tum has the title only of high-priest, it is probable that he acknowledged Ur-lumma of Gis-ukh as his suzerain. His son and successor Entemena restored the prestige of Lagash. Gis-ukh was subdued and a priest named Illi was made its governor. A tripod of silver dedicated by Entemena to his god is now in the Louvre. A frieze of lions devouring ibexes and deer, and incised with great artistic skill, runs round the neck, while the eagle crest of Lagash adorns the globular part. The vase is a proof of the high degree of excellence to which the goldsmith's art had already attained. A vase of calcite, also dedicated by Entemena, has been found at Nippur.

The eighth successor of Ur-Ninā was Uru-duggina, who was overthrown and his city captured by Lugal-zaggisi, the high-priest of Gis-ukh. Lugal-zaggisi was the founder of the first empire in Asia of which we know. He made Erech his capital and calls himself king of Kengi. In a long inscription which he caused to be engraved on hundreds of stone vases dedicated to El-lil of Nippur, he declares that his kingdom extended "from the Lower Sea of the Tigris and Euphrates," or Persian Gulf, to "the Upper Sea" or Mediterranean. It was at this time that Erech received the name of "the City," which it continued to bear when written ideographically.

Sargon.

Semitic Empire of Sargon of Akkad.—The next empire founded in western Asia was Semitic. Semitic princes had already established themselves at Kis, and a long inscription has been discovered at Susa by J. de Morgan, belonging to one of them, Manistusu, who like Lugal-zaggisi was a contemporary of Uru-duggina. Another Semitic ruler of Kis of the same period was Alusarsid (or Urumus) who "subdued Elam and Barahsē." But the fame of these early establishers of Semitic supremacy was far eclipsed by that of Sargon of Akkad and his son, Naram-Sin. The date of Sargon is placed by Nabonidus at 3800 B.C. He was the son of Itti-Bel, and a legend related how he had been born in concealment and sent adrift in an ark of bulrushes on the waters of the Euphrates. Here he had been rescued and brought up by "Akki the husbandman"; but the day arrived at length when his true origin became known, the crown of Babylonia was set upon his head and he entered upon a career of foreign conquest. Four times he invaded Syria and Palestine, and spent three years in thoroughly subduing the countries of "the west," and in uniting them with Babylonia "into a single empire." Images of himself were erected on the shores of the Mediterranean in token of his victories, and cities and palaces were built at home out of the spoils of the conquered lands. Elam and the northern part of Mesopotamia were also subjugated, and rebellions were put down both in Kazalla and in Babylonia itself. Contract tablets have been found dated in the years of the campaigns against Palestine and Sarlak, king of Gutium or Kurdistan, and copper is mentioned as being brought from Magan or the Sinaitic peninsula.

Naram-Sin.

Sargon's son and successor, Naram-Sin, followed up the successes of his father by marching into Magan, whose king he took captive. He assumed the imperial title of "king of the four zones," and, like his father, was addressed as a god. He is even called "the god of Agadē" (Akkad), reminding us of the divine honours claimed by the Pharaohs of Egypt, whose territory now adjoined that of Babylonia. A finely executed bas-relief, representing Naram-Sin, and bearing a striking resemblance to early Egyptian art in many of its features, has been found at Diarbekr. Babylonian art, however, had already attained a high degree of excellence; two seal cylinders of the time of Sargon are among

the most beautiful specimens of the gem-cutter's art ever discovered. The empire was bound together by roads, along which there was a regular postal service; and clay seals, which took the place of stamps, are now in the Louvre bearing the names of Sargon and his son. A cadastral survey seems also to have been instituted, and one of the documents relating to it states that a certain Uru-Malik, whose name appears to indicate his Canaanitish origin, was governor of the land of the Amorites, as Syria and Palestine were called by the Babylonians. It is probable that the first collection of astronomical observations and terrestrial omens was made for a library established by Sargon.

Ur dynasty.

Bingani-sar-ali was the son of Naram-Sin, but we do not yet know whether he followed his father on the throne. Another son was high-priest of the city of Tutu, and in the name of his daughter, Lipus-Eaum, a priestess of Sin, some scholars have seen that of the Hebrew deity Yahweh. The Babylonian god Ea, however, is more likely to be meant. The fall of Sargon's empire seems to have been as sudden as its rise. The seat of supreme power in Babylonia was shifted southwards to Isin and Ur. It is generally assumed that two dynasties reigned at Ur and claimed suzerainty over the other Babylonian states, though there is as yet no clear proof that there was more than one. It was probably Gungunu who succeeded in transferring the capital of Babylonia from Isin to Ur, but his place in the dynasty (or dynasties) is still uncertain. One of his successors was Ur-Gur, a great builder, who built or restored the temples of the Moon-god at Ur, of the Sun-god at Larsa, of Ishtar at Erech and of Bel at Nippur. His son and successor was Dungi, whose reign lasted more than 51 years, and among whose vassals was Gudea, the *patesi* or high-priest of Lagash. Gudea was also a great builder, and the materials for his buildings and statues were brought from all parts of western Asia, cedar wood from the Amanus mountains, quarried stones from Lebanon, copper from northern Arabia, gold and precious stones from the desert between Palestine and Egypt, dolerite from Magan (the Sinaitic peninsula) and timber from Dilmun in the Persian Gulf. Some of his statues, now in the Louvre, are carved out of Sinaitic dolerite, and on the lap of one of them (statue E) is the plan of his palace, with the scale of measurement attached. Six of the statues bore special names, and offerings were made to them as to the statues of the gods. Gudea claims to have conquered Anshan in Elam, and was succeeded by his son Ur-Ningirsu. His date may be provisionally fixed at 2700 B.C.

This dynasty of Ur was Semitic, not Sumerian, notwithstanding the name of Dungi. Dungi was followed by Bur-Sin, Gimil-Sin, and Ibi-Sin. Their power extended to the Mediterranean, and we possess a large number of contemporaneous monuments in the shape of contracts and similar business documents, as well as chronological tables, which belong to their reigns.

Khammurabi.

After the fall of the dynasty, Babylonia passed under foreign influence. Sumuabi ("Shem is my father"), from southern Arabia (or perhaps Canaan), made himself master of northern Babylonia, while Elamite invaders occupied the south. After a reign of 14 years Sumuabi was succeeded by his son Sumu-la-ilu, in the fifth year of whose reign the fortress of Babylon was built, and the city became for the first time a capital. Rival kings, Pungun-ila and Immerum, are mentioned in the contract tablets as reigning at the same time as Sumu-la-ilu (or Samu-la-ilu); and under Sin-muballidh, the great-grandson of Sumu-la-ilu, the Elamites laid the whole of the country under tribute, and made Eri-Aku or Arioch, called Rim-Sin by his Semitic subjects, king of Larsa. Eri-Aku was the son of Kudur-Mabug, who was prince of Yamutbal, on the eastern border of Babylonia, and also "governor of Syria." The Elamite supremacy was at last shaken off by the son and successor of Sin-muballidh, Khammurabi, whose name is also written Ammurapi and Khammuram, and who was the Amraphel of Gen. xiv. 1. The Elamites, under their king Kudur-Lagamar or Chedor-laomer, seem to have taken Babylon and destroyed the temple of Bel-Merodach; but Khammurabi retrieved his fortunes, and in the thirtieth year of his reign (in 2340 B.C.) he overthrew the Elamite forces in a decisive battle and drove them out of Babylonia. The next two years were occupied in adding Larsa and Yamutbal to his dominion, and in forming Babylonia into a single monarchy, the head of which was Babylon. A great literary revival followed the recovery of Babylonian independence, and the rule of Babylon was obeyed as far as the shores of the Mediterranean. Vast numbers of contract tablets, dated in the reigns of Khammurabi and other kings of the dynasty, have been discovered, as well as autograph letters of the kings themselves, more especially of Khammurabi. Among the latter is one ordering the despatch of 240 soldiers from Assyria and Situllum, a proof that Assyria was at the time a Babylonian dependency. Constant intercourse was kept up between Babylonia and the west, Babylonian officials and troops passing to Syria and Canaan, while "Amorite" colonists were established in Babylonia for the purposes of trade. One of these Amorites, Abi-ramu or Abram by name, is the father of a witness to a deed dated in the reign of Khammurabi's grandfather. Ammi-ditana, the great-grandson of Khammurabi, still entitles himself "king of the land of the Amorites," and both his father and son bear the Canaanitish (and south Arabian) names of Abesukh or Abishua and Ammi-zadok.

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One of the most important works of this "First Dynasty of Babylon," as it was called by the native historians, was the compilation of a code of laws (see Babylonian Law). This was made by order of Khammurabi after the expulsion of the Elamites and the settlement of his kingdom. A copy of the Code has been found at Susa by J. de Morgan and is now in the Louvre, The last king of the dynasty was Samsu-ditana the son of Ammi-zadok. He was followed by a dynasty of 11 Sumerian kings, who are said to have reigned for 368 years, a number which must be much exaggerated. As yet the name of only one of them has been found in a contemporaneous document. They were overthrown and Babylonia was conquered by Kassites or Kossaeans from the mountains of Elam,

with whom Samsu-iluna had already come into conflict in his 9th year. The Kassite dynasty was founded by Kandis, Gandis or Gaddas (about 1780 B.C.), and lasted for 576¾ years. Under this foreign dominion, which offers a striking analogy to the contemporary rule of the Hyksos in Egypt, Babylonia lost its empire over western Asia, Syria and Palestine became independent, and the high-priests of Assur made themselves kings of Assyria. The divine attributes with which the Semitic kings of Babylonia had been invested disappeared at the same time; the title of "god" is never given to a Kassite sovereign. Babylon, however, remained the capital of the kingdom and the holy city of western Asia, where the priests were all-powerful, and the right to the inheritance of the old Babylonian empire could alone be conferred.

Rise of Assyria.—Under Khammurabi a Samsi-Hadad (or Samsi-Raman) seems to have been vassal-prince at Assur, and the names of several of the high-priests of Assur who succeeded him have been made known to us by the recent German excavations. The foundation of the monarchy was ascribed to Zulilu, who is described as living after Bel-kapkapi or Belkabi (1900 B.C.), the ancestor of Shalmaneser I. Assyria grew in power at the expense of Babylonia, and a time came when the Kassite king of Babylonia was glad to marry the daughter of Assur-yuballidh of Assyria, whose letters to Amenophis (Amon-hotep) IV. of Egypt have been found at Tell el-Amarna. The marriage, however, led to disastrous results, as the Kassite faction at court murdered the king and placed a pretender on the throne. Assur-yuballidh promptly marched into Babylonia and avenged his son-in-law, making Burna-buryas of the royal line king in his stead. Burna-buryas, who reigned 22 years, carried on a correspondence with Amenophis IV. of Egypt. After his death, the Assyrians, who were still nominally the vassals of Babylonia, threw off all disguise, and Shalmaneser I. (1300 B.C.), the great-great-grandson of Assur-yuballidh, openly claimed the supremacy in western Asia. Shalmaneser was the founder of Calah, and his annals, which have recently been discovered at Assur, show how widely extended the Assyrian empire already was. Campaign after campaign was carried on against the Hittites and the wild tribes of the north-west, and Assyrian colonists were settled in Cappadocia. His son Tukulti-In-aristi conquered Babylon, putting its king Bitilyasu to death, and thereby made Assyria the mistress of the oriental world. Assyria had taken the place of Babylonia.

Shalmaneser I.

For 7 years Tukulti-In-aristi ruled at Babylon with the old imperial title of "king of Sumer and Akkad." Then the Babylonians revolted. The Assyrian king was murdered by his son, Assur-nazir-pal I., and Hadad-nadin-akhi made king of Babylonia. But it was not until several years later, in the reign of the Assyrian king Tukulti-Assur, that a reconciliation was effected between the two rival kingdoms. The next Assyrian monarch, Bel-kudur-uzur, was the last of the old royal line. He seems to have been slain fighting against the Babylonians, who were still under the rule of Hadad-nadin-akhi, and a new dynasty was established at Assur by In-aristi-pileser, who claimed to be a descendant of the ancient prince Erba-Raman. His fourth successor was Tiglath-pileser I., one of the great conquerors of Assyria, who carried his arms towards Armenia on the north and Cappadocia on the west; he hunted wild bulls in the Lebanon and was presented with a crocodile by the Egyptian king. In 1107 B.C., however, he sustained a temporary defeat at the hands of Merodach-nadin-akhi (Marduk-nadin-akhē) of Babylonia, where the Kassite dynasty had finally succumbed to Elamite attacks and a new line of kings was on the throne.

Tiglath-pileser I.

Of the immediate successors of Tiglath-pileser I. we know little, and it is with Assur-nazir-pal III. (883-858 B.C.) that our knowledge of Assyrian history begins once more to be fairly full. The empire of Assyria was again extended in all directions, and the palaces, temples and other buildings raised by him bear witness to a considerable development of wealth and art. Calah became the favourite residence of a monarch who was distinguished even among Assyrian conquerors for his revolting cruelties. His son Shalmaneser II. had a long reign of 35 years, during which the Assyrian capital was converted into a sort of armed camp. Each year the Assyrian armies marched out of it to plunder and destroy. Babylon was occupied and the country reduced to vassalage. In the west the confederacy of Syrian princes headed by Benhadad of Damascus and including Ahab of Israel (see Jews, § 10) was shattered in 853 B.C., and twelve years later the forces of Hazael were annihilated and the ambassadors of Jehu of Samaria brought tribute to "the great king." The last few years of his life, however, were disturbed by the rebellion of his eldest son, which well-nigh proved fatal. Assur, Arbela and other places joined the pretender, and the revolt was with difficulty put down by Samsi-Raman (or Samsi-Hadad), Shalmaneser's second son, who soon afterwards succeeded him (824 B.C.). In 804 B.C. Damascus was captured by his successor Hadad-nirari IV., to whom tribute was paid by Samaria.

Assur-nazir-pal III.

Shalmaneser II.

With Nabu-nazir, the Nabonassar of classical writers, the so-called Canon of Ptolemy begins. When he ascended the throne of Babylon in 747 B.C. Assyria was in the throes of a revolution. Civil war and pestilence were devastating the country, and its northern provinces had been wrested from it by Ararat. In 746 B.C. Calah joined the rebels, and on the 13th of Iyyar in the following year, Pulu or Pul, who took the name of Tiglath-pileser III., seized the crown and inaugurated a new and vigorous policy.

Nabu-nazir.

Second Assyrian Empire.—Under Tiglath-pileser III. arose the second Assyrian empire, which differed from the first in its greater consolidation. For the first time in history the idea of centralization was introduced into politics; the conquered provinces were organized under an elaborate bureaucracy at the head of

Tiglath-pileser III.

which was the king, each district paying a fixed tribute and providing a military contingent. The Assyrian forces became a standing army, which, by successive improvements and careful discipline, was moulded into an irresistible fighting machine, and Assyrian policy was directed towards the definite object of reducing the whole civilized world into a single empire and thereby throwing its trade and wealth into Assyrian hands. With this object, after terrorizing Armenia and the Medes and breaking the power of the Hittites, Tiglath-pileser III. secured the high-roads of commerce to the Mediterranean together with the Phoenician seaports and then made himself master of Babylonia. In 729 B.C. the summit of his ambition was attained, and he was invested
[v.03 p.0105] with the sovereignty of Asia in the holy city of Babylon. Two years later, in Tebet 727 B.C., he died, but his successor Ululā, who took the name of Shalmaneser IV., continued the policy he had begun. Shalmaneser died suddenly in Tebet 722 B.C., while pressing the siege of Samaria, and the seizure of the throne by another general, Sargon, on the 12th of the month, gave the Babylonians an opportunity to revolt. In Nisan the Kaldā prince, Merodach (Marduk)-baladan, entered Babylon and was there crowned legitimate king. For twelve years he successfully resisted the Assyrians; but the failure of his allies in the west to act in concert with him, and the overthrow of the Elamites, eventually compelled him to fly to his ancestral domains in the marshes of southern Babylonia. Sargon, who meanwhile had crushed the confederacy of the northern nations, had taken (717 B.C.) the Hittite stronghold of Carchemish and had annexed the future kingdom of Ecbatana, was now accepted as king by the Babylonian priests and his claim to be the successor of Sargon of Akkad acknowledged up to the time of his murder in 705 B.C. His son Sennacherib, who succeeded him on the 12th of Ab, did not possess the military or administrative abilities of his father, and the success of his reign was not commensurate with the vanity of the ruler. He was never crowned at Babylon, which was in a perpetual state of revolt until, in 691 B.C., he shocked the religious and political conscience of Asia by razing the holy city of Babylon to the ground. His campaign against Hezekiah of Judah was as much a failure as his policy in Babylonia, and in his murder by his sons on the 20th of Tebet 681 B.C. both Babylonians and Jews saw the judgment of heaven.

Merodach-baladan.

Sennacherib.

Esar-haddon, who succeeded him, was of different calibre from his father. He was commanding the army in a campaign against Ararat at the time of the murder; forty-two days later the murderers fled from Nineveh and took refuge at the court of Ararat. But the Armenian army was utterly defeated near Malatia on the 12th of Iyyar, and at the end of the day Esar-haddon was saluted by his soldiers as king. He thereupon returned to Nineveh and on the 8th of Sivan formally ascended the throne.

Esar-haddon.

One of his first acts was to restore Babylon, to send back the image of Bel-Merodach (Bel-Marduk) to its old home, and to re-people the city with such of the priests and the former population as had survived massacre. Then he was solemnly declared king in the temple of Bel-Merodach, which had again risen from its ruins, and Babylon became the second capital of the empire. Esar-haddon's policy was successful and Babylonia remained contentedly quiet throughout his reign. In February (674 B.C.) the Assyrians entered upon their invasion of Egypt (see also EGYPT: *History*), and in Nisan (or March) 670 B.C. an expedition on an unusually large scale set out from Nineveh. The Egyptian frontier was crossed on the 3rd of Tammuz (June), and Tirhaka, at the head of the Egyptian forces, was driven to Memphis after fifteen days of continuous fighting, during which the Egyptians were thrice defeated with heavy loss and Tirhaka himself was wounded. On the 22nd of the month Memphis was entered by the victorious army and Tirhaka fled to the south. A stele, commemorating the victory and representing Tirhaka with the features of a negro, was set up at Sinjirli (north of the Gulf of Antioch) and is now in the Berlin Museum. Two years later (668 B.C.) Egypt revolted, and while on the march to reduce it, Esar-haddon fell ill and died (on the 10th of Marchesvan or October). Assur-bani-pal succeeded him as king of Assyria and its empire, while his brother, Samas-sum-yukin, was made viceroy of Babylonia. The arrangement was evidently intended to flatter the Babylonians by giving them once more the semblance of independence. But it failed to work. Samas-sum-yukin became more Babylonian than his subjects; the viceroy claimed to be the successor of the monarchs whose empire had once stretched to the Mediterranean; even the Sumerian language was revived as the official tongue, and a revolt broke out which shook the Assyrian empire to its foundations. After several years of struggle, during which Egypt recovered its independence, Babylon was starved into surrender, and the rebel viceroy and his supporters were put to death.

Assur-bani-pal.

Egypt had already recovered its independence (660 B.C.) with the help of mercenaries sent by Gyges of Lydia, who had vainly solicited aid from Assyria against his Cimmerian enemies. Next followed the contest with Elam, in spite of the efforts of Assur-bani-pal to ward it off. Assyria, however, was aided by civil war in Elam itself; the country was wasted with fire and sword, and its capital Susa or Shushan levelled with the ground. But the long struggle left Assyria maimed and exhausted. It had been drained of both wealth and fighting population; the devastated provinces of Elam and Babylonia could yield nothing with which to supply the needs of the imperial exchequer, and it was difficult to find sufficient troops even to garrison the conquered populations. Assyria, therefore, was ill prepared to face the hordes of Scythians—or Manda, as they were called by the Babylonians—who now began to harass the frontiers. A Scythian power had grown up in the old kingdom of Ellip, to the east of Assyria, where Ecbatana was built by a "Manda" prince; Asia Minor was infested by the Scythian tribe of Cimmerians, and the death of the Scythian leader Dugdammē (the Lygdamis of Strabo i. 3. 16) was regarded by Assur-bani-pal as a special mark of divine favour.

When Assur-bani-pal died, his empire was fast breaking up. Under his successor, Assur-etil-ilani, the Scythians penetrated into Assyria and made their way as far as the borders of Egypt. Calah was burned, though the strong walls of Nineveh protected the relics of the Assyrian army which had taken refuge behind them; and when the raiders had passed on to other fields of booty, a new palace was erected among the ruins of the neighbouring city. But its architectural poverty and small size show that the resources of Assyria were at a low ebb. A contract has been found at Sippara, dated in the fourth year of Assur-etil-ilani, though it is possible that his rule in Babylonia was disputed by his Rab-shakeh (vizier), Assur-sum-lisir, whose accession year as king of Assyria occurs on a contract from Nippur (Niffer). The last king of Assyria was probably the brother of Assur-etil-ilani, Sin-sar-iskun (Sin-sarra-uzur), who seems to have been the Sarakos (Saracus) of Berossus. He was still reigning in Babylonia in his seventh year, as a contract dated in that year has been discovered at Erech, and an inscription of his, in which he speaks of restoring the ruined temples and their priests, couples Merodach of Babylon with Assur of Nineveh. Babylonia, however, was again restless. After the over throw of Samas-sum-yukin, Kandalanu, the Chineladanos of Ptolemy's canon, had been appointed viceroy. His successor was Nabopolassar, between whom and the last king of Assyria war broke out. The Scythian king of Ecbatana, the Cyaxares of the Greeks, came to the help of the Babylonians. Nineveh was captured and destroyed by the Scythian army, along with those cities of northern Babylonia which had sided with Babylonia, and the Assyrian empire was at an end.

Scythian influence.

Nabopolassar.

The seat of empire was now transferred to Babylonia. Nabopolassar was followed by his son Nebuchadrezzar II., whose reign of 43 years made Babylon once more the mistress of the civilized world. Only a small fragment of his annals has been discovered relating to his invasion of Egypt in 567 B.C., and referring to "Phut of the Ionians." Of the reign of the last Babylonian king, Nabonidus, however, and the conquest of Babylonia by Cyrus, we now have a fair amount of information.[4] This is chiefly derived from a chronological tablet containing the annals of Nabonidus, which is supplemented by an inscription of Nabonidus, in which he recounts his restoration of the temple of the Moon-god at Harran, as well as by a proclamation of Cyrus issued shortly after his formal recognition as king of Babylonia. It was in the sixth year of Nabonidus (549 B.C.)—or perhaps in 553—that Cyrus, "king of Anshan" in Elam, revolted against his suzerain Astyages, king of "the Manda" or Scythians, at Ecbatana. The army of Astyages betrayed him to his enemy, and Cyrus (*q.v.*) established himself at Ecbatana, thus putting an end to the empire of the Scythians, which the Greek writers called that of the Medes, through a confusion of Madā or "Medes" with Manda. Three years later we find that Cyrus has become king of Persia and is engaged in a campaign in the north of Mesopotamia. Meanwhile Nabonidus has established a camp at Sippara, near the northern frontier of his kingdom, his son—probably the Belshazzar of other inscriptions—being in command of the army. In 538 B.C. Cyrus invaded Babylonia. A battle was fought at Opis in the month of June, in which the Babylonians were defeated, and immediately afterwards Sippara surrendered to the invader. Nabonidus fled to Babylon, whither he was pursued by Gobryas, the governor of Kurdistan, and on the 16th of Tammuz, two days after the capture of Sippara, "the soldiers of Cyrus entered Babylon without fighting." Nabonidus was dragged out of his hiding-place, and Kurdish guards were placed at the gates of the great temple of Bel, where the services continued without intermission. Cyrus did not arrive till the 3rd of Marchesvan (October), Gobryas having acted for him in his absence. Gobryas was now made governor of the province of Babylon, and a few days afterwards the son of Nabonidus, according to the most probable reading, died. A public mourning followed, which lasted six days, and Cambyses accompanied the corpse to the tomb. Cyrus now claimed to be the legitimate successor of the ancient Babylonian kings and the avenger of Bel-Merodach, who was wrathful at the impiety of Nabonidus in removing the images of the local gods from their ancestral shrines to his capital Babylon. Nabonidus, in fact, had excited a strong feeling against himself by attempting to centralize the religion of Babylonia in the temple of Merodach (Marduk) at Babylon, and while he had thus alienated the local priesthoods the military party despised him on account of his antiquarian tastes. He seems to have left the defence of his kingdom to others, occupying himself with the more congenial work of excavating the foundation records of the temples and determining the dates of their builders. The invasion of Babylonia by Cyrus was doubtless facilitated by the existence of a disaffected party in the state, as well as by the presence of foreign exiles like the Jews, who had been planted in the midst of the country. One of the first acts of Cyrus accordingly was to allow these exiles to return to their own homes, carrying with them the images of their gods and their sacred vessels. The permission to do so was embodied in a proclamation, in which the conqueror endeavoured to justify his claim to the Babylonian throne. The feeling was still strong that none had a right to rule over western Asia until he had been consecrated to the office by Bel and his priests; and from henceforth, accordingly, Cyrus assumed the imperial title of "king of Babylon." A year before his death, in 529 B.C., he associated his son Cambyses (*q.v.*) in the government, making him king of Babylon, while he reserved for himself the fuller title of "king of the (other) provinces" of the empire. It was only when Darius Hystaspis, the representative of the Aryan race and the Zoroastrian religion, had re-conquered the empire of Cyrus, that the old tradition was broken and the claim of Babylon to confer legitimacy on the rulers of western Asia ceased to be acknowledged (see Darius). Darius, in fact, entered Babylon as a conqueror; after the murder of the Magian it had recovered its independence under Nidinta-Bel, who took the name of Nebuchadrezzar III., and reigned from October 521 B.C. to August 520 B.C., when the Persians took it by storm. A few years later, probably 514 B.C., Babylon again revolted under the Armenian Arakha; on this occasion, after its capture by the Persians, the walls were partly destroyed. E-

Nabonidus.

Invasion by Cyrus.

Saggila, the great temple of Bel, however, still continued to be kept in repair and to be a centre of Babylonian patriotism, until at last the foundation of Seleucia diverted the population to the new capital of Babylonia and the ruins of the old city became a quarry for the builders of the new seat of government.[5]

VI. *Assyria and Babylonia contrasted*.—The sister-states of Babylonia and Assyria differed essentially in character. Babylonia was a land of merchants and agriculturists; Assyria was an [v.03 p.0107] organized camp. The Assyrian dynasties were founded by successful generals; in Babylonia it was the priests whom a revolution raised to the throne. The Babylonian king remained a priest to the last, under the control of a powerful hierarchy; the Assyrian king was the autocratic general of an army, at whose side stood in early days a feudal nobility, and from the reign of Tiglath-pileser III. onwards an elaborate bureaucracy. His palace was more sumptuous than the temples of the gods, from which it was quite separate. The people were soldiers and little else; even the sailor belonged to Babylonia. Hence the sudden collapse of Assyria when drained of its fighting population in the age of Assur-bani-pal.

VII. *Assyro-Babylonian Culture*.—Assyrian culture came from Babylonia, but even here there was a difference between the two countries. There was little in Assyrian literature that was original, and education, which was general in Babylonia, was in the northern kingdom confined for the most part to a single class. In Babylonia it was of very old standing. There were libraries in most of the towns and temples; an old Sumerian proverb averred that "he who would excel in the school of the scribes must rise with the dawn." Women as well as men learned to read and write, and in Semitic times this involved a knowledge of the extinct Sumerian as well as of a most complicated and extensive syllabary. A considerable amount of Semitic Babylonian literature was translated from Sumerian originals, and the language of religion and law long continued to be the old agglutinative language of Chaldaea. Vocabularies, grammars and interlinear translations were compiled for the use of students as well as commentaries on the older texts and explanations of obscure words and phrases. The characters of the syllabary were all arranged and named, and elaborate lists of them were drawn up. The literature was for the most part inscribed with a metal stylus on tablets of clay, called *laterculae coctiles* by Pliny; the papyrus which seems to have been also employed has perished. Under the second Assyrian empire, when Nineveh had become a great centre of trade, Aramaic—the language of commerce and diplomacy—was added to the number of subjects which the educated class was required to learn. Under the Seleucids Greek was introduced into Babylon, and fragments of tablets have been found with Sumerian and Assyrian (*i.e.* Semitic Babylonian) words transcribed in Greek letters.

Babylonian Literature and Science.—There were many literary works the titles of which have come down to us. One of the most famous of these was the *Epic of Gilgamesh*, in twelve books, composed by a certain Sin-liqi-unninni, and arranged upon an astronomical principle. Each division contains the story of a single adventure in the career of Gilgamesh. The whole story is a composite product, and it is possible that some of the stories are artificially attached to the central figure. (See Gilgamesh, Epic of.)

Another epic was that of the Creation, the object of which was to glorify Bel-Merodach by describing his contest with Tiamat, the dragon of chaos. In the first book an account is given of the creation of the world out of the primeval deep and the birth of the gods of light. Then comes the story of the struggle between the gods of light and the powers of darkness, and the final victory of Merodach, who clove Tiamat asunder, forming the heaven out of one half of her body and the earth out of the other. Merodach next arranged the stars in order, along with the sun and moon, and gave them laws which they were never to transgress. After this the plants and animals were created, and finally man. Merodach here takes the place of Ea, who appears as the creator in the older legends, and is said to have fashioned man out of the clay.

The legend of Adapa, the first man, a portion of which was found in the record-office of the Egyptian king Amenophis IV. (Akhenaton) at Tell-el-Amarna, explains the origin of death. Adapa while fishing had broken the wings of the south wind, and was accordingly summoned before the tribunal of Anu in heaven. Ea counselled him not to eat or drink there. He followed the advice, and thus refused the food which would have made him and his descendants immortal.

Among the other legends of Babylonia may be mentioned those of Namtar, the plague-demon, of Urra, the pestilence, of Etanna and of Zu. Hades, the abode of Nin-erisgal or Allat, had been entered by Nergal, who, angered by a message sent to her by the gods of the upper world, ordered Namtar to strike off her head. She, however, declared that she would submit to any conditions imposed on her and would give Nergal the sovereignty of the earth. Nergal accordingly relented, and Allatu became the queen of the infernal world. Etanna conspired with the eagle to fly to the highest heaven. The first gate, that of Anu, was successfully reached; but in ascending still farther to the gate of Ishtar the strength of the eagle gave way, and Etanna was dashed to the ground. As for the storm-god Zu, we are told that he stole the tablets of destiny, and therewith the prerogatives of Bel. God after god was ordered to pursue him and recover them, but it would seem that it was only by a stratagem that they were finally regained.

Besides the purely literary works there were others of the most varied nature, including collections of letters, partly official, partly private. Among them the most interesting are the letters of Khammurabi, which have been edited by L. W. King. Astronomy and astrology, moreover, occupy a conspicuous place. Astronomy was of old standing in Babylonia, and the standard work on the subject, written from an astrological point of view, which was translated into Greek by Berossus, was believed to go back to the age of Sargon of Akkad. The zodiac was a

Babylonian invention of great antiquity; and eclipses of the sun as well as of the moon could be foretold. Observatories were attached to the temples, and reports were regularly sent by the astronomers to the king. The stars had been numbered and named at an early date, and we possess tables of lunar longitudes and observations of the phases of Venus. In Seleucid and Parthian times the astronomical reports were of a thoroughly scientific character; how far the advanced knowledge and method they display may reach back we do not yet know. Great attention was naturally paid to the calendar, and we find a week of seven and another of five days in use. The development of astronomy implies considerable progress in mathematics; it is not surprising, therefore, that the Babylonians should have invented an extremely simple method of ciphering or have discovered the convenience of the duodecimal system. The *ner* of 600 and the *sar* of 3600 were formed from the *soss* or unit of 60, which corresponded with a degree of the
[v.03 p.0108] equator. Tablets of squares and cubes, calculated from 1 to 60, have been found at Senkera, and a people who were acquainted with the sun-dial, the clepsydra, the lever and the pulley, must have had no mean knowledge of mechanics. A crystal lens, turned on the lathe, was discovered by Layard at Nimrud along with glass vases bearing the name of Sargon; this will explain the excessive minuteness of some of the writing on the Assyrian tablets, and a lens may also have been used in the observation of the heavens.

Art and Architecture.—The culture of Assyria, and still more of Babylonia, was essentially literary; we miss in it the artistic spirit of Egypt or Greece. In Babylonia the abundance of clay and want of stone led to the employment of brick; the Babylonian temples are massive but shapeless structures of crude brick, supported by buttresses, the rain being carried off by drains, one of which at Ur was of lead. The use of brick led to the early development of the pilaster and column, as well as of frescoes and enamelled tiles. The walls were brilliantly coloured, and sometimes plated with bronze or gold as well as with tiles. Painted terra-cotta cones were also embedded in the plaster. Assyria in this, as in other matters, the servile pupil of Babylonia, built its palaces and temples of brick, though stone was the natural building material of the country, even preserving the brick platform, so necessary in the marshy soil of Babylonia, but little needed in the north. As time went on, however, the later Assyrian architect began to shake himself free from Babylonian influences and to employ stone as well as brick. The walls of the Assyrian palaces were lined with sculptured and coloured slabs of stone, instead of being painted as in Chaldaea. We can. trace three periods in the art of these bas-reliefs; it is vigorous but simple under Assur-nazir-pal III., careful and realistic under Sargon, refined but wanting in boldness under Assur-bani-pal. In Babylonia, in place of the bas-relief we have the figure in the round, the earliest examples being the statues from Tello which are realistic but somewhat clumsy. The want of stone in Babylonia made every pebble precious and led to a high perfection in the art of gem-cutting. Nothing can be better than two seal-cylinders that have come down to us from the age of Sargon of Akkad. No remarkable specimens of the metallurgic art of an early period have been found, apart perhaps from the silver vase of Entemena, but at a later epoch great excellence was attained in the manufacture of such jewellery as ear-rings and bracelets of gold. Copper, too, was worked with skill; indeed, it is possible that Babylonia was the original home of copper-working, which spread westward with the civilization to which it belonged. At any rate the people were famous from an early date for their embroideries and rugs. The ceramic history of Babylonia and Assyria has unfortunately not yet been traced; at Susa alone has the care demanded by the modern methods of archaeology been as yet expended on examining and separating the pottery found in the excavations, and Susa is not Babylonia. We do not even know the date of the spirited terra-cotta reliefs discovered by Loftus and Rawlinson. The forms of Assyrian pottery, however, are graceful; the porcelain, like the glass discovered in the palaces of Nineveh, was derived from Egyptian originals. Transparent glass seems to have been first introduced in the reign of Sargon. Stone as well as clay and glass were employed in the manufacture of vases, and vases of hard stone have been disinterred at Tello similar to those of the early dynastic period of Egypt.

Social Life.—Castes were unknown in both Babylonia and Assyria, but the priesthood of Babylonia found its counterpart in the military aristocracy of Assyria. The priesthood was divided into a great number of classes, among which that of the doctors may be reckoned. The army was raised, at all events in part, by conscription; a standing army seems to have been first organized in Assyria. Successive improvements were introduced into it by the kings of the second Assyrian empire; chariots were superseded by cavalry; Tiglath-pileser III. gave the riders saddles and high boots, and Sennacherib created a corps of slingers. Tents, baggage-carts and battering-rams were carried on the march, and the *tartan* or commander-in-chief ranked next to the king. In both countries there was a large body of slaves; above them came the agriculturists and commercial classes, who were, however, comparatively little numerous in Assyria. The scribes, on the other hand, formed a more important class in Assyria than in Babylonia. Both countries had their artisans, money-lenders, poets and musicians.

The houses of the people contained but little furniture; chairs, tables and couches, however, were used, and Assur-bani-pal is represented as reclining on his couch at a meal while his wife sits on a chair beside him. After death the body was usually partially cremated along with the objects that had been buried with it. The cemetery adjoined the city of the living and was laid out in streets through which ran rivulets of "pure" water. Many of the tombs, which were built of crude brick, were provided with gardens, and there were shelves or altars on which were placed the offerings to the dead. As the older tombs decayed a fresh city of tombs arose on their ruins. It is remarkable that thus far no cemetery older than the Seleucid or Parthian period has been found in Assyria.

AUTHORITIES.—See A. H. Layard, *Nineveh and Babylon* (1853); E. de Sarzec and L. Heuzey, *Découvertes en Chaldée* (1884 foll.); H. V. Hilprecht, *The Babylonian Expedition of the University of Pennsylvania* (1893 foll.); J. P. Peters, *Nippur* (1897); E. Schrader, *Keilinschriftliche Bibliothek* (1889-1900); *Records of the Past* (new series, 1888-1892); Th. G. Pinches, "The Babylonian Chronicle," in *Journ. R. A. S.* (1887); H. Winckler, *Altorientalische Forschungen* (1893 foll.), and *The Tell-el-Amarna, Letters* (1896); G. Maspero, *Dawn of Civilization* (1896), *Struggle of the Nations* (1897), and *Passing of the Empires* (1900); L. W. King, *Letters of Khammurabi* (1898-1900); H. Radau, *Early Babylonian History* (1900); R. W. Rogers, *History of Babylonia and Assyria* (1900); F. Hommel, *Grundriss der Geographie und Geschichte des alten Orients* (1904); *Mitteilungen der deutschen Orientgesellschaft* (1899).

(A. H. S.)

VIII. *Chronological Systems.*—The extreme divergence in the chronological schemes employed by different writers on the history of Babylonia and Assyria has frequently caused no small perplexity to readers who have no special knowledge of the subject. In this section an attempt is made to indicate briefly the causes which have led to so great a diversity of opinion, and to describe in outline the principles underlying the chief schemes of chronology that have been suggested; a short account will then be given of the latest discoveries in this branch of research, and of the manner in which they affect the problems at issue. It will be convenient to begin with the later historical periods, and then to push our inquiry back into the earlier periods of Babylonian and Sumerian history.

Up to certain points no difference of opinion exists upon the dates to be assigned to the later kings who ruled in Babylon and in Assyria. The Ptolemaic Canon (see sect. II.) gives a list of the Babylonian, Assyrian and Persian kings who ruled in Babylon, together with the number of years each of them reigned, from the accession of Nabonassar in 747 B.C. to the conquest of Babylon by Alexander the Great in 331 B.C. The accuracy of this list is confirmed by the larger List of Kings and by the principal Babylonian Chronicle; the latter, like the Canon, begins with the reign of Nabonassar, who, it has been suggested, may have revised the calendar and have inaugurated a new epoch for the later chronology. The Ptolemaic Canon is further controlled and its accuracy confirmed by the Assyrian Eponym Lists, or lists of *limmi* (see sect. II.), by means of which Assyrian chronology is fixed from 911 B.C. to 666 B.C., the solar eclipse of June 15th, 763 B.C., which is recorded in the eponymy of Pur-Sagale, placing the dead reckoning for these later periods upon an absolutely certain basis.

Thus all historians are agreed with regard to the Babylonian chronology back to the year 747 B.C., and with regard to that of Assyria back to the year 911 B.C. It is in respect of the periods anterior to these two dates that different writers have propounded differing systems of chronology, and, as might be imagined, the earlier the period we examine the greater becomes the discrepancy between the systems proposed. This variety of opinion is due to the fact that the data available for settling the chronology often conflict with one another, or are capable of more than one interpretation.

[v.03 p.0109]

Since its publication in 1884 the Babylonian List of Kings has furnished the framework for every chronological system that has been proposed. In its original form this document gave a list, arranged in dynasties, of the Babylonian kings, from the First Dynasty of Babylon down to the Neo-Babylonian period. If the text were complete we should probably be in possession of the system of Babylonian chronology current in the Neo-Babylonian period from which our principal classical authorities (see sect. II.) derived their information. The principal points of uncertainty, due to gaps in the text, concern the length of Dynasties IV. and VIII.; for the reading of the figure giving the length of the former is disputed, and the summary at the close of the latter omits to state its length. This omission is much to be regretted, since Nabonassar was the last king but two of this dynasty, and, had we known its duration, we could have combined the information on the earlier periods furnished by the Kings' List with the evidence of the Ptolemaic Canon. In addition to the Kings' List, other important chronological data consist of references in the classical authorities to the chronological system of Berossus (*q.v.*); chronological references to earlier kings occurring in the later native inscriptions, such as Nabonidus's estimate of the period of Khammurabi (or Hammuribi); synchronisms, also furnished by the inscriptions, between kings of Babylon and of Assyria; and the early Babylonian date-lists.

	Dyn. I.	Dyn. II.	Dyn. III.
	B.C.	B.C.	B.C.
Oppert (1888)	2506-2202	2202-1834	1834-1257
Sayce (1899)	2478-(2174)	2174-(1806)	1806-(1229)
" (1902)	2460-(2174)	2174-(1806)	1806-(1229)
Rogers (1900)	2454-2451	2150-1783	1782-1207
Winckler (1894)	(2425-2120)	2120-1752	1752-1177
" (1892)	2403-2098	2098-1730	1729-1150
" (1905)	*c.* 1400-2100	*c.* 2100-1700	*c.* 1700-1150
Delitzsch (1907)	*c.* 2420-2120	*c.* 2120-(1752)	(1752-1176)
" (1891)	2399-2094	2094-1726	1726-1150
Maspero (1897)	2416-2082	2082-1714	1714-(1137)
Lehmann-Haupt (1898)	2360-2057	2056-1689	1688-1113
" " (1903)	2296-2009/8	2008/7-1691	1690-1115

Marquart (1899)	2335-2051	2051/0-1694/3	1693/2-1118/7
Peiser (1891)	2051-1947	1947-1579	1579-1180
Rost (1897)	2232-1928	1928-1560	1560-1224
" (1900)	2231-1941	1940-1573	1572-1179
Hommel (1901)	2223-1923 or 2050-1752	(1923-1752)	1752-1175
" (1895)	2058-1754		1753-1178
" (1886)	2035-1731	2403-2035	1731-1154
" (1898)	1884-1580		1580-1180
Niebuhr (1896)	2193-1889	2114-1746	1746-1169

In view of the uncertainty regarding the length of Dynasties IV. and VIII. of the Kings' List, attempts have been made to ascertain the dates of the earlier dynasties by independent means. The majority of writers, after fixing the date at which Dynasty III. closed by means of the synchronisms and certain of the later chronological references, have accepted the figures of the Kings' List for the earlier dynasties, ignoring their apparent inconsistencies with the system of Berossus and with the chronology of Nabonidus. Others have attempted to reconcile the conflicting data by emendations of the figures and other ingenious devices. This will explain the fact that while the difference between the earliest and latest dates suggested for the close of Dynasty III. is only 144 years, the difference between the earliest and latest dates suggested for the beginning of Dynasty I. is no less than 622 years. A comparison of the principal schemes of chronology that have been propounded may be made by means of the preceding table. The first column gives the names of the writers and the dates at which their schemes were published, while the remaining columns give the dates they have suggested for Dynasties I., II. and III. of the Kings' List.[6] The systems with the highest dates are placed first in the list; where a writer has produced more than one system, these are grouped together, the highest dates proposed by him determining his place in the series.

Omitting that of Oppert, which to some extent stands in a category by itself, the systems fall into three groups. The first group, comprising the second to the sixth names, obtains its results by selecting the data on which it relies and ignoring others. The second group, comprising the next four names, attempts to reconcile the conflicting data by emending the figures. The third group, consisting of the last two names, is differentiated by its proposals with regard to Dynasty II. It will be noted that the first group has obtained higher dates than the second, and the second group higher dates on the whole than the third.

Oppert's system[7] represents the earliest dates that have been suggested. He accepted the figures of the Kings' List and claimed that he reconciled them with the figures of Berossus, though he ignored the later chronological notices. But there is no evidence for his "cyclic date" of 2517 B.C., on which his system depended, and there is little doubt that the beginning of the historical period of Berossus is to be set, not in 2506 B.C., but in 2232 B.C. The two systems of Sayce,[8] that of Rogers,[9] the three systems of Winckler,[10] both those of Delitzsch,[11] and that of Maspero,[12] may be grouped together, for they are based on the same principle. Having first fixed the date of the close of Dynasty III., they employed the figures of the Kings' List unemended for defining the earlier periods, and did not attempt to reconcile their results with other conflicting data. The difference of eighteen years in Sayce's two dates for the rise of Dynasty I. was due to his employing in 1902 the figures assigned to the first seven kings of the dynasty upon the larger of the two contemporary date-lists, which had meanwhile been published, in place of those given by the List of Kings. It should be noted that Winckler (1905) and Delitzsch (1907) gives the dates only in round numbers.

A second group of systems may be said to consist of those proposed by Lehmann-Haupt, Marquart, Peiser, and Rost, for these writers attempted to get over the discrepancies in the data by emending some of the figures furnished by the inscriptions. In 1891, with the object of getting the total duration of the dynasties to agree with the chronological system of Berossus and with the statement of Nabonidus concerning Khammurabi's date, Peiser proposed to emend the figure given by the Kings' List for the length of Dynasty III. The reading of "9 soss and 36 years," which gives the total 576 years, he suggested was a scribal error for "6 soss and 39 years"; he thus reduced the length of Dynasty III. by 177 years and effected a corresponding reduction in the dates assigned to Dynasties I. and II.[13] In 1897 Rost followed up Peiser's suggestion by reducing the figure still further, but he counteracted to some extent the effects of this additional reduction by emending Sennacherib's date for Marduk-nadin-akhē's defeat of Tiglath-pileser I. as engraved on the rock at Bavian, holding that the figure "418," as engraved upon the rock, was a mistake for "478."[14] Lehmann-Haupt's first system (1898) resembled those of Oppert, Sayce, Rogers, Winckler, Delitzsch and Maspero in that he accepted the figures of the Kings' List, and did not attempt to emend them. But he obtained his low date for the close of Dynasty III. by
[v.03 p.0110]
emending Sennacherib's figure in the Bavian inscription; this he reduced by a hundred years,[15] instead of increasing it by sixty as Rost had suggested. Lehmann-Haupt's influence is visible in Marquart's system, published in the following year;[16] it may be noted that his slightly reduced figure for the beginning of Dynasty I. was arrived at by incorporating the new information supplied by the first date-list to be published. When revising his scheme of chronology in 1900, Rost abandoned his suggested emendation of Sennacherib's figure, but by decreasing his reduction of the length of Dynasty III., he only altered his date for the beginning of Dynasty I. by

one year.[17] In his revised scheme of chronology, published in 1903,[18] Lehmann-Haupt retained his emendation of Sennacherib's figure, and was in his turn influenced by Marquart's method of reconciling the dynasties of Berossus with the Kings' List. He continued to accept the figure of the Kings' List for Dynasty III., but he reduced the length of Dynasty II. by fifty years, arguing that the figures assigned to some of the reigns were improbably high. His slight reduction in the length of Dynasty I. was obtained from the recently published date-lists, though his proposed reduction of Ammizaduga's reign to ten years has since been disproved.

A third group of systems comprises those proposed by Hommel and Niebuhr, for their reductions in the date assigned to Dynasty I. were effected chiefly by their treatment of Dynasty II. In his first system, published in 1886,[19] Hommel, mainly with the object of reducing Khammurabi's date, reversed the order of the first two dynasties of the Kings' List, placing Dynasty II. before Dynasty I. In his second and third systems (1895 and 1898),[20] and in his second alternative scheme of 1901 (see below), he abandoned this proposal and adopted a suggestion of Halévy that Dynasty III. followed immediately after Dynasty I.; Dynasty II., he suggested, had either synchronized with Dynasty I., or was mainly apocryphal (*eine spätere Geschichtskonstruction*). Niebuhr's system was a modification of Hommel's second theory, for, instead of entirely ignoring Dynasty II., he reduced its independent existence to 143 years, making it overlap Dynasty I. by 225 years.[21] The extremely low dates proposed by Hommel in 1898 were due to his adoption of Peiser's emendation for the length of Dynasty III., in addition to his own elimination of Dynasty II. In 1901 Hommel abandoned Peiser's emendation and suggested two alternative schemes.[22] According to one of these he attempted to reconcile Berossus with the Kings' List by assigning to Dynasty II. an independent existence of some 171 years, while as a possible alternative he put forward what was practically his theory of 1895.

Such are the principles underlying the various chronological schemes which had, until recently, been propounded. The balance of opinion was in favour of those of the first group of writers, who avoided emendations of the figures and were content to follow the Kings' List and to ignore its apparent discrepancies with other chronological data; but it is now admitted that the general principle underlying the third group of theories was actually nearer the truth. The publication of fresh chronological material in 1906 and 1907 placed a new complexion on the problems at issue, and enabled us to correct several preconceptions, and to reconcile or explain the apparently conflicting data.

From a Babylonian chronicle in the British Museum[23] we now know that Dynasty II. of the Kings' List never occupied the throne of Babylon, but ruled only in the extreme south of Babylonia on the shores of the Persian Gulf; that its kings were contemporaneous with the later kings of Dynasty I. and with the earlier kings of Dynasty III. of the Kings' List; that in the reign of Samsu-ditana, the last king of Dynasty I., Hittites from Cappadocia raided and captured Babylon, which in her weakened state soon fell a prey to the Kassites (Dynasty III.); and that later on southern Babylonia, till then held by Dynasty II. of the Kings' List, was in its turn captured by the Kassites, who from that time onward occupied the whole of the Babylonian plain. The same chronicle informs us that Ilu-shūma, an early Assyrian patesi, was the contemporary of Su-abu, the founder of Dynasty I. of the Kings' List, thus enabling us to trace the history of Assyria back beyond the rise of Babylon.

Without going into details, the more important results of this new information may be summarized: the elimination of Dynasty II. from the throne of Babylon points to a date not much earlier than 2000 or 2050 B.C. for the rise of Dynasty I., a date which harmonizes with the chronological notices of Shalmaneser I.; Nabonidus's estimate of the period of Khammurabi, so far from being centuries too low, is now seen to have been exaggerated, as the context of the passage in his inscription suggests; and finally the beginning of the historical period of Berossus is not to be synchronized with Dynasty I. of the Kings' List, but, assuming that his figures had an historical basis and that they have come down to us in their original form, with some earlier dynasty which may possibly have had its capital in one of the other great cities of Babylonia (such as the Dynasty of Isin).

New data have also been discovered bearing upon the period before the rise of Babylon. A fragment of an early dynastic chronicle from Nippur[24] gives a list of the kings of the dynasties of Ur and Isin. From this text we learn that the Dynasty of Ur consisted of five kings and lasted for 117 years, and was succeeded by the Dynasty of Isin, which consisted of sixteen kings and lasted for 225½ years. Now the capture of the city of Isin by Rīm-Sin, which took place in the seventeenth year of Sin-muballit, the father of Khammurabi, formed an epoch for dating tablets in certain parts of Babylonia,[25] and it is probable that we may identify the fall of the Dynasty of Isin with this capture of the city. In that case the later rulers of the Dynasty of Isin would have been contemporaneous with the earlier rulers of Dynasty I. of the Kings' List, and we obtain for the rise of the Dynasty of Ur a date not much earlier than 2300 B.C.

These considerable reductions in the dates of the earlier dynasties of Babylonia necessarily react upon our estimate of the age of Babylonian civilization. The very high dates of 5000 or 6000 B.C., formerly assigned by many writers to the earliest remains of the Sumerians and the Babylonian Semites,[26] depended to a great extent on the statement of Nabonidus that 3200 years separated his own age from that of Narām-Sin, the son of Sargon of Agade; for to Sargon, on this statement alone, a date of 3800 B.C. has usually been assigned. But even by postulating the highest possible dates for the Dynasties of Babylon and Ur, enormous gaps occurred in the scheme of chronology,

which were unrepresented by any royal name or record. In his valiant attempt to fill these gaps Radau was obliged to invent kings and even dynasties,[27] the existence of which is now definitely disproved. The statement of Nabonidus has not, however, been universally accepted. Lehmann-Haupt suggested an emendation of the text, reducing the number by a thousand years;[28] while Winckler has regarded the statement of Nabonidus as an uncritical exaggeration.[29] Obviously the scribes of Nabonidus were not anxious to diminish the antiquity of the foundation-inscription
[v.03 p.0111] of Narām-Sin, which their royal master had unearthed; and another reason for their calculations resulting in so high a figure is suggested by the recent discoveries: they may in all good faith have reckoned as consecutive a number of early dynasties which were as a matter of fact contemporaneous. But, though we may refuse to accept the accuracy of this figure of Nabonidus, it is not possible at present to fix a definite date for the early kings of Agade. All that can be said is that both archaeological and epigraphic evidence indicates that no very long interval separated the empire of the Semitic kings of Agade from that of the kings of Sumer and Akkad, whose rule was inaugurated by the founding of the Dynasty of Ur.[30]

To use caution in accepting the chronological notices of the later kings is very far removed from suggesting emendations of their figures. The emenders postulate mechanical errors in the writing of the figures, but, equally with those who accept them, regard the calculations of the native scribes as above reproach. But that scribes could make mistakes in their reckoning is definitely proved by the discovery at Shergat of two totally conflicting accounts of the age and history of the great temple of Assur.[31] This discovery in itself suggests that all chronological data are not to be treated as of equal value and arranged mechanically like the pieces of a Chinese puzzle; and further, that no more than a provisional acceptance should be accorded any statement of the later native chronologists, until confirmed by contemporary records. On the other hand, the death-blow has been given to the principle of emendation of the figures, which for so long has found favour among a considerable body of German writers.

(L. W. K.)

IX. *Proper Names.*—In the early days of the decipherment of the cuneiform inscriptions, the reading of the proper names borne by Babylonians and Assyrians occasioned great difficulties; and though most of these difficulties have been overcome and there is general agreement among scholars as to the principles underlying both the formation and the pronunciation of the thousands of names that we encounter in historical records, business documents, votive inscriptions and literary productions, differences, though mostly of a minor character, still remain. Some time must elapse before absolute uniformity in the transliteration of these proper names is to be expected; and since different scholars still adopt varying spellings of Babylonian and Assyrian proper names, it has been considered undesirable in this work to ignore the fact in individual articles contributed by them. The better course seems to be to explain here the nature of these variations.

The main difficulty in the reading of Babylonian and Assyrian proper names arises from the preference given to the "ideographic" method of writing them. According to the developed cuneiform system of writing, words may be written by means of a sign (or combination of signs) expressive of the entire word, or they may be spelled out phonetically in syllables. So, for example, the word for "name" may be written by a sign MU, or it may be written cut by two signs *shu-mu*, the one sign MU representing the "Sumerian" word for "name," which, however, in the case of a Babylonian or Assyrian text must be read as *shumu*—the Semitic equivalent of the Sumerian MU. Similarly the word for "clothing" may be written SIG-BA, which represents again the "Sumerian" word, whereas, the Babylonian-Assyrian equivalent being *lubushtu* it is so to be read in Semitic texts, and may therefore be also phonetically written *lu-bu-ush-tu*. This double method of writing words arises from the circumstance that the cuneiform syllabary is of non-Semitic origin, the system being derived from the non-Semitic settlers of the Euphrates valley, commonly termed Sumerians (or Sumero-Akkadians), to whom, as the earlier settlers, the origin of the cuneiform script is due. This script, together with the general Sumerian culture, was taken over by the Babylonians upon their settlement in the Euphrates valley and adapted to their language, which belonged to the Semitic group. In this transfer the Sumerian words—largely monosyllabic—were reproduced, but read as Semitic, and at the same time the advance step was taken of utilizing the Sumerian words as means of writing the Babylonian words phonetically. In this case the signs representing Sumerian words were treated merely as syllables, and, without reference to their meaning, utilized for spelling Babylonian words. The Babylonian syllabary which thus arose, and which, as the culture passed on to the north—known as Assyria—became the Babylonian Assyrian syllabary,[32] was enlarged and modified in the course of time, the Semitic equivalents for many of the signs being distorted or abbreviated to form the basis of new "phonetic" values that were thus of "Semitic" origin; but, on the whole, the "non-Semitic" character of the signs used as syllables in the phonetic method of writing Semitic words was preserved; and, furthermore, down to the latest days of the Babylonian and Assyrian empires the mixed method of writing continued, though there were periods when "purism" was the fashion, and there was a more marked tendency to spell out the words laboriously in preference to using signs with a phonetic complement as an aid in suggesting the reading desired in any given instance. Yet, even in those days, the Babylonian syllabary continued to be a mixture of ideographic and phonetic writing. Besides the conventional use of certain signs as the indications of names of gods, countries, cities, vessels, birds, trees, &c., which, known as "determinants," are the Sumerian signs of the terms in question and were added as a guide for the reader, proper names more particularly continued to be written to a large extent in purely "ideographic" fashion.

The conservatism which is a feature of proper names everywhere, in consequence of which the archaic traits of a language are frequently preserved in them, just as they are preserved in terms used in the ritual and in poetic diction, is sufficient to account for the interesting fact that the Semitic settlers of the Euphrates valley in handing down their names from one generation to another retained the custom of writing them in "Sumerian" fashion, or, as we might also put it, in "ideographic" form. Thus the name of the deity, which enters as an element in a large proportion of the proper names,[33] was almost invariably written with the sign or signs representing this deity, and it is only exceptionally that the name is spelled phonetically. Thus the name of the chief god of the Babylonian pantheon, Marduk, is written by two signs to be pronounced AMAR-UD, which describe the god as the "young bullock of the day"—an allusion to the solar character of the god in question. The moon-god Sin is written by a sign which has the force of "thirty," and is a distinct reference to the monthly course of the planet; or the name is written by two signs to be pronounced EN-ZU, which describe the god as the "lord of wisdom." The god Nebo appears as PA—the sign of the stylus, which is associated with this deity as the originator and patron of writing and of knowledge in general,—or it is written with a sign AK, which describes the god as a "creator."

Until, therefore, through parallel passages or through explanatory lists prepared by the Babylonian and Assyrian scribes in large numbers as an aid for the study of the language,[34] the exact phonetic reading of these divine names was determined, scholars remained in doubt or had recourse to conjectural or provisional readings. Even at the present time there are many names of deities, as, *e.g.* Ninib, the phonetic reading of which is still unknown or uncertain. In most cases, however, these belong to the category of minor deities or represent old local gods assimilated to some more powerful god, who absorbed, as it were, the attributes and prerogatives of these minor ones. In many cases they will probably turn out to be descriptive
[v.03 p.0112] epithets of gods already known rather than genuine proper names. A peculiar difficulty arises in the case of the god of storms, who, written IM, was generally known in Babylonia as Ramman, "the thunderer," whereas in Assyria he also had the designation Adad. In many cases, therefore, we may be in doubt how the sign IM is to be read, more particularly since this same god appears to have had other designations besides Ramman and Adad.

Besides the divine element, proper names as a rule in the Babylonian-Assyrian periods had a verbal form attached and a third element representing an object. Even when the sign indicative of the verb is clearly recognised there still remains to be determined the form of the verb intended. Thus in the case of the sign KUR, which is the equivalent of *naṣāru*, "protect," there is the possibility of reading it as the active participle *nāṣir*, or as an imperative *uṣṣur*, or even the third person perfect *iṣṣur*. Similarly in the case of the sign MU, which, besides signifying "name" as above pointed out, is also the Sumerian word for "give," and therefore may be read *iddin*, "he gave," from *nadānu*, or may be read *nādin*, "giver"; and when, as actually happens, a name occurs in which the first element is the name of a deity followed by MU-MU, a new element of doubt is introduced through the uncertainty whether the first MU is to be taken as a form of the verb *nadānu* and the second as the noun *shumu*, "name," or vice versa.

Fortunately, in the case of a large number of names occurring on business documents as the interested parties or as scribes or as witnesses—and it is through these documents that we obtain the majority of the Babylonian-Assyrian proper names—we have variant readings, the same name being written phonetically in whole or part in one instance and ideographically in another. Certain classes of names being explained in this way, legitimate and fairly reliable conclusions can be drawn for many others belonging to the same class or group. The proper names of the numerous business documents of the Khammurabi period, when phonetic writing was the fashion, have been of special value in resolving doubts as to the correct reading of names written ideographically. Thus names like *Sin-na-di-in-shu-mi* and *Bel-na-di-in-shu-mi*, *i.e.* "Sin is the giver of a name" (*i.e.* offspring), and "Bel is the giver of a name," form the model for names with deities as the first element followed by MU-MU, even though the model may not be consistently followed in all cases. In historical texts also variant readings occur in considerable number. Thus, to take a classic example, the name of the famous king Nebuchadrezzar occurs written in the following different manners:—(*a*) *Na-bi-um-ku-du-ur-ri-u-ṣu-ur*, (*b*) AK-DU-*u-ṣu-ur*, (*c*) AK-*ku-dur-ri*-SHES, and (*d*) PA-GAR-DU-SHES, from which we are permitted to conclude that PA or AK (with the determinative for deity AN) = *Na-bi-um* or Nebo, that GAR-DU or DU alone = *kudurri*, and that SHES = *uṣṣur*. The second element signifies "boundary" or "territory"; the third element is the imperative of *nasaru*, "protect"; so that the whole name signifies, "O, Nebo! protect my boundary" (or "my territory").

It is not the purpose of this note to set forth the principles underlying the formation of proper names among the Babylonians and Assyrians, but it may not be out of place to indicate that by the side of such full names, containing three elements (or even more), we have already at an early period the reduction of these elements to two through the combination of the name of a deity with a verbal form merely, or through the omission of the name of the deity. From such names it is only a step to names of one element, a characteristic feature of which is the frequent addition of an ending *-tum* (feminine), *ān*, *ā*, *um*, *atum*, *atija*, *sha,* &c., most of these being "hypocoristic affixes," corresponding in a measure to modern pet-names.

Lastly, a word about genuine or pseudo-Sumerian names. In the case of texts from the oldest historical periods we encounter hundreds of names that are genuinely Sumerian, and here in view of the multiplicity of the phonetic values attaching to the signs used it is frequently difficult definitely to determine the reading of the names. Our knowledge of the ancient Sumerian

language is still quite imperfect, despite the considerable progress made, more particularly during recent years. It is therefore not surprising that scholars should differ considerably in the reading of Sumerian names, where we have not helps at our command as for Babylonian and Assyrian names. Changes in the manner of reading the Sumerian names are frequent. Thus the name of a king of Ur, generally read Ur-Bau until quite recently, is now read Ur-Engur; for Lugal-zaggisi, a king of Erech, some scholars still prefer to read Ungal-zaggisi; the name of a famous political and religious centre generally read Shir-pur-la is more probably to be read Shir-gul-la; and so forth. There is reason, however, to believe that the uncertainty in regard to many of these names will eventually be resolved into reasonable certainty. A doubt also still exists in regard to a number of names of the older period because of the uncertainty whether their bearers were Sumerians or Semites. If the former, then their names are surely to be read as Sumerian, while, if they were Semites, the signs with which the names are written are probably to be read according to their Semitic equivalents, though we may also expect to encounter Semites bearing genuine Sumerian names. At times too a doubt may exist in regard to a name whose bearer was a Semite, whether the signs composing his name represent a phonetic reading or an ideographic compound. Thus, *e.g.* when inscriptions of a Semitic ruler of Kish, whose name was written Uru-mu-ush, were first deciphered, there was a disposition to regard this as an ideographic form and to read phonetically Alu-usharshid ("he founded a city," with the omission of the name of the deity), but scholarly opinion finally accepted Uru-mu-ush (Urumush) as the correct designation.

For further details regarding the formation of Sumerian and Babylonian-Assyrian proper names, as well as for an indication of the problems involved and the difficulties still existing, especially in the case of Sumerian names,[35] see the three excellent works now at our disposal for the Sumerian, the old Babylonian, and the neo-Babylonian period respectively, by Huber, *Die Personennamen in den Keilschrifturkunden aus der Zeit der Könige von Ur und Nisin* (Leipzig, 1907); Ranke, *Early Babylonian Proper Names* (Philadelphia, 1905); and Tallqvist, *Neu-Babylonisches Namenbuch* (Helsingfors, 1905).

(M. Ja.)

[Plate I.] [Plate II.]

[1] For a survey of the chronological systems adopted by different modern scholars, see below, section viii. "Chronological Systems."

[2] The compiler of the more complete one seems to have allowed himself liberties. At all events he gives 30 years of reign to Sin-muballidh instead of the 20 assigned to him in a list of dates drawn up at the time of Ammi-zadok's accession, 55 years to Khammurabi instead of 43, and 35 years to Samsu-iluna instead of 38, while he omits altogether the seven years' reign of the Assyrian king Tukulti-In-aristi at Babylon.

[3] They are also called high-priests of Gunammidē and a contract-tablet speaks of "Tē in Babylon," but this was probably not the Tē of the seal. It must be remembered that the reading of most of the early Sumerian proper names is merely provisional, as we do not know how the ideographs of which they are composed were pronounced in either Sumerian or Assyrian.

[4] For the events leading up to the conquests of Cyrus, see Persia: *Ancient History*, § v. The chronology is not absolutely certain.

[5] The following is a list of the later dynasties and kings of Babylonia and Assyria so far as they are known at present. For the views of other writers on the chronology, see § viii., *Chronological Systems.*

The Babylonian Dynasties from cir. 2500 B.C.

Dynasty of Ur.

Gungunu, *cir.* 2500 B.C.
Ur-Gur.
Dungi, more than 51 years.
Bur-Sin, more than 12 years.
Gimil-Sin, more than 9 years.
Ibi-Sin.
Idin-Dagan.
Sumu-ilu.

First Dynasty of Babylon. 2350 B.C.

Sumu-abi, 14 years.
Sumu-la-ilu, 36 years.
Zabium, 14 years.
Abil-Sin, 18 years.
Sin-muballidh, 20 years.
Khammurabi, 43 years.

Samsu-iluna, 38 years.
Abesukh, 25 years.
Ammi-ditana, 25 years.
Ammi-zadoq, 21 years.
Samsu-ditana, 31 years.

Dynasty of Sisku (?) for 368 years. 2160 B.C.

Anman, 60 years.
Ki-Nigas, 56 years.
Damki-ilisu, 26 years.
Iskipal, 15 years.
Sussi, 27 years.
Gul-ki[sar], 55 years.
Kirgal-daramas, 50 years.
Ā-dara-kalama, 28 years.
Akur-duana, 26 years.
Melamma-kurkura, 8 years.
Ea-ga(mil), 9 years.

Kassite Dynasty of 36 kings for 576 years 9 months. 1780 B.C.

Gandis, 16 years.
Agum-sipak, 22 years.
Bitilyasu I., 22 years.
Ussi (?), 9 years.
Adu-metas.
Tazzi-gurumas.
Agum-kakrime.
. . . .
Kara-indas.
Kadasman-Bel, his son, corresponded with
Amon-hotep (Amenophis) III. of Egypt, 1400 B.C.
Kuri-galzu II.
Burna-buryas, his son, 22 years.
Kuri-galzu III., his son, 26 years.
Nazi-Maruttas, his son, 17 years.
Kadasman-Turgu, his son, 13 years.
Kudur-bel, 6 years.
Sagarakti-suryas, his son, 13 years.
Bitilyasu II., 8 years.

Tukulti-In-aristi of Assyria (1272 B.C.)
for 7 years, native vassal kings being—
Bel-sum-iddin, 1½ years.
Kadasman-Bel II., 1½ years.
Hadad-sum-iddin, 6 years.
Hadad-sum-uzur, 30 years.
Meli-sipak, 15 years.
Merodach-baladan I., his son, 13 years.
Zamama-sum-iddin, 1 year.
Bel-sum-iddin, 3 years.

Dynasty of Isin of 11 kings for 132½ years. 1203 B.C.

Merodach-... 18 years.
. . . .
Nebuchadrezzar I.
Bel-nadin-pal.
Merodach-nadin-akhi, 22 years.
Merodach-... 1½ years.
Hadad-baladan, an usurper.
Merodach-sapik-zer-mati, 12 years.
Nabu-nadin, 8 years.

Dynasty of the Sea-coast. 1070 B.C.

Simbar-sipak, 18 years.
Ea-mukin-zeri, 5 months.
Kassu-nadin-akhi, 3 years.

Dynasty of Bit-Bazi. 1050 B.C.

Ē-Ulmas-sakin-sumi, 17 years.
Ninip-kudur-uzur I., 3 years.
Silanim-Suqamuna, 3 months.

Dynasty of Elam. 1030 B.C.

An Elamite, 6 years.

Second Dynasty of Babylon. 1025 B.C.

Nebo-kin-abli, 36 years.
Ninip-kudur-uzur II. (?) 8 months 12 days.

Probably 5 names missing.	B.C.
Samas-mudammiq	*cir.* 920
Nebo-sum-iskun	*cir.* 900
Nebo-baladan	*cir.* 880
Merodach-nadin-sumi	*cir.* 860
Merodach-baladhsu-iqbi	*cir.* 830
Bau-akhi-iddin	*cir.* 810
Probably 2 names missing.	
Nebo-sum-iskun, son of Dakuri	*cir.* 760
Nabonassar, 14 years	747
Nebo-nadin-suma, his son, 2 years	733
Nebo-sum-yukin, his son, 1 month 12 days	731

End of "the 22nd dynasty."

Dynasty of Sape.

	B.C.
Yukin-zera or Chinziros, 3 years.	730
Pulu (Pul or Poros), called Tiglath-pileser III. in Assyria, 2 years	727
Ululā, called Shalmaneser IV. in Assyria	725
Merodach-baladan II. the Chaldaean	721
Sargon of Assyria	709
Sennacherib, his son	705
Merodach-zakir-sumi, 1 month	702
Merodach-baladan III., 6 months	702
Bel-ebus of Babylon	702
Assur-nadin-sumi, son of Sennacherib	700
Nergal-yusezib	694
Musezib-Merodach	693
Sennacherib destroys Babylon	689
Esar-haddon, his son	681
Samas-sum-yukin, his son	668
Kandalanu (Kineladanos)	648
Nabopolassar	626
Nabu-kudur-uzur (Nebuchadrezzar II.)	605
Amil-Marduk (Evil-Merodach), his son	562
Nergal-sarra-uzur (Nergal-sharezer)	560
Labasi-Marduk, his son, 3 months	556
Nabu-nahid (Nabonidus)	556
Cyrus conquers Babylon	538
Cambyses, his son	529
Gomates, the Magian, 7 months	521
Nebuchadrezzar III., native king	521
Darius, son of Hystaspes	520

Nebuchadrezzar IV., rebel king	514
Darius restored	513

Kings of Assyria.

Zulilu "founder of the monarchy."

. . . .

Assur-rabi.

Assur-nirari, his son.

Assur-rim-nisesu, his son.

. . . .

Erba-Hadad,

Assur-nadin-akhi I., his son.

Assur-yuballidh I., his son.

	B.C.
Assur-bil-nisi-su	*cir.* 1450
Buzur-Assur	1440
Assur-nadin-akhi II.	1410
Assur-yuballidh, his son	1390
Bel-nirari, his son	1370
Arik-den-ilu, his son	1350
Hadad-nirari I., his son	1330
Shalmaneser I., his son (built Calah)	1310
Tiglath-In-aristi I., his son,	1280
conquers Babylon	*cir.* 1270
Assur-nazir-pal I., his son	1260
Assur-narara and his son Nebo-dan	1250
Assur-sum-lisir	1235
In-aristi-tukulti-Assur	1225
Bel-kudur-uzur	1215
In-aristi-pileser, descendant of Erba-Hadad	1200
Assur-dan I., his son	1185
Mutaggil-Nebo, his son	1160
Assur-ris-isi, his son	1140
Tiglath-pileser I., his son	1120
Assur-bil-kala, his son	1090
Samsi-Hadad I., his brother	1070
Assur-nazir-pal II., his son	1060
Assur-irbi	—
Hadad-nirari II.	*cir.* 960
Tiglath-pileser II., his son	950
Assur-dan II., his son	930
Hadad-nirari III., his son	911
Tukulti-In-aristi, his son	889
Assur-nazir-pal III., his son	883
Shalmaneser II., his son	858
Assur-danin-pal (Sardanapallos), rebel king	825
Samsi-Hadad II., his brother	823
Hadad-nirari IV., his son	810
Shalmaneser III.	781
Assur-dan III.	771
Assur-nirari	753
Pulu, usurper, takes the name of Tiglath-pileser III.	745
Ululā, usurper, takes the name of Shalmaneser IV.	727
Sargon, usurper	722
Sennacherib, his son	705
Esar-haddon, his son	681
Assur-bani-pal, his son	668
Assur-etil-ilani-yukin, his son	?
Assur-sum-lisir	?
Sin-sarra-uzur (Sarakos)	?
Destruction of Nineveh	606

[6] These three dynasties are usually known as the First Dynasty of Babylon, the Dynasty of Sisku or Uruku, and the Kassite Dynasty; see sect. v.

[7] See Oppert, *Comptes rendus de l'Acad. des Inscr. et Belles-Lettres* (1888), xvi. pp. 218 ff., and *Bab. and Or. Rec.* ii. pp. 107 ff.

[8] See Sayce, *Early Israel*, pp. 281 ff., and *Encyc. Brit.*, 10th ed., vol. xxvi. p. 45 (also his account above).

[9] See Rogers *History of Babylonia and Assyria* (1900).

[10] See Winckler, *Geschichte Babyloniens und Assyriens* (1892), *Altorientalische Forschungen*, i. Hft. 2 (1894), and *Auszug aus der Vorderasiatischen Geschichte* (1905).

[11] See Delitzsch and Mürdter, *Geschichte Babyloniens und Assyriens* (1891), and Delitzsch, *Mehr Licht* (1907).

[12] See Maspero, *Histoire ancienne des peuples de l'Orient classique*, tome ii.

[13] See Peiser, *Zeits. für Assyr.* vi. pp. 264 ff.

[14] See Rost, *Mitteil. der vorderas. Gesellschaft* (1897), ii.

[15] See Lehmann-Haupt, *Zwei Hauptprobleme* (1898).

[16] See Marquart, *Philologus*, Supplbd. vii. (1899), pp. 637 ff.

[17] See Rost, *Orient. Lit.-Zeit.*, iii. (1900), No. 6.

[18] See Lehmann-Haupt, *Beiträge zur alten Geschichte (Klio)*, Bd. iii. Heft 1 (1903).

[19] See Hommel, *Geschichte Babyloniens und Assyriens*.

[20] See *Ancient Hebrew Tradition*, p. 125, and Hastings' *Dictionary of the Bible*, i. pp. 226 f.

[21] See Niebuhr, *Chronologie* (1896).

[22] See Hommel, "Sitzungsberichte der königl. böhmischen Gesellschaft der Wissenschaften," *Phil.-hist. Classe* (1901), v.

[23] Published and discussed by L. W. King, "Chronicles concerning early Babylonian Kings" (*Studies in Eastern History*, vols. ii. and iii., 1907), and *History of Egypt*, vol. xiii. (published by the Grolier Society, New York, in the spring of 1906), pp. 244 ff.

[24] Published and discussed by Hilprecht, "Mathematical, Metrological and Chronological Texts" (*Bab. Exped.*, Ser. A, xx. 1, dated 1906, published 1907), pp. 46 ff.

[25] See L. W. King, *Letters and Inscriptions of Khammurabi*, vol. iii. pp. 228 ff.

[26] Cf., *e.g.*, Hilprecht, *Old Babylonian Inscriptions*, pt. ii. p. 24.

[27] See Radau, *Early Babylonian History* (1900).

[28] See Lehmann-Haupt, *Zwei Hauptprobleme*, pp. 172 ff.

[29] See Winckler in Schrader's *Keilinschriften und das Alte-Testament* (3rd ed.), i. pp. 17 f., and cf. *Mitteil. der vorderas. Gesellschaft* (1906), i. p. 12, n.l.

[30] Cf. L. W. King, *Chronicles*, i. pp. 15 ff., 61 f.

[31] See *Mitteilungen der deutschen Orientgesellschaft*, Nos. 21 and 22, and cf. L. W. King, Chronicles, i. pp. 114 ff.

[32] The Assyrian language is practically identical with the Babylonian, just as the Assyrians are the same people as the Babylonians with some foreign admixtures.

[33] In many names the divine element is lopped off, but was originally present.

[34] Aramaic endorsements on business documents repeating in Aramaic transliteration the names of parties mentioned in the texts have also been of service in fixing the phonetic readings of names. See *e.g.* Clay's valuable article, "Aramaic Endorsements on the Documents of Murashū Sons" (Persian period) in *Old Testament and Semitic Studies in Memory of William Rainey Harper* (Chicago, 1908, vol. i.), pp. 285-322.

[35] Even in the case of the "Semitic" name of the famous Sargon I. (*q.v.*), whose full name is generally read Sharru-kenu-sha-ali, and interpreted as "the legitimate king of the city," the question has recently been raised whether we ought not to read "Sharru-kenu-shar-ri" and interpret as "the legitimate king rules"—an illustration of the vacillation still prevailing in this difficult domain of research.

BABYLONIAN AND ASSYRIAN RELIGION. The development of the religion of Babylonia, so far as it can be traced with the material at hand, follows closely along the lines of the periods to be distinguished in the history of the Euphrates valley. Leaving aside the primitive phases of the religion as lying beyond the ken of historical investigation, we may note the sharp distinction to be made between the pre-Khammurabic age and the post-Khammurabic age. While the political

movement represented by Khammurabi may have been proceeding for some time prior to the appearance of the great conqueror, the period of *c.* 2250 B.C., when the union of the Euphratean states was effected by Khammurabi, marks the beginning of a new epoch in the religion as well as in the political history of the Euphrates valley. Corresponding to the states into which we find the country divided before 2250 B.C., we have a various number of religious centres such as Nippur, Erech, Kutha (Cuthah), Ur, Sippara (Sippar), Shirgulla (Lagash), Eridu and Agade, in each of which some god was looked upon as the chief deity around whom there were gathered a number of minor deities and with whom there was invariably associated a female consort. The jurisdiction of this chief god was, however, limited to the political extent or control of the district in which the main seat of the cult of the deity in question lay. Mild attempts, to be sure, to group the chief deities associated with the most important religious and political centres into a regular pantheon were made—notably in Nippur and later in Ur—but such attempts lacked the enduring quality which attaches to Khammurabi's avowed policy to raise Marduk—the patron deity of the future capital, Babylon—to the head of the entire Babylonian pantheon, as Babylon itself came to be recognized as the real centre of the entire Euphrates valley.

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Associated with Marduk was his consort Sarpanit, and grouped around the pair as princes around a throne were the chief deities of the older centres, like Ea and Damkina of Eridu, Nebo and Tashmit of Borsippa, Nergal and Allatu of Kutha, Shamash and Ā of Sippar, Sin and Ningal of Ur, as well as pairs like Ramman (or Adad) and Shala whose central seat is unknown to us. In this process of accommodating ancient prerogatives to new conditions, it was inevitable that attributes belonging specifically to the one or the other of these gods should have been transferred to Marduk, who thus from being, originally, a solar deity becomes an eclectic power, taking on the traits of Bel, Ea, Shamash, Nergal, Adad and even Sin (the moon-god)—a kind of composite residuum of all the chief gods.

In the religious literature this process can be traced with perfect definiteness. The older incantations, associated with Ea, were re-edited so as to give to Marduk the supreme power over demons, witches and sorcerers: the hymns and lamentations composed for the cult of Bel, Shamash and of Adad were transformed into paeans and appeals to Marduk, while the ancient myths arising in the various religious and political centres underwent a similar process of adaptation to changed conditions, and as a consequence their original meaning was obscured by the endeavour to assign all mighty deeds and acts, originally symbolical of the change of seasons or of occurrences in nature, to the patron deity of Babylon—the supreme head of the entire Babylonian pantheon. Besides the chief deities and their consorts, various minor ones, representing likewise patron gods of less important localities and in most cases of a solar character were added at one time or the other to the court of Marduk, though there is also to be noted a tendency on the part of the chief solar deity, Shamash of Sippara, and for the chief moon-god to absorb the solar and lunar deities of less important sites, leading in the case of the solar gods to the differentiation of the functions of Shamash during the various seasons of the year and the various times of the day among these minor deities. In this way Ninib, whose chief seat appears to have been at Shirgulla (Lagash), became the sun-god of the springtime and of the morning, bringing joy and new life to the earth, while Nergal of Kutha was regarded as the sun of the summer solstice and of the noonday heat—the harbinger of suffering and death.

There were, however, two deities who appear to have retained an independent existence—Anu (*q.v.*), the god of heaven, and Ishtar (*q.v.*), the great mother-goddess, who symbolized fertility and vitality in general. There are some reasons for believing that the oldest seat, and possibly the original seat, of the Anu cult was in Erech, as it is there where the Ishtar cult that subsequently spread throughout Babylonia and Assyria took its rise. While Anu, with whom there was associated as a pale reflection a consort Antum, assigned to him under the influence of the widely prevalent view among the early Semites which conceived of gods always in pairs, remained more or less of an abstraction during the various periods of the Babylonian-Assyrian religion and taking little part in the active cult of the temples, his unique position as the chief god of the highest heavens was always recognized in the theological system developed by the priests, which found an expression in making him the first figure of a triad, consisting of Anu, Bel and Ea, among whom the priests divided the three divisions of the universe, the heavens, the earth with the atmosphere above it, and the watery expanse respectively.

Postponing the discussion of this triad, it is to be noted that the systematization of the pantheon after the days of Khammurabi did not seriously interfere with the independence of the goddess Ishtar. While frequently associated with Marduk, and still more closely with the chief god of Assyria, the god Assur (who occupies in the north the position accorded to Marduk in the south), so much so as to be sometimes spoken of as Assur's consort—the lady or Belit *par excellence*—the belief that as the source of all life she stands apart never lost its hold upon the people and found an expression also in the system devised by the priests. By the side of the first triad, consisting of Anu, Bel and Ea—disconnected in this form entirely from all local associations—we encounter a second triad composed of Shamash, Sin and Ishtar. As the first triad symbolized the three divisions of the universe—the heavens, earth and the watery element—so the second represented the three great forces of nature—the sun, the moon and the life-giving power. According as the one or the other aspect of such a power is brought into the foreground, Ishtar becomes the mother of mankind, the fertile earth, the goddess of sexual love, and the creative force among animals, while at times she appears in hymns and myths as the general personification of nature.

We thus find in the post-Khammurabic period the pantheon assuming distinct shapes. The strong

tendency towards concentrating in one deity—Marduk—the attributes of all others was offset by the natural desire to make the position of Marduk accord with the rank acquired by the secular rulers. As these emphasized their supremacy by grouping around them a court of loyal attendants dependent in rank and ready to do their master's bidding, so the gods of the chief centres and those of the minor local cults formed a group around Marduk; and the larger the group the greater was the reflected glory of the chief figure. Hence throughout the subsequent periods of Babylonian history, and despite a decided progress towards a monotheistic conception of divine government of the universe, the recognition of a large number of gods and their consorts by the side of Marduk remained a firmly embedded doctrine in the Babylonian religion as it did in the Assyrian religion, with the important variation, however, of transferring the rôle of the head of the pantheon from Marduk to Assur. Originally the patron god of the city of Assur (*q.v.*), when this city became the centre of a growing and independent district, Assur was naturally advanced to the same position in the north that Marduk occupied in the south. The religious predominance of the city of Babylon served to maintain for Marduk recognition even on the part of the Assyrian rulers, who, on the political side likewise, conceded to Babylonia the form at least of an independent district even when, as kings of Assyria, they exercised absolute control over it. They appointed their sons or brothers governors of Babylonia, and in the long array of titles that the kings gave themselves, a special phrase was always set aside to indicate their mastery over Babylonia. "To take the hand of Bel-Marduk" was the ceremony of installation which Assyrian rulers recognized equally with Babylonians as an essential preliminary to exercising authority in the Euphrates valley. Marduk and Assur became rivals only when Babylonia gave the Assyrians trouble; and when in 689 B.C. Sennacherib, whose patience had been exhausted by the difficulties encountered in maintaining peace in the south, actually besieged and destroyed the city of Babylon, he removed the statue of Marduk to Nineveh as a symbol that the god's rule had come to an end. His grandson Assur-bani-pal, with a view of re-establishing amicable relations, restored the statue to the temple E-Saggila in Babylon and performed the time-honoured ceremony of "taking the hand of Bel" as a symbol of his homage to the ancient head of the Babylonian pantheon.

But for the substitution of Assur for Marduk, the Assyrian pantheon was the same as that set up in the south, though some of the gods were endowed with attributes which differ slightly from those which mark the same gods in the south. The warlike nature of the Assyrians was reflected in their conceptions of the gods, who thus became little Assurs by the side of the great protector of arms, the big Assur. The cult and ritual in the north likewise followed the models set up in the south. The hymns composed for the temples of Babylonia were transferred to Assur, Calah, Harran, Arbela and Nineveh in the north; and the myths and legends also wandered to Assyria, where, to be sure, they underwent certain modifications. To all practical purposes, however, the religion of Assyria was identical with that practised in the south.

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We thus obtain four periods in the development of the Babylonian-Assyrian religion: (1) the oldest period from *c.* 3500 B.C. to the time of Khammurabi (*c.* 2250 B.C.); (2) the post-Khammurabic period in Babylonia; (3) the Assyrian period (*c.* 2000 B.C.) to the destruction of Nineveh in 606 B.C.; (4) the neo-Babylonian period beginning with Nabopolassar (625-604 B.C.), the first independent ruler under whom Babylonia inaugurates a new though short-lived era of power and prosperity, which ends with Cyrus's conquest of Babylon and Babylonia in 539 B.C., though since the religion proceeds on its undisturbed course for several centuries after the end of the political independence, we might legitimately carry this period to the Greek conquest of the Euphrates valley (331 B.C.), when new influences began to make themselves felt which gradually led to the extinction of the old cults.

In this long period of *c.* 3500 to *c.* 300 B.C., the changes introduced after the adjustment to the new conditions produced by Khammurabi's union of the Euphratean states are of a minor character. As already indicated, the local cults in the important centres of the south and north maintained themselves despite the tendency towards centralization, and while the cults themselves varied according to the character of the gods worshipped in each centre, the general principles were the same and the rites differed in minor details rather than in essential variations. An important factor which thus served to maintain the rites in a more or less stable condition was the predominance of what may be called the astral theology as the theoretical substratum of the Babylonian religion, and which is equally pronounced in the religious system of Assyria. The essential feature of this astral theology is the assumption of a close link between the movements going on in the heavens and occurrences on earth, which led to identifying the gods and goddesses with heavenly bodies—planets and stars, besides sun and moon—and to assigning the seats of all the deities in the heavens. The personification of the two great luminaries—the sun and the moon—was the first step in the unfolding of this system, and this was followed by placing the other deities where Shamash and Sin had their seats. This process, which reached its culmination in the post-Khammurabic period, led to identifying the planet Jupiter with Marduk, Venus with Ishtar, Mars with Nergal, Mercury with Nebo, and Saturn with Ninib. The system represents a harmonious combination of two factors, one of popular origin, the other the outcome of speculation in the schools attached to the temples of Babylonia. The popular factor is the belief in the influence exerted by the movements of the heavenly bodies on occurrences on earth—a belief naturally suggested by the dependence of life, vegetation and guidance upon the two great luminaries. Starting with this belief the priests built up the theory of the close correspondence between occurrences on earth and phenomena in the heavens. The heavens presenting a constant change even to the superficial observer, the conclusion was drawn of a connexion between the changes and the ever-changing movement in the fate of individuals and of nature as well as in the appearance of nature.

To read the signs of the heavens was therefore to understand the meaning of occurrences on earth, and with this accomplished it was also possible to foretell what events were portended by the position and relationship to one another of sun, moon, planets and certain stars. Myths that symbolized changes in season or occurrences in nature were projected on the heavens, which were mapped out to correspond to the divisions of the earth. All the gods, great and small, had their places assigned to them in the heavens, and facts, including such as fell within the domain of political history, were interpreted in terms of astral theology. So completely did this system in the course of time sway men's minds that the cult, from being an expression of animistic beliefs, took on the colour derived from the "astral" interpretation of occurrences and doctrines. It left its trace in incantations, omens and hymns, and it gave birth to astronomy, which was assiduously cultivated because a knowledge of the heavens was the very foundation of the system of belief unfolded by the priests of Babylonia and Assyria. "Chaldaean wisdom" became in the classical world the synonym of this science, which in its character was so essentially religious. The persistent prominence which astrology (*q.v.*) continued to enjoy down to the border line of the scientific movement of our own days, and which is directly traceable to the divination methods perfected in the Euphrates valley, is a tribute to the scope and influence attained by the astral theology of the Babylonian and Assyrian priests.

As an illustration of the manner in which the doctrines of the religion were made to conform to the all-pervading astral theory, it will be sufficient to refer to the modification undergone in this process of the view developed in a very early period which apportioned the control of the universe among the three gods Anu, Bel and Ea. Disassociating these gods from all local connexions, Anu became the power presiding over the heavens, to Bel was assigned the earth and the atmosphere immediately above it, while Ea ruled over the deep. With the transfer of all the gods to the heavens, and under the influence of the doctrine of the correspondence between the heavens and the earth, Anu, Bel and Ea became the three "ways" (as they are called) on the heavens. The "ways" appear in this instance to have been the designation of the ecliptic circle, which was divided into three sections or zones—a northern, a middle and a southern zone, Anu being assigned to the first, Bel to the second, and Ea to the third zone. The astral theology of the Babylonian-Assyrian religion, while thus bearing the ear-marks of a system devised by the priests, succeeded in assimilating the beliefs which represented the earlier attempts to systematize the more popular aspects of the religion, and in this way a unification of diverse elements was secured that led to interpreting the contents and the form of the religion in terms of the astral-theological system.

The most noteworthy outcome of this system in the realm of religious practice was, as already intimated, the growth of an elaborate and complicated method of divining the future by the observation of the phenomena in the heavens. It is significant that in the royal collection of cuneiform literature made by King Assur-bani-pal of Assyria (668-626 B.C.) and deposited in his palace at Nineveh, the omen collections connected with the astral theology of Babylonia and Assyria form the largest class. There are also indications that the extensive texts dealing with divination through the liver of sacrificial animals, which represents a more popular origin than divination through the observations of the heavens, based as it is on the primitive view which regarded the liver as the seat of life and of the soul, were brought into connexion with astral divination. Less influenced by the astral-theological system are the old incantation texts which were gathered together into series. In these series we can trace the attempt to gather the incantation formulae and prayers produced in different centres, and to make them conform to the tendency to centralize the cult in the worship of Marduk and his consort in the south, and of Assur and Ishtar in the north. Incantations originally addressed to Ea of Eridu, as the god of the watery element, and to Nusku, as the god of fire, were transferred to Marduk. This was done by making Ea confer on Marduk as his son the powers of the father, and by making Nusku a messenger between Ea and Marduk. At the same time, since the invoking of the divine powers was the essential element in the incantations, in order to make the magic formulae as effective as possible, a large number of the old local deities are introduced to add their power to the chief ones; and it is here that the astral system comes into play through the introduction of names of stars, as well as through assigning attributes to the gods which clearly reflect the conception that they have their seats in the heavens. The incantations pass over naturally into hymns and prayers. The connexion between the two is illustrated by the application of the term *shiptu*, "incantation," to the direct appeals to the gods, as well as by the introduction, on the one hand, of genuine prayers into the incantations and by the addition, on the other hand, of incantations to prayers and hymns, pure and simple. In another division of the religious literature of Babylonia which is largely represented in Assur-bani-pal's collection—the myths and legends—tales which originally symbolized the change of seasons, or in which historical occurrences are overcast with more or less copious admixture of legend and myth, were transferred to the heavens, and so it happens that creation myths, and the accounts of wanderings and adventures of heroes of the past, are referred to movements among the planets and stars as well as to occurrences or supposed occurrences on earth.

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The ritual alone which accompanied divination practices and incantation formulae and was a chief factor in the celebration of festival days and of days set aside for one reason or the other to the worship of some god or goddess or group of deities, is free from traces of the astral theology. The more or less elaborate ceremonies prescribed for the occasions when the gods were approached are directly connected with the popular elements of the religion. Animal sacrifice, libations, ritualistic purification, sprinkling of water, and symbolical rites of all kinds accompanied by short prayers, represent a religious practice which in the Babylonian-Assyrian religion, as in all religions, is older than any theology and survives the changes which the

theoretical substratum of the religion undergoes.

On the ethical side, the religion of Babylonia more particularly, and to a less extent that of Assyria, advances to noticeable conceptions of the qualities associated with the gods and goddesses and of the duties imposed on man. Shamash the sun-god was invested with justice as his chief trait, Marduk is portrayed as full of mercy and kindness, Ea is the protector of mankind who is grieved when, through a deception practised upon Adapa, humanity is deprived of immortality. The gods, to be sure, are easily aroused to anger, and in some of them the dire aspects predominated, but the view becomes more and more pronounced that there is some cause always for the divine wrath. Though, in accounting for the anger of the gods, no sharp distinction is made between moral offences and a ritualistic oversight or neglect, yet the stress laid in the hymns and prayers, as well as in the elaborate atonement ritual prescribed in order to appease the anger of the gods, on the need of being clean and pure in the sight of the higher powers, the inculcation of a proper aspect of humility, and above all the need of confessing one's guilt and sins without any reserve—all this bears testimony to the strength which the ethical factor acquired in the domain of the religion.

This factor appears to less advantage in the unfolding of the views concerning life after death. Throughout all periods of Babylonian-Assyrian history, the conception prevailed of a large dark cavern below the earth, not far from the Apsu—the ocean encircling and flowing underneath the earth—in which all the dead were gathered and where they led a miserable existence of inactivity amid gloom and dust. Occasionally a favoured individual was permitted to escape from this general fate and placed in a pleasant island. It would appear also that the rulers were always singled out for divine grace, and in the earlier periods of the history, owing to the prevailing view that the rulers stood nearer to the gods than other mortals, the kings were deified after death, and in some instances divine honours were paid to them even during their lifetime.

The influence exerted by the Babylonian-Assyrian religion was particularly profound on the Semites, while the astral theology affected the ancient world in general, including the Greeks and Romans. The impetus to the purification of the old Semite religion to which the Hebrews for a long time clung in common with their fellows—the various branches of nomadic Arabs—was largely furnished by the remarkable civilization unfolded in the Euphrates valley and in many of the traditions, myths and legends embodied in the Old Testament; traces of direct borrowing from Babylonia may be discerned, while the indirect influences in the domain of the prophetical books, as also in the Psalms and in the so-called "Wisdom Literature," are even more noteworthy. Even when we reach the New Testament period, we have not passed entirely beyond the sphere of Babylonian-Assyrian influences. In such a movement as early Christian gnosticism, Babylonian elements—modified, to be sure, and transformed—are largely present, while the growth of an apocalyptic literature is ascribed with apparent justice by many scholars to the recrudescence of views the ultimate source of which is to be found in the astral-theology of the Babylonian and Assyrian priests.

Bibliography.—Morris Jastrow, jun., *Religion Babyloniens und Assyriens* (Giessen, 1904), enlarged and re-written form of the author's smaller *Religion of Babylonia and Assyria* (Boston, 1898); A. H. Sayce, *The Religion of the Ancient Babylonians* (Hibbert Lectures, London, 1887), now superseded by the same author's *Religions of Ancient Egypt and Babylonia* (Gifford Lectures, Edinburgh, 1902); Friedrich Jeremias, *Die Babylonier und Assyrer*, in de la Saussaye's *Lehrbuch der Religionsgeschichte* (3rd ed., Tübingen, 1905), vol. i.; L. W. King, *Babylonian Religion and Mythology* (London, 1899); T. G. Pinches, *Religion of Babylonia and Assyria* (London, 1906). Of special texts and monographs bearing on the religion may be mentioned various volumes in the new series of cuneiform texts from Babylonian tablets, &c., in the British Museum (London, 1901-), especially parts v., xii., xv., xvii., xviii., xx. and xxi. and vol. iv. of the earlier series of *Selections from the Miscellaneous Inscriptions of Western Asia*, ed. by H. C. Rawlinson (2nd ed., London, 1891); H. Zimmern, *Beiträge zur Kenntniss der babylonischen Religion* (Leipzig, 1901); J. A. Craig, *Assyrian and Babylonian Religious Texts* (Leipzig, 1895-1897); L. W. King, *The Seven Tablets of Creation* (London, 1902); R. C. Thompson, *The Reports of the Magicians and Astrologers of Nineveh and Babylon* (London, 1900); A. Boissier, *Documents assyriens relatifs aux présages* (Paris, 1894-1897); and his *Choix de textes relatifs à la divination assyro-babylonienne* (Geneva, 1905-1906); Ch. Fossey, *La Magie assyrienne* (Paris, 1902); G. A. Reisner, *Sumerisch-babylonische Hymnen* (Berlin, 1896); L. W. King, *Babylonian Magic and Sorcery* (London, 1896); R. C. Thompson, *Devils and Evil Spirits of Babylonia* (London, 1903-1904); K. L. Tallqvist, *Die assyrische Beschwörungsserie Maqlû* (Leipzig, 1895); J. A. Knudtzon, *Assyrische Gebete an den Sonnengott* (Leipzig, 1893); Virolleaud, *L'Astrologie chaldéenne* (Paris, 1906-); Craig, *Astrological-Astronomical Texts* (Leipzig, 1892); Martin, *Textes religieux assyriens et babyloniens* (Paris, 1900 and 1903); Paul Haupt, *Das babylonische Nimrodepos* (Leipzig, 1891); Friedrich Delitzsch, *Das babylonische Weltschöpfungsepos* (Leipzig, 1896); P. Jensen, "Assyrisch-babylonische Mythen und Epen," in Schrader's *Keilinschriftliche Bibliothek*, vol. vi. part 1 (Berlin, 1900); also his *Das Nationalepos der Babylonier*, &c. (Strassburg, 1906); H. Zimmern in vol. ii. of 3rd ed. of Schrader's *Keilinschriften und das Alte Testament* (Berlin, 1903); Alfred Jeremias, *Die babylonisch-assyrischen Vorstellungen von Leben nach dem Tode* (Leipzig, 1887); and his *Das Alte Testament im Lichte des Alten Orients* (2nd ed., Leipzig, 1906-1907); and *Babylonisches im Neuen Testament* (Leipzig, 1905). On the religious literature of Babylonia and Assyria, see also chapters xv. to xxiv. in Jastrow's work (German and English edition), Carl Bezold's *Ninive and Babylon* (Bielefeld, 1905), chapters vi. to xii., and the same author's monumental catalogue of the cuneiform tablets in the Kuyunjik collection of the British Museum (5 vols., London, 1889-1899).

(M. Ja.)

BABYLONIAN CAPTIVITY, the name generally given to the deportation of the Jews to Babylon by Nebuchadrezzar. Three separate occasions are mentioned (Jer. lii. 28-30). The first was in the time of Jehoiachin in 597 B.C., when the temple of Jerusalem was partially despoiled and a number of the leading citizens removed. After eleven years (in the reign of Zedekiah) a fresh rising of the Judaeans occurred; the city was razed to the ground, and a further deportation ensued. Finally, five years later, Jeremiah (*loc. cit.*) records a third captivity. After the overthrow of Babylonia by the Persians, Cyrus gave the Jews permission to return to their native land (537 B.C.), and more then forty thousand are said to have availed themselves of the privilege. (See Jehoiakim; Jehoiachin; Zedekiah; Ezra-Nehemiah and Jews: *History*.)

BABYLONIAN LAW. The material for the study of Babylonian law is singularly extensive without being exhaustive. The so-called "contracts," including a great variety of deeds, conveyances, bonds, receipts, accounts and, most important of all, the actual legal decisions given by the judges in the law courts, exist in thousands. Historical inscriptions, royal charters and rescripts, despatches, private letters and the general literature afford welcome supplementary information. Even grammatical and lexicographical works, intended solely to facilitate the study of ancient literature, contain many extracts or short sentences bearing on law and custom. The so-called "Sumerian Family Laws" are thus preserved. The discovery of the now celebrated Code of
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Khammurabi (Hammurabi)[1] (hereinafter simply termed "the Code") has, however, made a more systematic study possible than could have resulted from the classification and interpretation of the other material. Some fragments of a later code exist and have been published; but there still remain many points upon which we have no evidence.

This material dates from the earliest times down to the commencement of our era. The evidence upon a particular point may be very full at one period and almost entirely lacking at another. The Code forms the backbone of the skeleton sketch which is here reconstructed. The fragments of it which have been recovered from Assur-bani-pal's library at Nineveh and later Babylonian copies show that it was studied, divided into chapters entitled *Ninu ilu ṣirum* from its opening words, and recopied for fifteen hundred years or more. The greater part of it remained in force, even through the Persian, Greek and Parthian conquests, which affected private life in Babylonia very little, and it survived to influence Syro-Roman and later Mahommedan law in Mesopotamia. The law and custom which preceded the Code we shall call "early," that of the New Babylonian empire (as well as the Persian, Greek, &c.) "late." The law in Assyria was derived from Babylonia but conserved early features long after they had disappeared elsewhere.

When the Semitic tribes settled in the cities of Babylonia, their tribal custom passed over into city law. The early history of the country is the story of a struggle for supremacy between the cities. A metropolis demanded tribute and military support from its subject cities but left their local cults and customs unaffected. The city rights and usages were respected by kings and conquerors alike.

As late as the accession of Assur-bani-pal and Samas-sum-yukin we find the Babylonians appealing to their city laws that groups of aliens to the number of twenty at a time were free to enter the city, that foreign women once married to Babylonian husbands could not be enslaved and that not even a dog that entered the city could be put to death untried.

The population of Babylonia was of many races from early times and intercommunication between the cities was incessant. Every city had a large number of resident aliens. This freedom of intercourse must have tended to assimilate custom. It was, however, reserved for the genius of Khammurabi to make Babylon his metropolis and weld together his vast empire by a uniform system of law.

Code of Khammurabi.

Almost all trace of tribal custom has already disappeared from the law of the Code. It is state-law; alike self-help, blood-feud, marriage by capture, are absent; though family solidarity, district responsibility, ordeal, the *lex talionis*, are primitive features that remain. The king is a benevolent autocrat, easily accessible to all his subjects, both able and willing to protect the weak against the highest-placed oppressor. The royal power, however, can only pardon when private resentment is appeased. The judges are strictly supervised and appeal is allowed. The whole land is covered with feudal holdings, masters of the levy, police, &c. There is a regular postal system. The *pax Babylonica* is so assured that private individuals do not hesitate to ride in their carriage from Babylon to the coast of the Mediterranean. The position of women is free and dignified.

The Code did not merely embody contemporary custom or conserve ancient law. It is true that centuries of law-abiding and litigious habitude had accumulated in the temple archives of each city vast stores of precedent in ancient deeds and the records of judicial decisions, and that intercourse had assimilated city custom. The universal habit of writing and perpetual recourse to written contract even more modified primitive custom and ancient precedent. Provided the parties could agree, the Code left them free to contract as a rule. Their deed of agreement was drawn up in the temple by a notary public, and confirmed by an oath "by god and the king." It was publicly sealed and witnessed by professional witnesses, as well as by collaterally interested parties. The manner in which it was thus executed may have been sufficient security that its stipulations were not impious or illegal. Custom or public opinion doubtless secured that the parties would not agree to wrong. In case of dispute the judges dealt first with the contract. They might not sustain it, but if the parties did not dispute it, they were free to observe it. The judges'

decision might, however, be appealed against. Many contracts contain the proviso that in case of future dispute the parties would abide by "the decision of the king." The Code made known, in a vast number of cases, what that decision would be, and many cases of appeal to the king were sent back to the judges with orders to decide in accordance with it. The Code itself was carefully and logically arranged and the order of its sections was conditioned by their subject-matter. Nevertheless the order is not that of modern scientific treatises, and a somewhat different order from both is most convenient for our purpose.

The Code contemplates the whole population as falling into three classes, the *amelu*, the *muskinu* and the *ardu*. The *amelu* was a patrician, the man of family, whose birth, marriage and death were registered, of ancestral estates and full civil rights. He had aristocratic privileges and responsibilities, the right to exact retaliation for corporal injuries, and liability to heavier punishment for crimes and misdemeanours, higher fees and fines to pay. To this class belonged the king and court, the higher officials, the professions and craftsmen. The term became in time a mere courtesy title but originally carried with it standing. Already in the Code, when status is not concerned, it is used to denote "any one." There was no property qualification nor does the term appear to be racial. It is most difficult to characterize the *muskinu* exactly. The term came in time to mean "a beggar" and with that meaning has passed through Aramaic and Hebrew into many modern languages; but though the Code does not regard him as necessarily poor, he may have been landless. He was free, but had to accept monetary compensation for corporal injuries, paid smaller fees and fines, even paid less offerings to the gods. He inhabited a separate quarter of the city. There is no reason to regard him as specially connected with the court, as a royal pensioner, nor as forming the bulk of the population. The rarity of any reference to him in contemporary documents makes further specification conjectural. The *ardu* was a slave, his master's chattel, and formed a very numerous class. He could acquire property and even hold other slaves. His master clothed and fed him, paid his doctor's fees, but took all compensation paid for injury done to him. His master usually found him a slave-girl as wife (the children were then born slaves), often set him up in a house (with farm or business) and simply took an annual rent of him. Otherwise he might marry a freewoman (the children were then free), who might bring him a dower which his master could not touch, and at his death one-half of his property passed to his master as his heir. He could acquire his freedom by purchase from his master, or might be freed and dedicated to a temple, or even adopted, when he became an *amelu* and not a *muskinu*. Slaves were recruited by purchase abroad, from captives taken in war and by freemen degraded for debt or crime. A slave often ran away; if caught, the captor was bound to restore him to his master, and the Code fixes a reward of two shekels which the owner must pay the captor. It was about one-tenth of the average value. To detain, harbour, &c., a slave was punished by death. So was an attempt to get him to leave the city. A slave bore an identification mark, which could only be removed by a surgical operation and which later consisted of his owner's name tattoed or branded on the arm. On the great estates in Assyria and its subject provinces were many serfs, mostly of subject race, settled captives, or quondam slaves, tied to the soil they cultivated and sold with the estate but capable of possessing land and property of their own. There is little trace of serfs in Babylonia, unless the *muskinu* be really a serf.

The god of a city was originally owner of its land, which encircled it with an inner ring of irrigable arable land and an outer fringe of pasture, and the citizens were his tenants. The god and his viceregent, the king, had long ceased to disturb tenancy, and were content with fixed dues in *naturalia*, stock, money or service. One of the earliest monuments records the purchase by a king of a large estate for his son, paying a fair market price and adding a handsome honorarium to the many owners in costly garments, plate, and precious articles of furniture. The Code recognizes complete private ownership in land, but apparently extends the right to hold land to votaries, merchants (and resident aliens?). But all land was sold subject to its fixed charges. The king, however, could free land from these charges by charter, which was a frequent way of rewarding those who deserved well of the state. It is from these charters that we learn nearly all we know of the obligations that lay upon land. The state demanded men for the army and the corvée as well as dues in kind. A definite area was bound to find a bowman together with his linked pikeman (who bore the shield for both) and to furnish them with supplies for the campaign. This area was termed "a bow" as early as the 8th century B.C., but the usage was much earlier. Later, a horseman was due from certain areas. A man was only bound to serve so many (six?) times, but the land had to find a man annually. The service was usually discharged by slaves and serfs, but the *amelu* (and perhaps the *muskinu*) went to war. The "bows" were grouped in tens and hundreds. The corvée was less regular. The letters of Khammurabi often deal with claims to exemption. Religious officials and shepherds in charge of flocks were exempt. Special liabilities lay upon riparian owners to repair canals, bridges, quays, &c. The state claimed certain proportions of all crops, stock, &c. The king's messengers could commandeer any subject's property, giving a receipt. Further, every city had its own octroi duties, customs, ferry dues, highway and water rates. The king had long ceased to be, if he ever was, owner of the land. He had his own royal estates, his private property and dues from all his subjects. The higher officials had endowments and official residences. The Code regulates the feudal position of certain classes. They held an estate from the king consisting of house, garden, field, stock and a salary, on condition of personal service on the king's errand. They could not delegate the service on pain of death. When ordered abroad they could nominate a son, if capable, to hold the benefice and carry on the duty. If there was no son capable, the state put in a *locum tenens*, but granted one-third to the wife to maintain herself and children. The benefice was inalienable, could not be sold, pledged, exchanged, sublet, devised or diminished. Other land was held of the state for rent. Ancestral estate was strictly tied to the family. If a holder would sell, the family

had the right of redemption and there seems to have been no time-limit to its exercise.

The temple occupied a most important position. It received from its estates, from tithes and other fixed dues, as well as from the sacrifices (a customary share) and other offerings of the faithful, vast amounts of all sorts of *naturalia*; besides money and permanent gifts. The larger temples had many officials and servants. Originally, perhaps, each town clustered round one temple, and each head of a family had a right to minister there and share its receipts. As the city grew, the right to so many days a year at one or other shrine (or its "gate") descended in certain families and became a species of property which could be pledged, rented or shared within the family, but not alienated. In spite of all these demands, however, the temples became great granaries and store-houses; as they also were the city archives. The temple had its responsibilities. If a citizen was captured by the enemy and could not ransom himself the temple of his city must do so. To the temple came the poor farmer to borrow seed corn or supplies for harvesters, &c.—advances which he repaid without interest. The king's power over the temple was not proprietary but administrative. He might borrow from it but repaid like other borrowers. The tithe seems to have been the composition for the rent due to the god for his land. It is not clear that all lands paid tithe, perhaps only such as once had a special connexion with the temple.

The Code deals with a class of persons devoted to the service of a god, as vestals or hierodules. The vestals were vowed to chastity, lived together in a great nunnery, were forbidden to open or enter a tavern, and together with other votaries had many privileges.

The Code recognizes many ways of disposing of property—sale, lease, barter, gift, dedication, deposit, loan, pledge, all of which were matters of contract. Sale was the delivery of the purchase (in the case of real estate symbolized by a staff, a key, or deed of conveyance) in return for the purchase money, receipts being given for both. Credit, if given, was treated as a debt, and secured as a loan by the seller to be repaid by the buyer, for which he gave a bond. The Code admits no claim unsubstantiated by documents or the oath of witnesses. A buyer had to convince himself of the seller's title. If he bought (or received on deposit) from a minor or a slave without power of attorney, he would be executed as a thief. If the goods were stolen and the rightful owner reclaimed them, he had to prove his purchase by producing the seller and the deed of sale or witnesses to it. Otherwise he would be adjudged a thief and die. If he proved his purchase, he had to give up the property but had his remedy against the seller or, if he had died, could reclaim five-fold from his estate. A man who bought a slave abroad, might find that he had been stolen or captured from Babylonia, and he had to restore him to his former owner without profit. If he bought property belonging to a feudal holding, or to a ward in chancery, he had to return it and forfeit what he gave for it as well. He could repudiate the purchase of a slave attacked by the *bennu* sickness within the month (later, a hundred days), and had a female slave three days on approval. A defect of title or undisclosed liability would invalidate the sale at any time.

Landowners frequently cultivated their land themselves but might employ a husbandman or let it. The husbandman was bound to carry out the proper cultivation, raise an average crop and leave the field in good tilth. In case the crop failed the Code fixed a statutory return. Land might be let at a fixed rent when the Code enacted that accidental loss fell on the tenant. If let on share-profit, the landlord and tenant shared the loss proportionately to their stipulated share of profit. If the tenant paid his rent and left the land in good tilth, the landlord could not interfere nor forbid subletting. Waste land was let to reclaim, the tenant being rent free for three years and paying a stipulated rent in the fourth year. If the tenant neglected to reclaim the land the Code enacted that he must hand it over in good faith and fixed a statutory rent. Gardens or plantations were let in the same ways and under the same conditions; but for date-groves four years' free tenure was allowed. The metayer system was in vogue, especially on temple lands. The landlord found land, labour, oxen for ploughing and working the watering-machines, carting, threshing or other implements, seed corn, rations for the workmen and fodder for the cattle. The tenant, or steward, usually had other land of his own. If he stole the seed, rations or fodder, the Code enacted that his fingers should be cut off. If he appropriated or sold the implements, impoverished or sublet the cattle, he was heavily fined and in default of payment might be condemned to be torn to pieces by the cattle on the field. Rent was as contracted.

Irrigation was indispensable. If the irrigator neglected to repair his dyke, or left his runnel open and caused a flood, he had to make good the damage done to his neighbours' crops, or be sold with his family to pay the cost. The theft of a watering-machine, water-bucket or other agricultural implement was heavily fined.

Houses were let usually for the year, but also for longer terms, rent being paid in advance, half-yearly. The contract generally specified that the house was in good repair, and the tenant was bound to keep it so. The woodwork, including doors and door frames, was removable, and the tenant might bring and take away his own. The Code enacted that if the landlord would re-enter before the term was up, he must remit a fair proportion of the rent. Land was leased for houses or other buildings to be built upon it, the tenant being rent-free for eight or ten years; after which the building came into the landlord's possession.

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Despite the multitude of slaves, hired labour was often needed, especially at harvest. This was matter of contract, and the hirer, who usually paid in advance, might demand a guarantee to fulfil the engagement. Cattle were hired for ploughing, working the watering-machines, carting, threshing, etc. The Code fixed a statutory wage for sowers, ox-drivers, field-labourers, and hire for oxen, asses, &c.

There were many herds and flocks. The flocks were committed to a shepherd who gave receipt

for them and took them out to pasture. The Code fixed him a wage. He was responsible for all care, must restore ox for ox, sheep for sheep, must breed them satisfactorily. Any dishonest use of the flock had to be repaid ten-fold, but loss by disease or wild beasts fell on the owner. The shepherd made good all loss due to his neglect. If he let the flock feed on a field of corn he had to pay damages four-fold; if he turned them into standing corn when they ought to have been folded he paid twelve-fold.

In commercial matters, payment in kind was still common, though the contracts usually stipulate for cash, naming the standard expected, that of Babylon, Larsa, Assyria, Carchemish, &c. The Code enacted, however, that a debtor must be allowed to pay in produce according to statutory scale. If a debtor had neither money nor crop, the creditor must not refuse goods.

Debt was secured on the person of the debtor. Distraint on a debtor's corn was forbidden by the Code; not only must the creditor give it back, but his illegal action forfeited his claim altogether. An unwarranted seizure for debt was fined, as was the distraint of a working ox. The debtor being seized for debt could nominate as mancipium or hostage to work off the debt, his wife, a child, or slave. The creditor could only hold a wife or child three years as mancipium. If the mancipium died a natural death while in the creditor's possession no claim could lie against the latter; but if he was the cause of death by cruelty, he had to give son for son, or pay for a slave. He could sell a slave-hostage, unless she were a slave-girl who had borne her master children. She had to be redeemed by her owner.

The debtor could also pledge his property, and in contracts often pledged a field, house or crop. The Code enacted, however, that the debtor should always take the crop himself and pay the creditor from it. If the crop failed, payment was deferred and no interest could be charged for that year. If the debtor did not cultivate the field himself he had to pay for the cultivation, but if the cultivation was already finished he must harvest it himself and pay his debt from the crop. If the cultivator did not get a crop this would not cancel his contract. Pledges were often made where the intrinsic value of the article was equivalent to the amount of the debt; but antichretic pledge was more common, where the profit of the pledge was a set-off against the interest of the debt. The whole property of the debtor might be pledged as security for the payment of the debt, without any of it coming into the enjoyment of the creditor. Personal guarantees were often given that the debtor would repay or the guarantor become liable himself.

Trade was very extensive. A common way of doing business was for a merchant to entrust goods or money to a travelling agent, who sought a market for his goods. The caravans travelled far beyond the limits of the empire. The Code insisted that the agent should inventory and give a receipt for all that he received. No claim could be made for anything not so entered. Even if the agent made no profit he was bound to return double what he had received, if he made poor profit he had to make up the deficiency; but he was not responsible for loss by robbery or extortion on his travels. On his return, the principal must give a receipt for what was handed over to him. Any false entry or claim on the agent's part was penalised three-fold, on the principal's part six-fold. In normal cases profits were divided according to contract, usually equally.

A considerable amount of forwarding was done by the caravans. The carrier gave a receipt for the consignment, took all responsibility and exacted a receipt on delivery. If he defaulted he paid five-fold. He was usually paid in advance. Deposit, especially warehousing of grain, was charged for at one-sixtieth. The warehouseman took all risks, paid double for all shortage, but no claim could be made unless he had given a properly witnessed receipt. Water traffic on the Euphrates and canals was early very considerable. Ships, whose tonnage was estimated at the amount of grain they could carry, were continually hired for the transport of all kinds of goods. The Code fixes the price for building and insists on the builder's giving a year's guarantee of seaworthiness. It fixes the hire of ship and of crew. The captain was responsible for the freight and the ship; he had to replace all loss. Even if he refloated the ship he had to pay a fine of half its value for sinking it. In the case of collision the boat under way was responsible for damages to the boat at anchor. The Code also regulated the liquor traffic, fixing a fair price for beer and forbidding the connivance of the tavern-keeper (a female!) at disorderly conduct or treasonable assembly, under pain of death. She was to hale the offenders to the palace, which implied an efficient and accessible police system.

Payment through a banker or by written draft against deposit was frequent. Bonds to pay were treated as negotiable. Interest was rarely charged on advances by the temple or wealthy landowners for pressing needs, but this may have been part of the metayer system. The borrowers may have been tenants. Interest was charged at very high rates for overdue loans of this kind. Merchants (and even temples in some cases) made ordinary business loans, charging from 20 to 30%.

Marriage retained the form of purchase, but was essentially a contract to be man and wife together. The marriage of young people was usually arranged between the relatives, the bridegroom's father providing the bride-price, which with other presents the suitor ceremonially presented to the bride's father. This bride-price was usually handed over by her father to the bride on her marriage, and so came back into the bridegroom's possession, along with her dowry, which was her portion as a daughter. The bride-price varied much, according to the position of the parties, but was in excess of that paid for a slave. The Code enacted that if the father does not, after accepting a man's presents, give him his daughter, he must return the presents doubled. Even if his decision was brought about by libel on the part of the suitor's friend this was done, and the Code enacted that the faithless friend should not marry the girl. If a suitor changed

his mind, he forfeited the presents. The dowry might include real estate, but generally consisted of personal effects and household furniture. It remained the wife's for life, descending to her children, if any; otherwise returning to her family, when the husband could deduct the bride-price if it had not been given to her, or return it, if it had. The marriage ceremony included joining of hands and the utterance of some formula of acceptance on the part of the bridegroom, as "I am the son of nobles, silver and gold shall fill thy lap, thou shall be my wife, I will be thy husband. Like the fruit of a garden I will give thee offspring." It must be performed by a freeman.

The marriage contract, without which the Code ruled that the woman was no wife, usually stated the consequences to which each party was liable for repudiating the other. These by no means necessarily agree with the Code. Many conditions might be inserted: as that the wife should act as maidservant to her mother-in-law, or to a first wife. The married couple formed a unit as to external responsibility, especially for debt. The man was responsible for debts contracted by his wife, even before her marriage, as well as for his own; but he could use her as a mancipium. Hence the Code allowed a proviso to be inserted in the marriage contract, that the wife should not be seized for her husband's pre-nuptial debts; but enacted that then he was not responsible for her pre-nuptial debts, and, in any case, that both together were responsible for all debts contracted after marriage. A man might make his wife a settlement by deed of gift, which gave her a life interest in part of his property, and he might reserve to her the right to bequeath it to a favourite child, but she could in no case leave it to her family. Although married she always remained a member of her father's house—she is rarely named wife of A, usually daughter of B, or mother of C.

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Divorce was optional with the man, but he had to restore the dowry and, if the wife had borne him children, she had the custody of them. He had then to assign her the income of field, or garden, as well as goods, to maintain herself and children until they grew up. She then shared equally with them in the allowance (and apparently in his estate at his death) and was free to marry again. If she had no children, he returned her the dowry and paid her a sum equivalent to the bride-price, or a mina of silver, if there had been none. The latter is the forfeit usually named in the contract for his repudiation of her.

If she had been a bad wife, the Code allowed him to send her away, while he kept the children and her dowry; or he could degrade her to the position of a slave in his own house, where she would have food and clothing. She might bring an action against him for cruelty and neglect and, if she proved her case, obtain a judicial separation, taking with her her dowry. No other punishment fell on the man. If she did not prove her case, but was proved to be a bad wife, she was drowned. If she were left without maintenance during her husband's involuntary absence, she could cohabit with another man, but must return to her husband if he came back, the children of the second union remaining with their own father. If she had maintenance, a breach of the marriage tie was adultery. Wilful desertion by, or exile of, the husband dissolved the marriage, and if he came back he had no claim on her property; possibly not on his own.

As a widow, the wife took her husband's place in the family, living on in his house and bringing up the children. She could only remarry with judicial consent, when the judge was bound to inventory the deceased's estate and hand it over to her and her new husband in trust for the children. They could not alienate a single utensil. If she did not remarry, she lived on in her husband's house and took a child's share on the division of his estate, when the children had grown up. She still retained her dowry and any settlement deeded to her by her husband. This property came to her children. If she had remarried, all her children shared equally in her dowry, but the first husband's gift fell to his children or to her selection among them, if so empowered.

Monogamy was the rule, and a childless wife might give her husband a maid (who was no wife) to bear him children, who were reckoned hers. She remained mistress of her maid and might degrade her to slavery again for insolence, but could not sell her if she had borne her husband children. If the wife did this, the Code did not allow the husband to take a concubine. If she would not, he could do so. The concubine was a wife, though not of the same rank; the first wife had no power over her. A concubine was a free woman, was often dowered for marriage and her children were legitimate. She could only be divorced on the same conditions as a wife. If a wife became a chronic invalid, the husband was bound to maintain her in the home they had made together, unless she preferred to take her dowry and go back to her father's house; but he was free to remarry. In all these cases the children were legitimate and legal heirs.

There was, of course, no hindrance to a man having children by a slave girl. These children were free, in any case, and their mother could not be sold, though she might be pledged, and she was free on her master's death. These children could be legitimized by their father's acknowledgment before witnesses, and were often adopted. They then ranked equally in sharing their father's estate, but if not adopted, the wife's children divided and took first choice.

Vestal virgins were not supposed to have children, yet they could and often did marry. The Code contemplated that such a wife would give a husband a maid as above. Free women might marry slaves and be dowered for the marriage. The children were free, and at the slave's death the wife took her dowry and half what she and her husband had acquired in wedlock for self and children; the master taking the other half as his slave's heir.

A father had control over his children till their marriage. He had a right to their labour in return for their keep. He might hire them out and receive their wages, pledge them for debt, even sell them outright. Mothers had the same rights in the absence of the father; even elder brothers when both parents were dead. A father had no claim on his married children for support, but they

retained a right to inherit on his death.

The daughter was not only in her father's power to be given in marriage, but he might dedicate her to the service of some god as a vestal or a hierodule; or give her as a concubine. She had no choice in these matters, which were often decided in her childhood. A grown-up daughter might wish to become a votary, perhaps in preference to an uncongenial marriage, and it seems that her father could not refuse her wish. In all these cases the father might dower her. If he did not, on his death the brothers were bound to do so, giving her a full child's share if a wife, a concubine or a vestal, but one-third of a child's share if she were a hierodule or a Marduk priestess. The latter had the privilege of exemption from state dues and absolute disposal of her property. All other daughters had only a life interest in their dowry, which reverted to their family, if childless, or went to their children if they had any. A father might, however, execute a deed granting a daughter power to leave her property to a favourite brother or sister. A daughter's estate was usually managed for her by her brothers, but if they did not satisfy her, she could appoint a steward. If she married, her husband managed it.

The son also appears to have received his share on marriage, but did not always then leave his father's house; he might bring his wife there. This was usual in child marriages.

Adoption was very common, especially where the father (or mother) was childless or had seen all his children grow up and marry away. The child was then adopted to care for the parents' old age. This was done by contract, which usually specified what the parent had to leave and what maintenance was expected. The real children, if any, were usually consenting parties to an arrangement which cut off their expectations. They even, in some cases, found the estate for the adopted child who was to relieve them of a care. If the adopted child failed to carry out the filial duty the contract was annulled in the law courts. Slaves were often adopted and if they proved unfilial were reduced to slavery again.

A craftsman often adopted a son to learn the craft. He profited by the son's labour. If he failed to teach his son the craft, that son could prosecute him and get the contract annulled. This was a form of apprenticeship, and it is not clear that the apprentice had any filial relation.

A man who adopted a son, and afterwards married and had a family of his own, could dissolve the contract but must give the adopted child one-third of a child's share in goods, but no real estate. That could only descend in the family to which he had ceased to belong. Vestals frequently adopted daughters, usually other vestals, to care for their old age.

Adoption had to be with consent of the real parents, who usually executed a deed making over the child, who thus ceased to have any claim upon them. But vestals, hierodules, certain palace officials and slaves had no rights over their children and could raise no obstacle. Foundlings and illegitimate children had no parents to object. If the adopted child discovered his true parents and wanted to return to them, his eye or tongue was torn out. An adopted child was a full heir, the contract might even assign him the position of eldest son. Usually he was residuary legatee.

All legitimate children shared equally in the father's estate at his death, reservation being made of a bride-price for an unmarried son, dower for a daughter or property deeded to favourite children by the father. There was no birthright attaching to the position of eldest son, but he usually acted as executor and after considering what each had already received equalized the shares. He even made grants in excess to the others from his own share. When there were two mothers, the two families shared equally in the father's estate until later times when the first family took two-thirds. Daughters, in the absence of sons, had sons' rights. Children also shared their own mother's property, but had no share in that of a stepmother.

A father could disinherit a son in early times without restriction, but the Code insisted upon judicial consent and that only for repeated unfilial conduct. In early times the son who denied his
[v.03 p.0120] father had his front hair shorn, a slave-mark put on him, and could be sold as a slave; while if he denied his mother he had his front hair shorn, was driven round the city as an example and expelled his home, but not degraded to slavery.

Adultery was punished with the death of both parties by drowning, but if the husband was willing to pardon his wife, the king might intervene to pardon the paramour. For incest with his own mother, both were burned to death; with a stepmother, the man was disinherited; with a daughter, the man was exiled; with a daughter-in-law, he was drowned; with a son's betrothed, he was fined. A wife who for her lover's sake procured her husband's death was gibbeted. A betrothed girl, seduced by her prospective father-in-law, took her dowry and returned to her family, and was free to marry as she chose.

In the criminal law the ruling principle was the *lex talionis*. Eye for eye, tooth for tooth, limb for limb was the penalty for assault upon an *amelu*. A sort of symbolic retaliation was the punishment of the offending member, seen in the cutting off the hand that struck a father or stole a trust; in cutting off the breast of a wet-nurse who substituted a changeling for the child entrusted to her; in the loss of the tongue that denied father or mother (in the Elamite contracts the same penalty was inflicted for perjury); in the loss of the eye that pried into forbidden secrets. The loss of the surgeon's hand that caused loss of life or limb; or the brander's hand that obliterated a slave's identification mark, are very similar. The slave, who struck a freeman or denied his master, lost an ear, the organ of hearing and symbol of obedience. To bring another into danger of death by false accusation was punished by death. To cause loss of liberty or property by false witness was punished by the penalty the perjurer sought to bring upon another.

The death penalty was freely awarded for theft and other crimes regarded as coming under that head; for theft involving entrance of palace or temple treasury, for illegal purchase from minor or slave, for selling stolen goods or receiving the same, for common theft in the open (in default of multiple restoration) or receiving the same, for false claim to goods, for kidnapping, for assisting or harbouring fugitive slaves, for detaining or appropriating same, for brigandage, for fraudulent sale of drink, for disorderly conduct of tavern, for delegation of personal service, for misappropriating the levy, for oppression of feudal holders, for causing death of a householder by bad building. The manner of death is not specified in these cases. This death penalty was also fixed for such conduct as placed another in danger of death. A specified form of death penalty occurs in the following cases: gibbeting (on the spot where crime was committed) for burglary, later also for encroaching on the king's highway, for getting a slave-brand obliterated, for procuring husband's death; burning for incest with own mother, for vestal entering or opening tavern, for theft at fire (on the spot); drowning for adultery, rape of betrothed maiden, bigamy, bad conduct as wife, seduction of daughter-in-law.

A curious extension of the *talio* is the death of creditor's son for his father's having caused the death of debtor's son as mancipium; of builder's son for his father's causing the death of house-owner's son by building the house badly; the death of a man's daughter because her father caused the death of another man's daughter.

The contracts naturally do not concern such criminal cases as the above, as a rule, but marriage contracts do specify death by strangling, drowning, precipitation from a tower or pinnacle of the temple or by the iron sword for a wife's repudiation of her husband. We are quite without evidence as to the executive in all these cases.

Exile was inflicted for incest with a daughter; disinheritance for incest with a stepmother or for repeated unfilial conduct. Sixty strokes of an ox-hide scourge were awarded for a brutal assault on a superior, both being *amelu*. Branding (perhaps the equivalent of degradation to slavery) was the penalty for slander of a married woman or vestal. Deprivation of office in perpetuity fell upon the corrupt judge. Enslavement befell the extravagant wife and unfilial children. Imprisonment was common, but is not recognized by the Code.

The commonest of all penalties was a fine. This is awarded by the Code for corporal injuries to a *muskinu* or slave (paid to his master); for damages done to property, for breach of contract. The restoration of goods appropriated, illegally bought, or damaged by neglect, was usually accompanied by a fine, giving it the form of multiple restoration. This might be double, treble, fourfold, fivefold, sixfold, tenfold, twelvefold, even thirtyfold, according to the enormity of the offence.

The Code recognized the importance of intention. A man who killed another in a quarrel must swear he did not do so intentionally, and was then only fined according to the rank of the deceased. The Code does not say what would be the penalty of murder, but death is so often awarded where death is caused that we can hardly doubt that the murderer was put to death. If the assault only led to injury and was unintentional, the assailant in a quarrel had to pay the doctor's fees. A brander, induced to remove a slave's identification mark, could swear to his ignorance and was free. The owner of an ox which gored a man on the street was only responsible for damages if the ox was known by him to be vicious, even if it caused death. If the mancipium died a natural death under the creditor's hand, the creditor was scot free. In ordinary cases responsibility was not demanded for accident or for more than proper care. Poverty excused bigamy on the part of a deserted wife.

On the other hand carelessness and neglect were severely punished, as in the case of the unskilful physician, if it led to loss of life or limb his hands were cut off, a slave had to be replaced, the loss of his eye paid for to half his value; a veterinary surgeon who caused the death of an ox or ass paid quarter value; a builder, whose careless workmanship caused death, lost his life or paid for it by the death of his child, replaced slave or goods, and in any case had to rebuild the house or make good any damages due to defective building and repair the defect as well. The boat-builder had to make good any defect of construction or damage due to it for a year's warranty.

Throughout the Code respect is paid to status.

Suspicion was not enough. The criminal must be taken in the act, *e.g.* the adulterer, ravisher, &c. A man could not be convicted of theft unless the goods were found in his possession.

In the case of a lawsuit the plaintiff preferred his own plea. There is no trace of professional advocates, but the plea had to be in writing and the notary doubtless assisted in the drafting of it. The judge saw the plea, called the other parties before him and sent for the witnesses. If these were not at hand he might adjourn the case for their production, specifying a time up to six months. Guarantees might be entered into to produce the witnesses on a fixed day. The more important cases, especially those involving life and death, were tried by a bench of judges. With the judges were associated a body of elders, who shared in the decision, but whose exact function is not yet clear. Agreements, declarations and non-contentious cases are usually witnessed by one judge and twelve elders.

Parties and witnesses were put on oath. The penalty for false witness was usually that which would have been awarded the convicted criminal. In matters beyond the knowledge of men, as the guilt or innocence of an alleged wizard or a suspected wife, the ordeal by water was used.

The accused jumped into the sacred river, and the innocent swam while the guilty drowned. The accused could clear himself by oath where his own knowledge was alone available. The plaintiff could swear to his loss by brigands, as to goods claimed, the price paid for a slave purchased abroad or the sum due to him. But great stress was laid on the production of written evidence. It was a serious thing to lose a document. The judges might be satisfied of its existence and terms by the evidence of the witnesses to it, and then issue an order that whenever found it should be given up. Contracts annulled were ordered to be broken. The court might go a journey to view the property and even take with them the sacred symbols on which oath was made.

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The decision given was embodied in writing, sealed and witnessed by the judges, the elders, witnesses and a scribe. Women might act in all these capacities. The parties swore an oath, embodied in the document, to observe its stipulations. Each took a copy and one was held by the scribe to be stored in the archives.

Appeal to the king was allowed and is well attested. The judges at Babylon seem to have formed a superior court to those of provincial towns, but a defendant might elect to answer the charge before the local court and refuse to plead at Babylon.

Finally, it may be noted that many immoral acts, such as the use of false weights, lying, &c., which could not be brought into court, are severely denounced in the Omen Tablets as likely to bring the offender into "the hand of God" as opposed to "the hand of the king."

BIBLIOGRAPHY.—Contracts in general: Oppert and Menant, *Documents juridiques de l'Assyrie et de la Chaldée* (Paris, 1877); J. Kohler and F. E. Peiser, *Aus dem babylonischen Rechtsleben* (Leipzig, 1890 ff.); F. E. Peiser, *Babylonische Vertrage* (Berlin, 1890), *Keilinschriftliche Actenstücke* (Berlin, 1889); Br. Meissner, *Beiträge zur altbabylonischen Privatrecht* (Leipzig, 1893); F. E. Peiser, "Texte juristischen und geschäftlichen Inhalts," vol. iv. of Schrader's *Keilinschriftliche Bibliothek* (Berlin, 1896); C. H. W. Johns, *Assyrian Deeds and Documents relating to the Transfer of Property* (3 vols., Cambridge, 1898); H. Radau, *Early Babylonian History* (New York, 1900); C. H. W. Johns, *Babylonian and Assyrian Laws, Contracts and Letters* (Edinburgh, 1904). For editions of texts and the innumerable articles in scientific journals see the bibliographies and references in the above works. "The Code of Hammurabi," *Editio princeps*, by V. Scheil in tome iv. of the *Textes Elamites-Semitiques* of the *Mémoires de la délégation en Perse* (Paris, 1902); H. Winckler, "Die Gesetze Hammurabis Königs von Babylon um 2250 v. Chr." *Der alte Orient*, iv. Jahrgang, Heft 4; D. H. Müller, *Die Gesetze Hammurabis* (Vienna, 1903); J. Kohler and F. E. Peiser, *Hammurabis Gesetz* (Leipzig, 1904); R. F. Harper, *The Code of Hammurabi, King of Babylon about 2250 B.C.* (Chicago, 1904); S. A. Cook, *The Laws of Moses and the Code of Hammurabi* (London, 1903).

(C. H. W. J.)

[1] For the transliteration of Babylonian and Assyrian names generally, see BABYLONIA AND ASSYRIA, section ix., *Proper Names*.

BACAU, the capital of the department of Bacau, Rumania; situated among the foothills of the Carpathian Mountains, and on the river Bistritza, which enters the river Sereth 5 m. S. Pop. (1900) 16,187, including 7850 Jews. Although of modern growth, Bacau is one of the chief commercial centres in Moldavia, possessing many large timber yards. It is on the main railway from Czernovitz, in Bukovina, to Galatz; and on two branch lines, one of which enters Transylvania through the Ghimesh Pass, while both give access to the salt mines, petroleum wells and forests of the Carpathians.

BACCARAT, a gambling card-game (origin of name unknown), supposed to have been introduced into France from Italy during the reign of Charles VIII. There are two accepted varieties of the game—*baccarat chemin de fer* (railway) and *baccarat banque* (or *à deux tableaux*). In *baccarat chemin de fer* six full packs of cards are used. These are shuffled by a croupier and then by any of the players who wish to do so. From three to eleven persons may play. Counters are generally used and are sold by the banker who afterwards redeems them. The croupier takes a number of cards from the top of the pack and passes them to the player on his right (sometimes left) who becomes banker, a position which he holds until he loses, when the deal passes to the player next in order. The other players are called *punters*. The banker places before him the sum he wishes to stake and the punters do likewise, unless a punter desires to *go bank*, signifying his intention by saying, *Banco!* In this case he plays against the entire stake of the banker. After the stakes have been made the dealer deals a card to his right for the punters, then one to himself, then a third to his left for the punters and, finally, another to himself, all face downwards. Court cards and tens count nothing; all others the number of their pips. Each punter looks at his cards, and any one having 8 or 9 turns his card up and announces it, the hand then being at an end. The player having the highest stake plays for both punters, and if the card turned is better than that of the banker, the latter pays each punter the amount of his stake. If not, the banker wins all stakes and the game proceeds as before. If no announcement is made, meaning that neither player holds 8 or 9, the banker deals another card to the player on his right, who, if his first card is 6 or 7, will refuse it, fearing to overrun. The second card is turned face upwards on the table. If his card is 5 he may, or may not, accept the second card, according to his judgment. In case of his refusal the card is offered to the second punter. If the first card is *baccarat* (*i.e.* amounts to 0) or 1, 2, 3 or 4, a punter always accepts the second card. The banker then decides whether he will draw another card himself or expose his original ones, and when he has made his play pays or receives according as he wins or loses. Ties neither win nor lose but go

over to the next deal. A player who has lost on *going bank* may go bank again, but no player may go bank more than twice in succession. In the variation *baccarat banque* (or *à deux tableaux*), three packs of cards are used and the banker is permanent; the player who offers to risk the largest amount occupying the position. A line is drawn across the table and any one wishing to do so may place his stake *à cheval*, *i.e.* on the line. Stakes so placed neither win nor lose if one side wins and the other loses, but win if both sides win and are lost if both sides lose. The laws of baccarat are complicated and no one code is accepted as authoritative, the different clubs making their own rules.

See Badoureau, *Étude mathématique sur le jeu de baccarat* (Paris, 1881); L. Billard, *Bréviaire du baccara expérimental* (Paris, 1883).

BACCHANALIA, the Lat. name for the wild and mystic festivals of Bacchus (Dionysus). They were introduced into Rome from lower Italy by way of Etruria, and held in secret, attended by women only, on three days in the year in the grove of Simila (*Stimula*, *Semele*; Ovid, *Fasti*, vi. 503), near the Aventine hill. Subsequently, admission to the rites were extended to men and celebrations took place five times a month. The evil reputation of these festivals, at which the grossest debaucheries took place, and all kinds of crimes and political conspiracies were supposed to be planned, led in 186 B.C. to a decree of the senate—the so-called *Senatus consultum de Bacchanalibus*, inscribed on a bronze tablet discovered in Calabria (1640), now at Vienna—by which the Bacchanalia were prohibited throughout the whole of Italy, except in certain special cases, in which the senate reserved the right of allowing them, subject to certain restrictions. But, in spite of the severe punishment inflicted upon those who were found to be implicated in the criminal practices disclosed by state investigation, the Bacchanalia were not stamped out, at any rate in the south of Italy, for a very long time (Livy xxxix. 8-19, 41; xl. 19).

BACCHYLIDES, Greek lyric poet, was born at Iulis, in the island of Ceos. His father's name was probably Meidon; his mother was a sister of Simonides, himself a native of Iulis. Eusebius says that Bacchylides "flourished" (ἤκμαζεν) in Ol. 78. 2 (467 B.C.). As the term ἤκμαζεν refers to the physical prime, and was commonly placed at about the fortieth year, we may suppose that Bacchylides was born *circa* 507 B.C. Among his Odes the earliest that can be approximately dated is xii.,[1] which may belong to 481 or 479 B.C.; the latest is vi., of which the date is fixed by the recently found fragment of the Olympic register to Ol. 82. 1 (452 B.C.). He would thus have been some forty-nine years younger than his uncle Simonides, and some fifteen years younger than Pindar. Elsewhere Eusebius states that Bacchylides "was of repute" (ἐγνωρίζετο) in Ol. 87. 2 (431 B.C.); and Georgius Syncellus, using the same word, gives Ol. 88 (428-425 B.C.). The phrase would mean that he was then in the fulness of years and of fame. There is nothing improbable in the supposition that he survived the beginning of the Peloponnesian war.

Bacchylides, like Simonides and Pindar, visited the court of Hiero I. of Syracuse (478-467). In his fifth Ode (476 B.C.), the word ξένος (v. 11) has been taken to mean that he had already been the guest of the prince; and, as Simonides went to Sicily in or about 477 B.C., that is not unlikely. Ode iii. (468 B.C.) was possibly written at Syracuse, as verses 15 and 16 suggest. He there pays a high compliment to Hiero's taste in poetry (ver. 3 ff.). A scholium on *Pyth.* ii. 90 (166) avers that Hiero preferred the Odes of Bacchylides to those of Pindar. The Alexandrian scholars interpreted a number of passages in Pindar as hostile allusions to Bacchylides or Simonides. If the scholiasts
[v.03 p.0122] are right, it would appear that Pindar regarded the younger of the two Cean poets as a jealous rival, who disparaged him to their common patron (schol. *Pyth.* ii. 52 f.), and as one whose poetical skill was due to study rather than to genius (*Ol.* ii. 91-110). In *Olymp.* ii. 96 the dual γαρύετον, if it does not refer to the uncle and nephew, remains mysterious; nor does it admit of probable emendation.[2] One would gladly reject this tradition, to which the scholia so frequently refer; yet it would be rash to assume that it rested merely on surmise. The Alexandrians may have possessed evidence on the subject which is now lost. It is tolerably certain that the three poets were visitors at Hiero's court at about the same time: Pindar and Bacchylides wrote odes of the same kind in his honour; and there was a tradition that he preferred the younger poet. There is thus no intrinsic improbability in the hypothesis that Pindar's haughty spirit had suffered, or imagined, some mortification. It is noteworthy that, whereas in 476 and 470 both he and Bacchylides celebrated Hiero's victories, in 468 (the most important occasion of all) Bacchylides alone was commissioned to do so; although in that year Pindar composed an ode (*Olymp.* vi.) for another Syracusan victor at the same festival. Nor is it difficult to conceive that a despot such as Hiero, whose constitutional position was ill-defined, and who was perhaps all the more exigent of deference on that account, may have found the genial Ionian a more agreeable courtier than Pindar, an aristocrat of the Boeoto-Aeolic type, not unmindful of "his fathers the Aegidae," and rather prone to link the praises of his patron with a lofty intimation of his own claims (see, *e.g.*, *Olymp.* i. *ad fin.*). But, whatever may have been the true bearing of Pindar's occasional innuendoes, it is at any rate pleasant to find that in the extant work of Bacchylides there is not the faintest semblance of hostile allusion to any rival. Nay, one might almost imagine a compliment to Pindar, when, in mentioning Hesiod, he calls him Βοιωτὸς ἀνήρ.

Plutarch (*de Exilio*, p. 605 c) names Bacchylides in a list of writers, who after they had been banished from their native cities, were active and successful in literature. It was Peloponnesus that afforded a new home to the exiled poet. The passage gives no clue to date or circumstance; but it implies that Peloponnesus was the region where the poet's genius ripened and where he did the work which established his fame. This points to a residence of considerable length; and it may be noted that some of the poems illustrate their author's intimate knowledge of Peloponnesus. Thus in Ode viii., for Automedes of Phlius, he draws on the legends connected with

the Phliasian river Asopus. In Ode x., starting from the Argive legend of Proetus and Acrisius, he tells how the Arcadian cult of Artemis Ἠμέρα was founded. In one of his dithyrambs (xix.) he treated the legend of Idas (a Messenian hero) and Marpessa in the form of a *hymenaeus* sung by maidens of Sparta.

The Alexandrian scholars, who drew up select lists of the best writers in each kind, included Bacchylides in their "canon" of the nine lyric poets, along with Alcman, Sappho, Alcaeus, Stesichorus, Ibycus, Anacreon, Simonides and Pindar. The Alexandrian grammarian Didymus (*circ.* 30 B.C.) wrote a commentary on the epinikian odes of Bacchylides. Horace, a poet in some respects of kindred genius, was a student of his works, and imitated him (according to Porphyrion) in *Odes*, i. 15, where Nereus predicts the destruction of Troy. Quotations from Bacchylides, or references to him, occur in Dionysius of Halicarnassus, Strabo, Plutarch, Stobaeus, Athenaeus, Aulus Gellius, Zenobius, Hephaestion, Clement of Alexandria, and various grammarians or scholiasts. Ammianus Marcellinus (xxv. 4) says that the emperor Julian enjoyed reading Bacchylides. It is clear, then, that this poet continued to be popular during at least the first four centuries of our era. No inference adverse to his repute can fairly be drawn from the fact that no mention of him occurs in the extant work of any Attic writer. The only definite estimate of him by an ancient critic occurs in the treatise Περὶ Ὕψους commonly translated "On the Sublime," but meaning rather, "On the Sources of Elevation in Style"; a work ambiguously ascribed to Cassius Longinus (*circ.* A.D. 260), but more probably due to some writer of the first century of our era. In chapter xxxiii. of that treatise, the author asks whether we ought to prefer "greatness" in literature, with some attendant faults, to flawless merit on a lower level, and of course replies in the affirmative. In tragedy, he asks, who would be Ion of Chios rather than Sophocles; or in lyric poetry, Bacchylides rather than Pindar? Yet Bacchylides and Ion are "faultless, with a style of perfect elegance and finish." In short, the essayist regards Bacchylides as a thoroughly finished poet of the second class, who never commits glaring faults, but never reaches the loftier heights.

The first and most general quality of style in Bacchylides is his perfect simplicity and clearness. Where the text is not corrupt, there are few sentences which are not lucid in meaning and simple in structure. This lucidity is partly due, no doubt, to the fact that he seldom attempts imagery of the bolder kind, and never has thoughts of a subtle or complex order. Yet it would be very unjust to regard such clearness as merely a compensatory merit of lyric mediocrity, or to ignore its intimate connexion with the man's native grace of mind, with the artist's feeling for expression, with the poet's delicate skill. How many readers, who could enjoy and appreciate Pindar if he were less difficult, are stopped on the threshold by the aspect of his style, and are fain to save their self-esteem by concluding that he is at once turgid and shallow! A pellucid style must always have been a source of wide, though modest, popularity for Bacchylides. If it be true that Hiero preferred him to Pindar, and that he was a favourite with Julian, those instances suggest the charm which he must always have had for cultivated readers to whom affairs did not leave much leisure for study, and who rejoiced in a poet with whom they could live on such easy terms.

Another prominent trait in the style of Bacchylides is his love of picturesque detail. This characteristic marks the fragment by which, before the discovery of the 1896 MS., he was best known—a passage, from one of his paeans, on the blessings of peace (fr. 13, Bergk, 3, Jebb); and it frequently appears in the Odes, especially in the mythical narratives. Greater poets can make an image flash upon the mind, as Pindar sometimes does, by a magic phrase, or by throwing one or two salient points into strong relief. The method of Bacchylides is usually quieter; he paints cabinet pictures. Observation and elegance do more for him than grasp or piercing insight; but his work is often of very high excellence in its own kind. His treatment of simile is only a special phase of this general tendency. It is exemplified by the touches with which he elaborates the simile of the eagle in Ode v., and that of the storm-tossed mariners in Ode xii. This full development of simile is Homeric in manner, but not Homeric in motive: Homer's aim is vividness; Bacchylides is rather intent on the decorative value of the details themselves. There are occasional flashes of brilliancy in his imagery, when it is lit up by his keen sense of beauty or splendour in external nature. A radiance, "as of fire," streams from the forms of the Nereids (xvi. 103 ff.). An athlete shines out among his fellows like "the bright moon of the mid-month night" among the stars (viii. 27 ff.). The sudden gleam of hope which comes to the Trojans by the withdrawal of Achilles is like a ray of sunshine "from beneath the edge of a storm-cloud" (xii. 105 ff.). The shades of the departed, as seen by Heracles on the banks of the Cocytus, are compared to the countless leaves fluttering in the wind on "the gleaming headlands of Ida" (v. 65 ff.)—an image not unworthy of Dante or of Milton.

Among the minor features of this poet's style the most remarkable is his use of epithets. A god or goddess nearly always receives some ornamental epithet; sometimes, indeed, two or even three (*e.g.* καλυκοστεφάνου σεμνᾶς ... Ἀρτεμίδος λευκωλένου, v. 98 f.). Such a trait is in unison with the epic manner, the straightforward narrative, which we find in some of the larger poems (as in v., x., and xvi.). On the other hand, the copious use of such ornament has the disadvantage that it sometimes gives a tinge of conventionality to his work. This impression is somewhat strengthened by the fact that many of the epithets are long compound words, not found elsewhere and (in some cases at least) probably invented by the poet; words which suggest a deliberate effort to vary the stock repertory.

[v.03 p.0123]

The poems contained in the MS. of Bacchylides found (see below) in 1896 are of two classes: I. *Odes of Victory*; II. *Dithyrambs*. The Ode of Victory, ἐπινίκιον (μέλος) or ἐπίνικος (ὕμνος), is a form derived from the ὕμνος, which was properly a song in praise of a deity. Stesichorus (*c.* 610

B.C.) seems to have been the first who composed hymns in honour, not of gods, but of heroes; the next step was to write hymns in celebration of victories by living men. This custom arose in the second half of the 6th century B.C., the age in which the games at the four great Greek festivals reached the fulness of their popularity. Simonides (b. *c*. 556 B.C.) was the earliest recorded writer of *epinikia*. His odes of this class are now represented only by a few very small fragments, some twenty lines in all. Two of these fragments, belonging to the description of a chariot-race, warrant the belief that Simonides, in his epinikia, differed from Pindar in dwelling more on the incidents of the particular victory. The same characteristic is found in the epinikia of Bacchylides. His fifth ode, and Pindar's first *Olympian*, alike celebrate the victory of the horse Pherenicus; but, while Pindar's reference to the race itself is slight and general (vv. 20-22), Bacchylides describes the running of the winner much more vividly and fully (vv. 37-49).

The MS. contains fourteen epinikia, or thirteen if Blass be right in supposing that Odes vi. and vii., as numbered by Kenyon in the *editio princeps*, are parts of a single ode (for Lachon of Ceos). Four (or on the view just stated, three) of the odes relate to the Olympian festival; two to the Pythian; three to the Isthmian; three to the Nemean; and one to a Thessalian festival called the Πετραῖα. This comes last. The order in which the MS. arranges the other epinikia seems to be casual; at least it does not follow (1) the alphabetical sequence of the victors' names, or of the names of their cities; nor (2) chronological sequence; nor (3) classification by contests; nor (4) classification by festivals—except that the four great festivals precede the *Petraea*. The first ode, celebrating a victory of the Cean Argeios at the Isthmus, may possibly have been placed there for a biographical reason, viz., because the poet treated in it the early legends of his native island.

A mythical narrative, connected in some way with the victor or his city, usually occupies the central part of the Pindaric ode. It serves to lift the poem into an ideal region, and to invest it with more than a local or temporary significance. The method of Bacchylides in this department of the epinikion is best illustrated by the myth of Croesus in Ode iii., that of Heracles and Meleager in Ode v., and that of the Proetides in Ode x. Pindar's habit is to select certain moments or scenes of a legend, which he depicts with great force and vividness. Bacchylides, on the other hand, has a gentle flow of simple epic narrative; he relies on the interest of the story as a whole, rather than on his power of presenting situations. Another element, always present in the longer odes of victory, is that which may be called the "gnomic." Here, again, there is a contrast between the two poets. Pindar packs his γνῶμαι, his maxims or moral sentiments, into terse and sometimes obscure epigrams; he utters them in a didactic tone, as of one who can speak with the commanding voice of Delphic wisdom. The moralizing of Bacchylides is rather an utterance of quiet meditation, sometimes recalling the strain of Ionian gnomic elegy.

The epinikia of Bacchylides are followed in the MS. by six compositions which the Alexandrians classed under the general name of διθύραμβοι, and which we, too, must be content to describe collectively as *Dithyrambs*. The derivation of δι-θύραμβος is uncertain: δι may be the root seen in δῖος (cp. διπόλια, and θύραμβος another form of θρίαμβος, a word by which Cratinus (*c*. 448 B.C.) denotes some kind of hymn to the wine-god. The "dithyramb," first mentioned by Archilochus (*c*. 670 B.C.), received a finished and choral form from Arion of Lesbos (*c*. 600 B.C.). His dithyrambs, produced at Corinth, belonged to the cult of Dionysus, and the members of his chorus (τραγικὸς χορός) personated satyrs. Originally concerned with the birth of the god, the dithyramb came to deal with all his fortunes: then its scope became still larger; it might celebrate, not Dionysus alone, but any god or hero. This last development had taken place before the close of the 6th century B.C. Simonides wrote a dithyramb on Memnon and Tithonus; Pindar, on Orion and on Heracles. Hence the Alexandrian scholars used διθύραμβος in a wide sense, as denoting simply a lyric poem occupied with a mythical narrative. Thus Ode xvii. of Bacchylides (relating the voyage of Theseus to Crete), though it was clearly a παιάν for the Delian Apollo, was classed by the Alexandrians among his "dithyrambs"—as appears not only from its place in our MS., but also from the allusion of Servius (on *Aen*. vi. 21). The six dithyrambs of Bacchylides are arranged in (approximately) alphabetical order: Ἀντηνορίδαι, Ἡρακλῆς, Ἠίθεοι ἢ Θησεύς, Θησεύς, Ἰώ, Ἴδας. The principal feature, best exemplified by the first and third, is necessarily epic narrative,—often adorned with touches of picturesque detail, and animated by short speeches in the epic manner.

Several other classes of composition are represented by those fragments of Bacchylides, preserved in ancient literature, which were known before the discovery of the new MS. (1) ὕμνοι. Among these we hear of the ἀποπεμπτικοί, hymns of pious farewell, speeding some god on his way at the season when he passed from one haunt to another. (2) παιᾶνες, represented by the well-known fragment on the blessings of peace. (3) προσόδια, choral odes sung during processions to temples. (4) ὑπορχήματα, lively dance-songs for religious festivals. (5) ἐρωτικά, represented by five fragments of a class akin to σκόλια, drinking-songs. Under this head come some lively and humorous verses on the power of wine, imitated by Horace (*Odes*, iii. 21. 13-20). It may be conjectured that the facile grace and bright fancy of Bacchylides were seen to especial advantage in light compositions of this kind. (6) The elegiacs of Bacchylides are represented by two ἐπιγράμματα ἀναθηματικά, each of four lines, in the Palatine Anthology. The first (*Anth*. vi. 313) is an inscription for an offering commemorative of a victory gained by a chorus with a poem written by Bacchylides. The second (*Anth*. vi. 53) is an inscription for a shrine dedicated to Zephyrus. Its authenticity has been questioned, but not disproved.

The papyrus containing the odes of Bacchylides was found in Egypt by natives, and reached the British Museum in the autumn of 1896. It was then in about 200 pieces. By the skill and industry of Mr F. G. Kenyon, the editor of the *editio princeps* (1897), the MS. was reconstructed from these lacerated members. As now arranged, the MS. consists of three sections, (1) The first

section contains 22 columns of writing. It breaks off after the 8 opening verses of Ode xii. (2) The second section contains columns 23-29. Of these, column 23 is represented only by the last letters of two words. This section comprises what remains of Odes xiii. and xiv. It breaks off before the end of xiv., which is the last of the epinikia. (3) The third section comprises columns 30-39. It begins with the mutilated opening verses of Ode xv. (Ἀντηνορίδαι, the first of the dithyrambs), and breaks off after verse 11 of the last dithyramb,Ἴδας. The number of lines in a column varies from 32 to 36, the usual number being 35, or (though less often) 34.

It is impossible to say how much has been lost between the end of column 29 and the beginning of column 30. Probably, however, Ode xiv., if not the last, was nearly the last of the epinikia. It concerns a festival of a merely local character, the Thessalian Πετραῖα, and was therefore placed after the thirteen other epinikia, which are connected with the four great festivals. The same lacuna leaves it doubtful whether any collective title was prefixed to the διθύραμβοι. After the last column (39) of the MS., a good deal has probably been lost. Bacchylides seems to have written at least three other poems of this class (on Cassandra, Laocoon and Philoctetes); and these would have come, in alphabetical order, after the last of the extant six (Idas).

The writing of the MS. is a fine uncial. It presents some traits of a distinctly Ptolemaic type, though it lacks some features found in the earlier Ptolemaic MSS. (those of the 3rd or 2nd century B.C.). Among the characteristic forms of letters is the ϒ, with a shallow curve on the top of the upright; a form found in MSS. ascribed to the 1st century B.C., and different from the more fully formed upsilon of the Roman period. Another very significant letter is the Ξ, written as  , a form which begins to go out after *c.* 50 B.C., giving place to one in which the middle stroke is connected with the other two. From these and other indications it is probable that the MS. is not later than the middle of the 1st century B.C.

The scribe, though he sometimes corrected his own mistakes, was, on the whole, careless of the sense, as of the metre; he seems to have been a mechanical copyist, excellent in penmanship, but
[v.03 p.0124] intent only on the letters. The MS. has received corrections or small supplements from at least two different persons. One of them (Kenyon's A^2) was contemporary, or nearly so, with the scribe. The other (A^3) was considerably later; he wrote a Roman cursive which might belong to the end of the 1st century A.D., or to the early part of the 2nd. The correctors seem to be generally trustworthy; though, like the scribe, they were inattentive to metre, passing over many metrical faults which could easily have been removed. They appear to have compared their MS. with another, or others; but they sometimes made a bad use of such aid, intruding a false reading where their text had the true one.

Breathings are generally added, especially rough breathings; the form is usually square, but sometimes partially rounded. Accents are added, not to all words, but only, as a rule, to those which might cause doubt or difficulty to the reader. This was the Alexandrian practice, accents being regarded as aids to correct reading, and more liberally used when the dialect was not Attic. In accordance with the older system, the accent is not written on the last syllable of a word; when the accent falls there, a grave accent is written on the preceding syllable, or on two such syllables (*e.g.* βλὴχρας, πὰυθὰλης).

As Kenyon observes, no MS. of equal antiquity is so well supplied with accents. The MS. which comes nearest to it in this respect is the Alcman fragment in the Louvre, which is of similar or slightly higher age, belonging perhaps to the early part of the 1st century A.D.; and in that MS. the comparatively frequent accents were doubtless designed to aid readers unfamiliar with Alcman's Laconian Doric. With regard to other grammatical or metrical signs (προσῳδίαι) used in the Bacchylides MS., there is not much that calls for special remark. The punctuation, whether by the scribe or by correctors, is very sparse, and certainly cannot always be regarded as authoritative. The signs denoting the end of a strophe or antistrophe (*paragraphus*), of an epode (*coronis*), or of an ode (*asterisk*), are often omitted by the scribe, and, when employed, are sometimes placed incorrectly, or employed in an irregular manner.

Editions.—F. G. Kenyon, *Ed. princeps* (1897); F. Blass, 3rd ed. (1904); H. Jurenka (1898); N. Festa, text, translation and notes (1898). [The latest edition is by Sir Richard Jebb (1905), with introduction, notes, translation, and bibliography; text only (1906). See also T. Zanghieri, *Studi su Bacchilide, Bibliografia Bacchilidea, 1897-1905* (1905)].

(R. C. J.)

[1] The references are given according to the numbering in Jebb's edition.

[2] For other explanations suggested, see Jebb's edition, Introd. p. 18.

BACCIO D'AGNOLO (*c.* 1460-1543), Florentine wood-carver, sculptor and architect, had the family name of Baglioni, but was always known by the abbreviation of Bartolommeo into Baccio and the use of d'Agnolo as meaning the son of Angelo, his father's name. He started as a wood-carver, and between 1491 and 1502 did much of the decorative carving in the church of Santa Maria Novella and the Palazzo Vecchio in Florence. Having made his reputation as a sculptor he appears to have turned his attention to architecture, and to have studied at Rome, though at what precise date is uncertain; but quite at the beginning of the 16th century he was engaged with Simon Pollajuolo in restoring the Palazzo Vecchio, and in 1506 he was commissioned to complete the drum of the cupola of the metropolitan church of Santa Maria del Fiore. The latter work, however, was interrupted on account of adverse criticisms from Michelangelo, and it remained unexecuted. Baccio d' Agnolo also planned the Villa Borghese and the Bartolini palace,

with other fine palaces and villas. The Bartolini palace was the first house to be given frontispieces of columns to the door and windows, previously confined to churches; and he was ridiculed by the Florentines for his innovation. Another much-admired work by him was the campanile of the church of Santo Spirito. His studio was the resort of the most celebrated artists of the day, Michelangelo, Sansovino, the brothers Sangallo and the young Raphael. He died in 1543, leaving three sons, all architects, the best-known being Giuliano.

BACH, JOHANN SEBASTIAN (1685-1750), German musical composer.

Family.

The Bach family was of importance in the history of music for nearly two hundred years. Four branches of it were known at the beginning of the 16th century, and in 1561 we hear of Hans Bach of Wechmar who is believed to be the father of Veit Bach (born about 1555). The family genealogy, drawn up by J. Sebastian Bach himself and completed by his son Philipp Emanuel, describes Veit Bach as the founder of the family, a baker and a miller, "whose zither must have sounded very pretty among the clattering of the mill-wheels." His son, Hans Bach, "*der Spielmann*," is the first professional musician of the family. Of Hans's large family the second son, Christoph, was the grandfather of Sebastian Bach. Another son, Heinrich, of Arnstadt, had two sons, Johann Michael and Johann Christoph, who are among the greatest of J. S. Bach's forerunners, Johann Christoph being now supposed (although this is still disputed) to be the author of the splendid motet, *Ich lasse dich nicht* ("I wrestle and pray"), formerly ascribed to Sebastian Bach. Another descendant of Veit Bach, Johann Ludwig, was admired more than any other ancestor by Sebastian, who copied twelve of his church cantatas and sometimes added work of his own to them.

The Bach family never left Thuringia until the sons of Sebastian went into a more modern world. Through all the misery of the peasantry at the period of the Thirty Years' War this clan maintained its position and produced musicians who, however local their fame, were among the greatest in Europe. So numerous and so eminent were they that in Erfurt musicians were known as "Bachs," even when there were no longer any members of the family in the town. Sebastian Bach thus inherited the artistic tradition of a united family whose circumstances had deprived them of the distractions of the century of musical fermentation which in the rest of Europe had destroyed polyphonic music.

Biography.

Johann Sebastian Bach was baptized at Eisenach on the 23rd of March 1685. His parents died in his tenth year, and his elder brother, Johann Christoph, organist at Ohrdruf, took charge of him and taught him music. The elder brother is said to have been jealous of Sebastian's talent, and to have forbidden him access to a manuscript volume of works by Froberger, Buxtehude and other great organists. Every night for six months Sebastian got up, put his hand through the lattice of the bookcase, and copied the volume out by moonlight, to the permanent ruin of his eyesight (as is shown by all the extant portraits of him at a later age and by the blindness of his last years). When he had finished, his brother discovered the copy and took it away from him. In 1700 Sebastian, now fifteen and thrown on his own resources by the death of his brother, went to Lüneburg, where his beautiful soprano voice obtained him an appointment at the school of St Michael as chorister. He seems, however, to have worked more at instrumental than at vocal music. Apart from the choristers' routine, his position provided only for his general education, and we know little about his definite musical instructors. In any case he owed his musical development mainly to his own incessant study of classical and contemporary composers, such as Frescobaldi (*c.* 1587), Caspar Kerl (1628-1693), Buxtehude, Froberger, Muffat the elder, Pachelbel and probably Johann Joseph Fux (1660-1741), the author of the *Gradus ad Parnassum* on which all later classical composers were trained. A prettier and no less authentic story than that of his brother's forbidden organ-volume tells how, on his return from one of the many holiday expeditions which Bach made to Hamburg on foot to hear the great Dutch organist Reinken, he sat outside an inn longing for the dinner he could not afford, when two herring-heads were flung out of the window, and he found in each of them a ducat with which he promptly paid his way, not home, but back to Hamburg. At Hamburg, also, Keiser was laying the foundations of German opera on a splendid scale which must have fired Bach's imagination though it never directly influenced his style. On the other hand Keiser's church music was of immense importance in his development. In Celle the famous *Hofkapelle* brought the influence of French music to bear upon Bach's art, an influence which inspired nearly all his works in suite-form and to which his many autograph copies of Couperin's music bear testimony. Indeed, there is no branch of music, from Palestrina onwards, conceivably accessible in Bach's time, of which we do not find specimens carefully copied in his own handwriting. On the other hand, when Bach, at the age of nineteen, became organist at Arnstadt, he found Lübeck within easy distance, and there, in October 1705, he went to hear Buxtehude, whose organ works show so close an affinity to Bach's style that only their lack of coherence as wholes reveals to the attentive listener that with all their nobility they are not by Bach himself. Bach's enthusiasm for Buxtehude caused him to outstay his leave by three months, and this, [v.03 p.0125] together with his habit of astonishing the congregation by the way he harmonized the chorales got him into trouble. But he was already too great an ornament to be lightly dismissed; and though his answers to the complaints of the authorities (every word of which makes amusing reading in the archives of the church) were spirited rather than satisfactory, and the *consistorium* had to add to their complaints the grave scandal of his allowing a "strange maiden" to sing in the church,[1] Bach was able to maintain his position at Arnstadt until he obtained the organistship of St Blasius in Mühlhausen in 1707. Here he married his cousin, easily identified with the "strange maiden" of Arnstadt; and here he wrote his first great church cantatas, *Aus der Tiefe*, *Gott ist mein König* and *Gottes Zeit*.

Bach's mastery of the keyboard attracted universal attention, and prevented his ever being unemployed. In 1708 he went to Weimar where his successes were crowned by his appointment, in 1714, at the age of twenty-nine, as *Hofkonzertmeister* to the duke of Weimar. Here the composition of sacred music was one of his most congenial duties, and the great cantata, *Ich hatte viel Bekümmerniss*, was probably the first work of his new office. In 1717 Bach visited Dresden in the course of a concert tour, and was induced to challenge the arrogant French organist, J. Louis Marchand, who was making himself thoroughly disliked by the German musicians who could not deny his powers. Bach was first given an opportunity of listening secretly to Marchand's playing, then a competition on the organ was proposed, and a day was fixed for the tournament at which all the court and all the musical celebrities of the town were to be present, to see nothing less than the issue between French and German music. Marchand took up the challenge contemptuously, but it would appear that he also was allowed to listen secretly to Bach's playing, for on the day of the tournament the only news of him was that he had left Dresden by the earliest coach.

This triumph was followed by Bach's appointment as *Kapellmeister* to the duke of Cöthen, a post which he held from 1717 to 1723. The Cöthen period is that of Bach's central instrumental works, such as the first book of the *Wohltemperirtes Klavier*, the solo violin and violoncello sonatas, the Brandenburg concertos, and the French and English suites.

In 1723, finding his position at Cöthen uninspiring for choral music, he removed to Leipzig, where he became cantor of the Thomasschule, being still able to retain his post as visiting *Kapellmeister* at Cöthen, besides a similar position at Weissenfels. His wife had died in 1720, leaving seven children, of whom Friedermann and Philipp Emanuel had a great future before them. (For his sons see Bach, K. P. E., below.) In December 1721 Bach married again, and for the beautiful soprano voice of his second wife he wrote many of his most inspired arias. She was a great help to him with all his work, and her musical handwriting soon became so like his own that her copies are difficult to distinguish from his autographs. In 1729 Bach heard that Handel was for a second time visiting Halle on his way back to London from Italy. A former attempt of Bach's to meet Handel had failed, and now he was too ill to travel, so he sent his son to Halle to invite Handel to Leipzig; but the errand was not successful, and much to Bach's disappointment he never met his only compeer. Bach so admired Handel that he made a manuscript copy of his *Passion nach Brockes*. This work, though almost unknown in England then as now, was, next to the oratorios of Keiser, incomparably the finest Passion then accessible, as Graun's beautiful masterpiece, *Der Tod Jesu*, was not composed until four years after Bach's death. The disgusting poem of Brockes (which was set by every German composer of the time) was transformed by Bach with real literary skill as the groundwork of the non-scriptural numbers in his *Passion according to St John*.

All Bach's most colossal achievements, such as the *Passion according to St Matthew* and the *B Minor Mass* (for discussion of which see Oratorio and Mass), date from his cantorship at Leipzig. But, important and congenial as was his position there, and smooth as the course of his life seems to have been until his death in 1750, he must have had quite as much experience as can have been good for him. He was often ruffled by the town councillors of Leipzig, who (like his earlier employers at Arnstadt) were shocked by the "unecclesiastical style" of his compositions and by his independent bearing. But he had more serious troubles. Of his seven children by his first wife only three survived him. By his second wife he had thirteen children, of whom he lost four of the six sons. For the head of so large a family his post was dignified rather than lucrative, and few documents tell a prouder tale of uncomplaining thrift than the inventory of his possessions made after his death. One can only be thankful that he did not live to see anything but the wonderful promise of his son Friedermann, who, in the words of the brilliantly successful K. Philipp Emanuel Bach, was more nearly capable of replacing his father than all the rest of the family together. The prospect of complete loss of the tradition of his own polyphonic art he faced with equanimity, saying of the new style, which in the hands of his own son, Philipp Emanuel, was soon to eclipse it for the next hundred years, "The art has advanced to great heights: the old style of music no longer pleases our modern ears." But it would have broken his heart if he had forseen that Friedermann Bach was to attain a disreputable old age after a dissolute and unproductive life.

The brilliant successes of Philipp Emanuel led to his appointment as court-composer to the king of Prussia and hence, in 1747, to Sebastian's being summoned to visit Frederick the Great at Potsdam, an incident which Bach always regarded as the culmination of his career, much as Dr Johnson regarded his interview with George III. Bach had to play on the numerous newly invented pianofortes of Silbermann which the king had bought, and also to try the organs of the churches of Potsdam. Frederick, whose musical reputation rested on a genuine if narrow basis, gave him a splendid theme on which to extemporize; and on that theme Bach afterwards wrote *Das musikalische Opfer*. Two years after this event his sight began to fail, and before long he shared the fate of Handel in becoming perfectly blind.[2]

Bach died of apoplexy on the 28th of July 1750. His loss was deplored as that of one of the greatest organists and clavier players of his time. Of his compositions comparatively little was known. At his death his MS. works were divided amongst his sons, and many of them have been lost; only a small fraction of his greater works was recovered when, after the lapse of nearly a century, the verdict of his neglectful posterity was reversed by the modern upholders of polyphonic art. Even now some important works are still apparently irrecoverable.

The rediscovery of Bach is closely connected with the name of Mendelssohn, who was amongst

Work and influence.

the first to proclaim by word and deed the powers of a genius too gigantic to be grasped by three generations. By the enthusiastic endeavours of Mendelssohn, Schumann and others, and in England still earlier by the performances and publications of Wesley and Crotch, the circle of Bach's worshippers rapidly increased. In 1850, a century after his death, a society was started for the correct publication of all Bach's remaining works. Robert Franz, the great song-writer, did good service in arranging some of Bach's finest works for modern performance, until the experience of a purer scholarship could prove not only the possibility but the incomparably greater beauty of a strict adherence to Bach's own scoring. The Porson of Bach-scholarship, however, is Wilhelm Rust (grandson of the interesting composer of that name who wrote polyphonic suites and fantasias early in the 19th century). During the fourteen years of his editorship of the *Bach-Gesellschaft* he displayed a steadily increasing insight into Bach's style which has never since been rivalled. In more than one case he has restored harmonies of priceless value from incomplete texts, by means of research and reasoning which he sums up in a modest footnote that reads as something self-evident. His prefaces to the *Bach-Gesellschaft* volumes are perhaps the most valuable contributions to the criticism of 18th-century music ever written, Spitta's great biography not excepted.

[v.03 p.0126] Bach's importance in the history of music cannot be exaggerated. His art, neglected as old-fashioned and crabbed by his younger contemporaries, survived only in certain limited aspects as the subject of a desultory and unintelligent academic study, until its re-discovery by Mendelssohn. And yet, whatever disguise may have been foisted on it by corrupt traditions and ignorance of its idioms, whenever any fragment of it gained the inner ear of a true composer the effect on the history of music was immediate and profound. Indeed his influence is by no means chiefly manifested in the time when his work became known in its larger aspects, though the Bach-revival is very obviously connected with certain tendencies in the "Romantic" movement in music. But, however clear we may consider Bach's claim to the title of "the first of Romanticists," the full influence of his whole work has hardly yet begun to show itself. Schumann died before even such enthusiasts as the editors of the *Bach-Gesellschaft* began to find more beauty than extravagance in Bach's ordinary musical language (see, for example, Hauptmann's letters *passim*, *The Letters of a Leipzig Cantor*, trans. by A. D. Coleridge, London, Novello, Ewer, 1892), or, indeed, to grasp the main features of his designs.[3] The labours of the *Bach-Gesellschaft* have occupied more than fifty years, during which about four-fifths of Bach's choral works have been published for the first time; and it would be surprising if another fifty years sufficed to make these adequately known to the world at large. It is difficult to make an anthology of such bulky works as church-cantatas, nor does an anthology meet the purpose where the whole work so constantly attains that excellence for which the anthologist seeks. Except for practical difficulties (as when Bach writes for obsolete instruments) the only reason why some cantatas are better known than others is that a beginning must be made somewhere. Indeed, a cantata was recently selected, on the ground of its popularity, for a choral competition in a small English country town the year before it was performed as a novelty in Berlin!

It is clear, then, that the influence of Bach's art as an understood whole is still undeveloped. In the past history of music his part was hardly suspected except by the great composers themselves; and, to any one contemplating the art of the generation after him, it might have seemed that both he and Handel had worked in vain. Yet his was the most subtle and universal force in the development of music, even when his musical language seemed hopelessly forgotten. Mozart, when rapidly advancing to the height of his mastery, had but to read the Baron von Swieten's manuscript copies of the motets and of the *Wohltemperirtes Klavier*, and his style, quite apart from his immediate essays in the old art-forms, and apart also from the influence of his study of Handel, developed a new polyphonic richness and depth of harmony which steadily increased until his untimely death. Beethoven studied all the accessible works of Bach profoundly, and frequently quoted them in his sketch-books, often with a direct bearing on his own works. His rendering of the *Wohltemperirtes Klavier* is said to be recorded in the marks of expression and *tempo* given in Czerny's edition; and if that record is true, Beethoven must have been completely in the dark as to Bach's meaning in many important respects; but art is full of such illustrations of the way in which great minds influence each other in spite of every barrier which diversity of language and time can set. Beethoven's great Thirty-three Variations on a Waltz by Diabelli were actually described in the publisher's puff as worthy of their kinship with the "Goldberg Variations" of Bach; and that kinship is revealed in its truest light by a comparison between Beethoven's 31st variation and Bach's 25th; for here, just where the resemblance is most obvious, each composer utters his most intimate expression of feeling.

In the same way, Chopin is nowhere more characteristic than where he shows his love of the *Wohltemperirtes Klavier* in his Études and Preludes; and so subtle is the influence of polyphonic style even over a writer so little apt to make direct use of it as Chopin, that one of Schumann's few plagiarisms occurs in his use of a phrase from Chopin's F minor Étude (written for the *Méthode des méthodes*) as the subject of a fugue (Op. 72, No. 3). And, apart from fugues, which Schumann cultivated assiduously at a late stage in his career, the influence of Bach pervades the texture and rhythm of his work in more ways than can easily be followed.

In a more external, but not less significant way, the *Passion according to St Matthew* made its mark on Mendelssohn from the time when he discovered it at the age of twelve, and suggested to him many features in the general design of oratorios, by means of which he rescued that branch of art from the operatic influences that ruined Beethoven's *Mount of Olives*. Without the example of Bach, Wagner's schemes of *Leitmotif* would never in his lifetime have become woven into that close polyphonic texture which secures for his music a flow as continuous as that of drama itself:

—and intimately connected with this is the whole subject of Wagner's harmonization, which in many of its boldest characteristics was foreshadowed by Bach. A close study of the texture of Brahms's work shows that he develops Bach's and Beethoven's artistic devices *pari passu*, and that the result is a complete unification of that opposition between polyphony and form which in the infancy of the sonata (as in every transitional stage in musical history) threatened to wreck the art as a false antithesis wrecks a philosophy. Perhaps the only great composers who escaped the direct influence of Bach are Gluck and Berlioz. Even Gluck reproduced in every detail of harmony and figure the first twelve bars of the *Gigue* of Bach's B flat Clavier-Partita in the aria "Je t'implore et je tremble" in *Iphigénie en Tauride*. But plagiarism, however unconscious, is a very different thing from that profound indebtedness which makes a great man attain his truest originality; and Gluck's training practically deprived him of Bach's direct influence, useful as that would have been to the attainment of his aims in harmonic and choral expression. The indirect influence no one could escape, for whatever in modern music is not traceable to Sebastian Bach is traceable to his sons, who were encouraged by their father in the cultivation of those infant art-forms which were so soon to dazzle the world into the belief that his own work was obsolete.

Bach's place in music is thus far higher than that of a reformer, or even of an inventor of new forms. He is a spectator of all musical time and existence, to whom it is not of the smallest importance whether a thing be new or old, so long as it is true. It is doubtful whether even the forms most peculiar to him (such as the arpeggio-prelude) are of his invention. Yet he left no form as he found it,—not even that most conventional of all, the Da Capo Aria, which he did not outwardly alter in the least. On the other hand, with every form he touched he said the last word. All the material that could be assimilated into a mature art he vitalized in his own way, and he had no imitators. The language of music changed at his death, and his influence became all-pervading just because he was not the prophet of the new art, but an unbiassed seeker of truth. Whether so great a man becomes "progressive" or "reactionary" depends on the artistic resources of his time. He will always work at the kind of art that is most complete and consistent in all its aspects. The same spirit of truthfulness that makes Sebastian Bach hold himself aloof from the progressive art which he encourages in his sons, drives Beethoven to invent new forms and new means of expression with every work he writes. Gluck abolished the Da Capo Aria, because it was unfit for dramatic music. Bach did not abolish it, because he did not intend to write dramatic music in the strict sense of the term. Mature musical art in Bach's time could not be dramatic, except in the loose sense in which the term may be applied to an epic poem. Dramatic expression, properly so called, can only be attained in music by the full development of resources that do not blend with those of Bach's art at all. Meanwhile there are many things unsuitable for the stage which are nevertheless valuable on purely musical grounds; and the Da
[v.03 p.0127] Capo Aria was one. Bach developed it in a great variety of ways, while retaining even the minor details of what in other hands had long before become its conventional form; but the one thing he did not do was to abuse it according to time-honoured custom as the staple form for opera. For that he had too much dramatic insight. His treatment of other important art-forms is illustrated in the articles on Contrapuntal Forms; Concerto and Instrumentation. Here we may attempt to illustrate his methods by such forms and characteristics as cannot be classified under those headings.

Illustrations of Bach's method.

1. The toccatas of Buxtehude and his predecessors show how an effective musical scheme may be suggested by running over the keyboard of an organ as if to try (*toccare*) the touch, then bursting out into sustained and full harmony, and at last settling down to a fugue. But before Bach no one seemed able to keep the fugue in motion long enough to make a convincing climax. Very soon it collapsed and the process of quasi-extemporization began again, to culminate in a new fugue which often gave the whole work a happy but deceptive suggestion of organic unity by being founded on an ingenious variation of the subject of the first fugue. But in Bach's hands the toccata becomes one of the noblest and most plastic of forms. The introductory runs may be disjointed and exaggerated to grotesqueness, until the gaps between them gradually fill out, and they build themselves up into grand piles of musical architecture, as in the organ toccata in C; or they may be worked out on an enormous scale in long and smooth canonic passages with a definite theme, as in the greatest of all toccatas, that in F for organ, which is most artistically followed by a fugue unusually quiet for its size. In one instance, the toccata at the beginning of the E minor clavier-partita, the introductory runs, though retaining much of the extempore character from which the form derives its name, take shape in a highly organized and rounded-off group of contrasted themes. The fugue follows without change of time, and is developed in so leisurely a manner that it is fully as long as a normal fugue on a large scale by the time it reaches what sounds like its central episode. At this point some of the introductory matter quietly enters, and leads to a recapitulation of the whole introduction in the key now reached. The obvious sequel would be a counter-development of the fugue, at least as long as what has gone before, as in the clavier-toccata in C minor; but Bach does not choose to weary the hearer and weaken the impression of breadth he has already made here. Instead, he expands this restatement of the introduction, and makes its harmonies deliberately return to the fundamental key, and thus in an astonishingly short time the toccata is brought to a close with the utmost effect of climax and finality. The same grasp of all the possible meanings of an artistic device shows itself in his treatment of the other features of toccata form. With his variety of proportion and flow he has no need to break off the fugue like earlier composers: but all the old devices by which the division into sections was managed are turned to account by him, and almost every toccata has its own scheme of contrasted movements, always based on the old natural idea of the growth of an organized music from a chaos of extemporization.

If this is Bach's treatment of a comparatively small and specialized art-form, it is obviously impossible to reduce the scantiest account of the rest of his work into practical limits here, nor is there as yet a sufficient body of accepted criticism of Bach for such an account to carry further conviction than an expression of individual opinion. Fortunately, however, Bach was constantly re-arranging his own compositions; indeed he evidently regards adaptability to fresh environment as the test of his finest work: and we cannot do better than review the evidence thus given to us, —evidence which only Beethoven's sketch-books surpass in significance.

2. The successful transplanting of a work of art to a fresh environment is obviously a convincing test of our definitions of the art-forms concerned, if only we take care to distinguish between the alterations produced by the change of environment and those that imply the composer's dissatisfaction with the original version. In Bach's case this seldom causes much difficulty; his methods of adaptation are so logical and so varied as to form a scheme of musical morphology with all the interest and none of the imperfections of the geological record; and the few cases in which a work owes its changes to the need for improvement as well as adaptation cause no confusion, but rather form a link between the pure adaptations and the numerous revisions of his favourite works without change of medium. There is, for example, no difficulty in separating the element of corrective criticism from that of the impulse to give an already successful composition a larger or more permanent form, in such cases as the transformations undergone by the movements of the birthday cantata, *Was mir behagt ist nur die muntre Jagd*, during their distribution among the church cantatas, *Also hat Gott die Welt geliebt* and *Man singet mit Freuden vom Sieg*. The fine bass aria, "Ein Fürst ist seines Landes Pan," was obviously ill-proportioned, with its breakneck return to the tonic and its perfunctory close; and Bach's chief concern in adapting it for its place as the aria, "Du bist geboren mir zu Gute," in *Also hat Gott*, was to remedy this defect. On the other hand, the use of the delightful ritornello for violoncello from the little aria, "Weil die wollenreichen Heerden," in the birthday cantata, and the restoration of the rejected long instrumental *fugato* that was to follow, were obviously brought about by the conception of the entirely new material for the voice in the famous aria, "Mein gläubiges Herze." And when the last chorus of *Was mir behagt* became the first chorus of *Man singet mit Freuden*, it was expanded to the proportions necessary for a triumphant opening (as distinguished from a cheerful finale) by the adroit insertion of new material between every joint in the design. This material, being new, could not produce the effect of diffuseness that would result from the expansion of the old material already complete in its simplest form, and thus this instance does not imply criticism.

A highly interesting example of pure self-criticism is the *Passion according to St John*, which was twice revised, and each time reduced to a smaller scale by the omission of some of its finest numbers. The final result was a work of perfect proportions, and of the rejected numbers one (a magnificent aria with chorale) remained unused, two were replaced by finer substitutes, others took shape as one of the most complete and remarkable of the church cantatas, *Du wahrer Gott*, while the greatest of the figured chorales was transferred to the *Passion according to St Matthew*, of which it now crowns the first part.

3. Such instances of self-criticism might be paralleled in the works of other composers; but there is no parallel in music to Bach's power of reproducing already perfect works in different media. Here Bach reveals to us identities in difference which we should otherwise never have suspected. Of course it is possible to arrange works in different ways without illustrating any profound identities at all. Handel, for instance, collected several of his favourite choruses in an enormous instrumental concerto (see vol. 46 of the *Händel-Gesellschaft*), and the result in the case of a chorus like "Lift up your Heads" was ridiculous. Bach, however, does not arrange old work merely to please a court where it was already admired. He never leaves it in a state of mere make-shift, though he cannot always attain his evident aim of a new originality. His methods of orchestration and the profoundly significant identity of certain forms of chorus with certain concerto forms may better be described under their proper headings (see articles Instrumentation and Concerto). Here we will attempt first to show, by illustrations of Bach's power of adding parts to already complete harmonic and contrapuntal schemes, what was his conception of the nature of an art-form, and secondly, by means of a short analysis of cases in which he adapts the same music to different words, to define his range of expression.

Bach arranged all his violin concertos for clavier, including two that are lost in the original version. Here his power of providing new and apparently necessary material for the left hand of
[v.03 p.0128] the cembalist (or, in the double concertos, two left hands) without disturbing the already complete score, is astonishing; and it fails only in the slow movements, which he prefers to leave obviously in the condition of an arrangement rather than to spoil their broad cantabile style by a too polyphonic bass.

But these cases are insignificant compared with such transformations as that of the prelude of the E major partita for unaccompanied violin into the sinfonia for organ obligato accompanied by full orchestra (including three trumpets and a pair of drums) at the beginning of the church cantata, *Wir danken dir, Gott.* The original version is perhaps the most complete and natural of the violin solos, for its arpeggios produce full harmony without recourse to that constant attempt to play on all four strings at once, which makes the performance of the polyphonic movements a *tour de force* in which steady rhythm is nearly impossible. Yet in the sinfonia its proportions seem to reveal themselves for the first time. Not a bar is displaced and not a note of the new accompaniment is unnecessary. The whole is almost entirely without themes; for even this, the largest of all arpeggio-preludes, consists essentially of the gradual unfolding of a scheme of

harmony in which rhythmic and melodic organization is reduced to a minimum. Only in the first line does the incisive initial figure persist a little longer in the new accompaniment than in the original solo, but on the last page it reappears and pervades the whole orchestra, even the drums thundering out its rhythm at the climax where the holding-notes of the trumpet span the torrent of harmony like a rainbow.

Deeper still is the thought that underlies the transformation of two movements of the great violin-concerto in D minor (unfortunately lost except in its splendid arrangement for clavier) into parts of the church cantata, *Wir müssen durch viel Trübsal in das Reich Gottes eingehen*. In both movements the violin is replaced by the organ an octave lower, the orchestral accompaniment remaining where it was. This treatment, with the addition of new and plaintive parts for wind instruments, turns the already very long and sombre first movement into an impressive idealization of the "much tribulation" that lies between us and the kingdom of heaven. The slow movement is still more solemn, and is arranged in the same way as regards the instruments; but from the first note to the last a four-part chorus sings, to the words of the title, a mass of quite new material (except for the bass and for numerous imitations of the solo-part), treated with every variety of vocal colouring and a grandeur of conception which is not dwarfed even by the *Passion according to St Matthew.*

4. The four short masses, the Christmas oratorio and the B minor mass, contain every variety of adaptation from earlier work. The four short masses are indeed obviously compiled for use in a church where the orchestra was small. Only four movements in the whole collection are not traceable to other extant works; all the rest comes from church cantatas. The adaptations are not always significant; no attempt, for example, is made in the G minor mass to conceal how unfit for a *Kyrie eleison* is the tremendous denunciatory chorus, *Herr, deine Augen sehen nach dem Glauben*. But the F major and G major masses are very instructive; and the A major mass, except for the damage done to the instrumentation, is a work that no one would conceive to be not original. The Kyrie is one of Bach's most individual utterances and could surely never have fitted any other text, but we should say the same of the Gloria if we did not possess the church cantata, *Halt im Gedächtniss*. The Gloria begins with a triumphant polyphonic chorus accompanied by a spirited symphony for strings. At the words "et in terra pax" the time changes, and two flutes softly accompany a single solemn melody in the altos. At the "laudamus te" the material of the beginning returns, and is interrupted again by the calm slow movement, this time in another key and for another voice, at the words "adoramus te." Twice the "laudamus" and "adoramus" alternate in a finely proportioned design; at last the words "gratias agimus tibi propter magnam gloriam tuam" are set for the full chorus to the music of the slow movement, the strings join with the flutes, and this most appropriate setting of those words is finished. And yet it is quite impossible to regard this as superseding the last chorus of *Halt im Gedächtniss*. Not one bar or harmony of the framework differs; yet the two versions are two independent works of art. In the cantata the beginning is for instruments only; when the slow movement (here adequately scored for a flute and two *oboe d' amore*) begins, the basses, permanently separated from the rest of the chorus, sing "Peace be unto you." The other voices then sing the triumph of the faithful helped by the Saviour in their battle against the world. The slow movement is, of course, set for bass alone throughout, and at the last recurrence of the *allegro* the bass continues to sing "Friede sei mit euch" through the rest of the chorus, as if leading the chorus of humanity through strife to the kingdom of heaven, and then the single voice of peace remains to the end. Hardly a bar of the chorus-material is on the same themes in the two versions.

The study of the sources of the Christmas oratorio will complete the evidence on which we support our estimate of Bach's methods and range of expression. It is certain that the occasional cantatas, from which all except the chorale-tune numbers and those set to words from the Bible were taken, date from shortly before the oratorio; and that Bach, being incapable of putting inferior work even into birthday odes, rescued it from oblivion by having the verses for the oratorio numbers built on the same rhythms as those of the odes in order that he might use those occasional works as a sketch (see *B.-G.*, *Jahr*. xxxiv. preface). Be this as it may, the alterations are confined to details even where an aria is transposed a fourth or fifth; but the effect of them is startling. Pleasure (Wollust) sings a lovely soprano aria to allure Hercules from the paths of Virtue, to which Hercules replies indignantly with an aria in a spirited staccato style. It is no doubt a shock to our feelings to find that Wollust's aria became the Virgin's cradle-song, while Hercules's reply became the alto aria in which Zion is bidden to "prepare for the Bridegroom." But it does not warrant the inference that Bach's music lacks definite characterization: on the contrary, these two arias are the best demonstration of his profound insight into the possibilities of musical expression within his range. It is no part of his conception of art that Wollust should be represented by a Wagnerian Venusberg-music; the obvious way to represent Pleasure was by writing pleasant music, and with Bach's ideas of pleasance the step from this to the solemn beauty of the sacred cradle-song was a mere matter of change of colour and *tempo*. The key is lowered from B flat to G, the strings are veiled with the tender reed tone of a group of *oboe d' amore*, the soprano becomes an alto whose notes are, as it were, surrounded with a nimbus by being doubled in the upper octave by a flute; and the aria becomes worthy of its new purpose, not by losing a grossness which it never possessed, but by gaining the richness which distinguishes the perfect work from the boldly executed draft.

As to the aria of Hercules the change is in manner, while the character, in the human sense of the term, is quite rightly the same. Both Hercules and the faithful Christian of the oratorio are renouncing pomps and vanities for the claims of a higher life; in the one case indignantly, in the other case inspired "mit zärtlichem Triebe." A change to a *legato* style, the substitution of a

single *oboe d' amore* for *tutti* violins, the addition of delicate ornaments indicative of a slower pace, and the noble stream of melody preserve its identity while changing its aspect. Bach's larger designs react on their changing contents as a cathedral reacts on the impressiveness of the rites performed within it, or as nature reacts on a poet's thoughts; and in the same way Bach's melody is greater than any possible mood of the moment, not because of that vague and negative pseudo-classical quality misnamed "reserve," but because of its vital individuality. In their proper directions its changes are limitless; elsewhere change is inconceivable. No amount of "Umarbeitung" could, for instance, turn the aria of Hercules into the Virgin's cradle-song, or Wollust's aria into the exhortation of Zion to prepare for the Bridegroom. In short, Bach's melodies are characteristic, not like a mask with a set expression, but like a living face that is the more individual for the mobility of its features.

[v.03 p.0129] Within these limits, that is, short of dramatic expression in just so far as "the end of drama is not character but action," there is nothing good that Bach's art does not express. He has plenty of humour, if the term may be applied to art which is, so to speak, always literal,—art in which a jest is a jest and serious things are treated with familiar directness, and all, whether in jest or earnest, is primarily beautiful. In *Der Streit zwischen Phoebus und Pan* Bach answers the critics who censured him for his pedantry and provincial ignorance of the grand Italian operatic style, by making effective use of that style in Pan's prize-aria ("Zum Tanze, zum Sprunge, so wack-ack-ack-ackelt das Herz"), nobly representing his own style in Phoebus's aria, and promptly caricaturing it in the second part of Pan's ("Wenn der Ton zu mühsam klingt"). Midas votes for Pan—"denn nach meinen beiden Ohren singt er unvergleichlich schön." At the word "Ohren" the violins give a pianissimo "hee-haw" which is fully as witty in its musical aptness as Mendelssohn's clown-theme in the Overture to the *Midsummer Night's Dream*; and in the ensuing dialogue their prophecy is verified. As with many other great artists, Bach's playfulness occasionally showed itself inconveniently where little things shock little minds. The hilarious aria, "Ermuntre dich," in the church cantata, *Schmücke dich, o liebe Seele*, is one instance, and the quaint representation of the words "dimisit inanes" in the *Magnificat* is another. This great work, one of the most terse and profound things Bach ever wrote, contains, among many other subtle inspirations, one conception with which we may fitly end our survey, for it strongly suggests Bach himself and the destiny of all that work which he finished so lovingly, with no prospect of its becoming more than a family heirloom and a salutary tradition in his Leipzig choir-school. In the *Magnificat* he sets the words "quia respexit humilitatem ancillae suae" to a touchingly appropriate soprano solo accompanied by his favourite *oboe d'amore*. With the next sentence "ecce enim beatam me dicent" the tone brightens to a quiet joy, but Bach takes advantage of the syntax of the Latin in a way that defies translation, and the sentence is finished by the chorus. "Omnes generationes" seem indeed to pass before us in the crowded fugue which rises in perpetual stretto, the incessant entries of its subject now mounting the whole scale, each part a step higher than the last, and now collecting in unison with a climax of closeness and volume overwhelming in its impression of time and multitude.

SUMMARY OF BACH'S WORKS

No attempt is here made at chronological sequence. The changes in Bach's style, though clear and important, are almost impossible to describe in untechnical language; nor are they of such general interest as to make it worth while to expand this summary by an attempt to apportion its contents among the Arnstadt-Mühlhausen period, the Weimar period, the Cöthen period (chiefly remarkable for instrumental music and comparatively uninteresting in its easy-going choral music), and the last period (1733-1750) in which, while the choral works became at once more numerous and more terse (*e.g. Jesu, der du meine Seele*) the instrumental music, though never diffuse, shows an increasing preference for designs on a large scale. (Compare, for example, the second book of the *Wohltemperirtes Klavier*, 1744, with the first, 1722.)

I.—Church Music

A. *With Orchestra*

190 church cantatas: besides several which are only known from fragmentary sets of parts. Of the 190, 40 are for solo voices, about 60 (including some solo cantatas) are more or less founded on chorales, and the rest, though almost invariably containing a chorale (for congregational singing), are practically short oratorios and frequently so entitled by Bach himself.

3 wedding cantatas: the Easter oratorio (exactly like the above-mentioned oratorio-cantatas; and the Christmas oratorio (six similar cantatas forming a connected design for performance on six separate days).

The Passions according to St Matthew and St John.

Funeral ode for the Duchess Eberhardine (now known to be arranged from portions of the lost Passion according to St Mark).

4 short masses (*i.e.* Kyrie and Gloria only) mainly compiled from church cantatas.

Mass in B minor. Magnificat in D. A few other ecclesiastical Latin choruses.

B. *Without Orchestra*

5 motets *a capella* (but there is reason to believe that these, except *Komm Jesu komm*, were intended to be partly supported by the organ). A sixth motet has an obligato figured-bass

accompaniment.

A few early choruses, mostly turned to account in later works.

A large collection of plain chorales, including several original melodies.

II.—Secular Vocal Music

Der Streit zwischen Phoebus und Pan and *Der zufrieden gestellte Aeolus*; both entitled *Dramma per Musica*, but showing no more essential connexion with the stage than Handel's *Acis and Galatea*.

7 solo and 7 choral cantatas, of which latter three were almost entirely absorbed into the Christmas oratorio and the B minor mass. Of the solo cantatas two are Italian (one of these being Bach's only developed work for voice and clavier) and two are burlesque.

Several tunes with clavier bass, almost foreshadowing the modern song.

III.—Instrumental Music

A. *Orchestral*

7 clavier concertos arranged from violin concertos and other sources.

3 concertos for two claviers (two being arranged from concertos for two violins).

2 concertos for three claviers.

The 6 Brandenburg concertos, for various combinations.

2 violin concertos, and a colossal *torso* of a concerted violin-movement forming the prelude to a lost church cantata.

1 concerto for two violins.

4 orchestral suites. (The symphony in F in the same volume of the *B. G.* is only an earlier version of the first Brandenburg concerto.)

B. *Chamber Music*

3 sonatas for clavier and flute; a suite and 6 sonatas for clavier and violin, 3 for clavier and viola da gamba; 2 trios with figured bass; 2 flute-sonatas and a violin suite with figured bass; 6 sonatas (*i.e.* 3 sonatas and 3 partitas) for violin alone; 6 suites for violoncello alone.

C. *Clavier and Organ Music*

Bach's own collections are:—

1. *Das wohltemperirte Klavier* for clavichord: two books each containing 24 preludes and fugues, one in each major and minor key; with the object of stimulating tuning by "equal temperament" instead of sacrificing the euphony of remoter keys to that of the more usual ones.

2. *Klavier-Übung* (chiefly for harpsichord) in four books comprising: (i.) 15 two-part inventions and 15 three-part symphonies, (ii.) 6 partitas, (iii.) The "Goldberg" variations. 4 duets, and an important collection of organ choral-preludes, with the "St Anne" prelude and fugue in E flat, (iv.) The Italian concerto and French overture.

3. The 6 "French" and 6 "English" suites.

The other clavier works fill two *Jahrgänge* of the *B.-G.*

Bach's collections of organ music are (besides that included in the third part of the *Klavier-Übung*):—(1) 6 sonatas. (2) 4 groups of 6 organ preludes and fugues. (3) *Das Orgelbüchlein*, a collection of short choral-preludes carefully planned—all the blank pages of the autograph being headed with the titles of the chorales intended for them—but not half executed. (The projected whole would have been a larger volume than the *Wohltemperirtes Klavier*). (4) 18 larger chorale-preludes, including Bach's last composition. (5) The 6 "Schübler" chorales, all arranged from movements of cantatas.

Besides these there are the three great independent toccatas and the Passacaglia. The remaining choral-preludes fill one *Jahrgang*, and the other organ works two more.

D. *Unclassified*

Two important instrumental works cannot be classified, viz. *Das musikalische Opfer*, the volume of compositions (two great fugues, various puzzle-canons, and a splendid trio for flute, violin and figured bass) on the theme given to Bach by Frederick the Great; and *Die Kunst der Fuge*, a progressive series of fugues on one and the same subject, written in open score as if entirely abstract studies, but all (except the extreme contrapuntal *tours de force*) in admirable clavier style and of great musical value.

IV.—Lost Works

A. *Choral*

J. N. Forkel's statement that Bach wrote 5 *Jahrgange* of church cantatas (*i.e.* enough to provide one for each Sunday and holy day for five years) would indicate that some 80 are lost, but there is reason to believe that this is a great exaggeration. Not more than six or seven cantatas are known to be lost, by the evidence of fragments, text-books, &c.

Forkel also says that Bach wrote five Passions. Besides the great Matthew and John Passions there is in an indisputable Bach autograph one according to St Luke; but it is so worthless that the best plea for its authenticity offered by responsible critics is that only a personal interest could have induced Bach to make a copy of it.

[v.03 p.0130] The lost Passion according to St Mark must, judging by the movements preserved in the *Trauer-Ode*, have been larger than that according to St John.

Was there a *genuine* Lucas-Passion? If so, Forkel's report of five Passions would be explained. Several lost secular works are partly preserved in those portions of the Christmas oratorio of which the sources are not definitely known, but which, like the other duplicated numbers, are fair copies in the autograph.

B. *Instrumental*

Three violin concertos and one for two violins; known only from the wonderful clavier versions.

Most of the first movement of the A major sonata for clavier and flute which was written in the spare staves at the bottom of a larger score. Some of these have been cut off.

V.—Arrangements of Works by other Composers

Arrangements for harpsichord alone of 16 concertos, generally described as by Vivaldi, but including several by other composers.

4 Vivaldi concertos arranged for organ.

Many of these arrangements contain much original matter, such as entirely new slow movements, large cadenzas, &c.

Concerto in A minor for 4 claviers and orchestra, from Vivaldi's B minor concerto for 4 violins. This, though the most faithful to its original, is the richest and most Bach-like of all these arrangements, and is well worth performing in public.

2 sonatas from the *Hortus Musicus* of Reinken, arranged for clavier. (The ends of the slow movements are Bach.)

Finishing touches to cantatas by his uncle Johann Ludwig Bach. Also a very characteristic complete "Christe eleison" inserted in Kyrie of Johann Ludwig's.

VI.—Doubtful and Spurious Works

Bach's autographs give the name of the composer on the outside sheet only. He was constantly making copies of all that interested him; and where the outside sheet is lost, only the music itself can tell us whether it is his or not. The above-mentioned *Passion according to St Luke* is the chief case in point. The little music-books he and his second wife wrote for their children are full of pieces in the most various styles, and the editors of the *Bach-Gesellschaft* have not completely identified them, even Couperin's well-known "Les Bergeries" escaping their scrutiny. A sonata for two claviers by Bach's eldest son, Wilhelm Friedermann, was detected by the editors after its inclusion in *Jahrgang* xliv. The second of the 3 sonatas for clavier and flute is extremely suggestive of Bach's sons, but Philipp Emanuel ascribes it to his father. However, he might easily have docketed it wrongly while arranging copies of his father's works. It has a twin brother (*B.-G.* ix. Anhang ii.) for which he has not vouched.

Four absurd church cantatas are printed for conscience' sake in *Jahrgang* xliii. More important than these, because by no means too obviously ridiculous to deceive a careless listener, is the well-known 8-part motet, *Lob, Ehr' und Weisheit* (blessing and glory and wisdom). A closer acquaintance shows that it is really very poor stuff; and it was finally crowned with absurdity by the discovery that its composer was a contemporary of Bach,—and that his name was Wagner.

The beautiful motet, *Ich lasse dich nicht*, has long been known to be by one of Bach's uncles (Johann Christoph).

Editions

Almost the only works of Bach published during his lifetime were the instrumental collections, most of which he engraved himself. Of the church cantatas only one, *Gott ist mein König* (written when he was nineteen, but a very great work), was published in his lifetime.

Of modern editions that of the *Bach-Gesellschaft* is, of course, the only complete one. It is, inevitably, of very unequal merit. Its first editors could not realize their own ignorance of Bach's language; their immediate admiration of his larger choruses seemed to them proof of their competence to retain or dismiss details of ornamentation, figured bass, variants between score and parts, &c., without always stopping to see what light these might shed on questions of *tempo* and style—especially in the arias and recitatives, which they regarded as archaic almost in direct proportion to the depth of thought really displayed in them. In the 9th *Jahrgang* Wilhelm Rust

introduced scholarly methods, with the happiest results. The *Wohltemperirtes Klavier (Jahrgang* xiv.) was edited by Kroll, who also made his text accessible in the *Edition Peters* (which till then had only Czerny's—an amazing result of corrupt tradition, still widely accepted). Kroll's and Rust's volumes are far the best in the *B. G.* On Rust's death the standard deteriorated; his immediate successor seems more interested in reprinting in full an early version of a work of which Rust had given only the variants, than in digesting his own materials (*Jahrgang* xxix.); and in his next volume (*Jahrgang* xxx. p. 109) the bass and violin are a bar apart for a whole line. The last ten volumes, however, are again satisfactory, and in *Jahrgang* xliv. the French and English suites are re-edited. Part of the B minor mass was also worked over again; and Kroll's text of the *Wohltemperirtes Klavier* was supplemented by the evidence of the British Museum autograph. The Steingräber edition of the clavier works, edited by Dr Hans Bischoff, is incomparably the best, giving all the variants in footnotes and clearly distinguishing the extremely intelligent nuances and phrasing signs of the editor from the rare but significant indications of Bach himself. Nor does this wealth of scholarship interfere with the presentation of a straightforward, single text; though in addition there is every necessary explanation of the ornaments and kindred matters.

We have seen no other editions that distinguish Bach's text from the editor's taste—the disappointing publications of the *Neue Bachgesellschaft*[4] by no means excepted. We may remark that the older vocal scores of cantatas in the *Edition Peters* are, though unfortunately but a selection, far better than the complete series issued by Breitkopf and Härtel in conformity with the *Bach Gesellschaft*, and therefore accepted as authoritative (see INSTRUMENTATION). The English vocal scores published by Novello are generally very good though covering but small ground. The Novello score of the Christmas oratorio contains a fine analytic preface by Sir George Macfarren.

BIBLIOGRAPHY.—J. N. Forkel, *Über Bach's Leben, Kunst und Kunstwerke*, translated (London, 1820); C. H. Bitter, *John Sebastian Bach* (Berlin, 1865); Ernest David, *La Vie et les œuvres de Bach* (Paris, 1882); P. Spitta, *Johann Sebastian Bach* (Leipzig, 1873 and 1880); E. Heinrich, *Sebastian Bach's Leben* (Berlin, 1885); A. Pirro, *L'Esthétique de Jean Sebastian Bach* (Paris, 1907); and *L'Orgue de Jean Sebastian Bach* (Paris, 1907); A. Schweitzer, *J. S. Bach: Le Musicien poète*. Spitta's biography superseded everything written before it and has not since been approached. With corrections in the light of Rust's *B. G.* prefaces it contains everything worth knowing about Bach, except the music itself.

(D. F. T.)

[1] Spitta points out that this cannot mean singing in the choir at a service, but making music in church privately.

[2] The same surgeon operated unsuccessfully on both composers.

[3] See the wild conjectures of the editor of the Four Short Masses as to the "displacing" of structure in the *kyrie* of the G minor Mass (*B.-G., Jahr. viii.* preface, with Rust's answer in the preface to *Jahr. xxiii.*).

[4] The object of the *Neue Bachgesellschaft* is to render the completed results of the first *Bachgesellschaft* generally accessible by holding frequent Bach festivals and issuing cheap and practical editions. The activities of this society, together with the new movement to restore Bach's vocal music to its place in the Lutheran Church, cannot fail to have a salutary effect on the future of music.

BACH, KARL PHILIPP EMANUEL (1714-1788), German musician and composer, the third son of Johann Sebastian Bach, was born at Weimar on the 14th of March 1714. When he was ten years old he entered the Thomasschule at Leipzig, of which in 1723 his father had become cantor, and continued his education as a student of jurisprudence at the universities of Leipzig (1731) and of Frankfort on the Oder (1735). In 1738 he took his degree, but at once abandoned all prospects of a legal career and determined to devote himself to music. A few months later he obtained an appointment in the service of the crown prince of Prussia, on whose accession in 1740 he became a member of the royal household. He was by this time one of the first clavier-players in Europe, and his compositions, which date from 1731, included about thirty sonatas and concerted pieces for his favourite instrument. His reputation was established by the two sets of sonatas which he dedicated respectively to Frederick the Great (1742) and to the grand duke of Württemberg (1744); in 1746 he was promoted to the post of *Kammermusikus*, and for twenty-two years shared with Karl Heinrich, Graun, Johann Joachim, Quantz and Johann Gottlieb Naumann the continued favour of the king. During his residence at Berlin he wrote a fine setting of the *Magnificat* (1749), in which he shows more traces than usual of his father's influence, an Easter cantata (1756), several symphonies and concerted works, at least three volumes of songs, —*Geistliche Oden und Lieder*, to words by Gellert (1758), *Oden mit Melodien* (1762) and *Sing-Oden* (1766), and a few secular cantatas and other *pièces d'occasion*. But his main work was concentrated on the clavier, for which he composed, at this time, nearly two hundred sonatas and other solos, including the set *mit veränderten Reprisen* (1760-1768) and a few of those *für Kenner und Liebhaber*. Meanwhile he placed himself in the forefront of European critics by his *Versuch über die wahre Art das Clavier zu spielen* (first part 1753, second, with the first reprinted, 1762), a systematic and masterly treatise which by 1780 had reached its third edition, and which laid the foundation for the methods of Clementi and Cramer. In 1768 Bach succeeded Georg Philipp Telemann as *Kapellmeister* at Hamburg, and in consequence of his new office began to turn his attention more towards church music. Next year he produced his oratorio *Die*

Israeliten in der Wüste, a composition remarkable not only for its great beauty but for the resemblance of its plan to that of Mendelssohn's *Elijah*, and between 1769 and 1788 added over
[v.03 p.0131] twenty settings of the Passion, a second oratorio *Der Auferstehung und Himmelfahrt Jesu* (1777), and some seventy cantatas, litanies, motets and other liturgical pieces. At the same time his genius for instrumental composition was further stimulated by the career of Haydn, to whom he sent a letter of high appreciation, and the climax of his art was reached in the six volumes of sonatas *für Kenner und Liebhaber*, to which he devoted the best work of his last ten years. He died at Hamburg on the 14th of December 1788.

Through the latter half of the 18th century the reputation of K. P. E. Bach stood very high. Mozart said of him, "He is the father, we are the children"; the best part of Haydn's training was derived from a study of his work; Beethoven expressed for his genius the most cordial admiration and regard. This position he owes mainly to his clavier sonatas, which mark an important epoch in the history of musical form. Lucid in style, delicate and tender in expression, they are even more notable for the freedom and variety of their structural design; they break away altogether from the exact formal antithesis which, with the composers of the Italian school, had hardened into a convention, and substitute the wider and more flexible outline which the great Viennese masters showed to be capable of almost infinite development. The content of his work, though full of invention, lies within a somewhat narrow emotional range, but it is not less sincere in thought than polished and felicitous in phrase. Again he was probably the first composer of eminence who made free use of harmonic colour for its own sake, apart from the movement of contrapuntal parts, and in this way also he takes rank among the most important pioneers of the school of Vienna. His name has now fallen into undue neglect, but no student of music can afford to disregard his *Sonaten für Kenner und Liebhaber*, his oratorio *Die Israeliten in der Wüste*, and the two concertos (in G major and D major) which have been republished by Dr Hugo Riemann.

A list of his voluminous compositions may be found in Eitner's *Quellen Lexikon*, and a critical account of them is given in Bitter's *C. P. E. und W. F. Bach und deren Bruder* (2 vols., Berlin, 1868), a mine of valuable though ill-arranged information.

Four more of Johann Sebastian Bach's sons grew to manhood and became musicians. The eldest of them, Wilhelm Friedermann Bach (1710-1784) was by common repute the most gifted; a famous organist, a famous improvisor and a complete master of counterpoint. But, unlike the rest of the family, he was a man of idle and dissolute habits, whose career was little more than a series of wasted opportunities. Educated at Leipzig, he was appointed in 1733 organist of the Sophienkirche at Dresden, and in 1747 became musical director of the Liebfrauenkirche at Halle. The latter office he was compelled to resign in 1764, and thenceforward he led a wandering life until, on the 1st of July 1784, he died in great poverty at Berlin. His compositions, very few of which were printed, include many church cantatas and instrumental works, of which the most notable are the fugues, polonaises and fantasias for clavier, and an interesting sestet for strings, clarinet and horns. Several of his manuscripts are preserved in the Royal library at Berlin; and a complete list of his works, so far as they are known, may be found in Eitner's *Quellen Lexikon*.

The fourth son, Johann Gottfried Bernhard Bach (1715-1739) was, like his elder brothers, born at Weimar and educated at Leipzig. From 1735 to 1738 he held successively the organistships at Mühlhausen and Sangerhausen; in 1738 he threw up his appointment and went to study law at Jena; in 1739 he died, aged 24.

Johann Christoph Friedrich Bach (1732-1795), the ninth son, was born at Leipzig, studied at the Thomasschule and the university, and in 1750 was appointed *Kapellmeister* at Bückeburg. He was an industrious composer, especially of church-music and opera, whose work reflects no discredit on the family name.

Johann Christian Bach (1735-1782), the eleventh son, was born at Leipzig, and on the death of his father in 1750 became the pupil of his brother Emanuel at Berlin. In 1754 he went to Italy where he studied under Padre Martini, and from 1760 to 1762 held the post of organist at Milan cathedral, for which he wrote two Masses, a *Requiem*, a *Te Deum* and other works. Having also gained some reputation as a composer of opera, he was in 1762 invited to London and there spent the rest of his life. For twenty years he was the most popular musician in England, his dramatic works, produced at the King's theatre, were received with great cordiality, he was appointed music-master to the queen, and his concerts, given in partnership with Abel at the Hanover Square rooms, soon became the most fashionable of public entertainments. He is of some historical interest as the first composer who preferred the pianoforte to the older keyed-instruments; but his works, though elegant and pleasing, were ephemeral in character and have been deservedly forgotten.

A full account of J. C. Bach's career is given in the fourth volume of Burney's *History of Music*, and a catalogue of his compositions in an article by Max Schwarz, published in the *Sammelbände* of the *Internationale Musik-Gesellschaft*, Jhrg. ii. p. 401.

(W. H. Ha.)

BACHARACH, YAIR (1639-1702), German rabbi, was the author of *Ḥawwoth Yaïr* (a collection of *Responsa*) and other works. Bacharach was a man of wide culture, and holds an honourable place among the pioneers of the Jewish Renaissance which was inaugurated towards the end of the 18th century.

BACHARACH, a town of Germany, in the Prussian Rhine Province, romantically situated on the

left bank of the Rhine, 30 m. above Coblenz on the railway to Mainz. Pop. 2000. There is an interesting church, a basilica, dating from the beginning of the 13th century. There are also ruins of a Gothic church of the 13th and 15th centuries. The ruined castle of Stahleck, crowning the heights above the town, is celebrated in history as the scene of the marriage between Henry, eldest son of Henry the Lion (shortly before the latter's death in 1195) and Agnes of Hohenstaufen, which effected a temporary reconciliation between the houses of Welf and Hohenstaufen. Other ruined castles are those of Fürstenberg and Stahlberg. All three belonged to the counts palatine. The wines of Bacharach were once held in the greatest esteem, and it is still one of the chief markets of the Rhenish wine trade.

BACHAUMONT, LOUIS PETIT DE (1690-1771), French littérateur, was of noble family and was brought up at the court of Versailles. He passed his whole life in Paris as the centre of the *salon* of Madame Doublet de Persan (1677-1771), where criticism of art and literature took the form of malicious gossip. A sort of register of news was kept in a journal of the *salon*, which dealt largely in scandals and contained accounts of books suppressed by the censor. Bachaumont's name is commonly connected with the first volumes of this register, which was published anonymously under the title *Mémoires secrets pour servir à l'histoire de la République des Lettres*, but his exact share in the authorship is a matter of controversy. It was continued by Pidansat de Mairobert (1707-1779) and others, until it reached 36 volumes (1774-1779). It is of some value as a historical source, especially for prohibited literature. Extracts were published by P. Lacroix in one volume, 1859. An incomplete edition (4 vols.) was undertaken in 1830 by Ravenal.

See, in addition to the memoirs of the time, especially the *Correspondance littéraire* of Grimm, Diderot, d'Alembert and others (new ed., Paris, 1878, 17 vols.); Ch. Aubertin, *L'Esprit public au XVIII^e siècle* (Paris, 1872).

BACHE, ALEXANDER DALLAS (1806-1867), American physicist, great-grandson of Benjamin Franklin, was born at Philadelphia on the 19th of July 1806. After graduating at the United States Military Academy at West Point in 1825, he acted as assistant professor there for some time, and as a lieutenant in the corps of engineers he was engaged for a year or two in the erection of coast fortifications. He occupied the post of professor of natural philosophy and chemistry in the University of Pennsylvania in 1828-1841 and in 1842-1843. For the trustees of what in 1848 was to become Girard College, but had not yet been opened, he spent the years 1836-1838 in Europe, examining European systems of education, and on his return published a very valuable report. In
[v.03 p.0132] 1843, on the death of Professor F. R. Hassler (1770-1843), he was appointed superintendent of the United States coast survey. He succeeded in impressing Congress with a sense of the great value of this work, and by means of the liberal aid it granted, he carried out a singularly comprehensive plan with great ability and most satisfactory results. By a skilful division of labour, and by the erection of numerous observing stations, the mapping out of the whole coast proceeded simultaneously under the eye of the general director, and in addition a vast mass of magnetic and meteorological observations was collected. He died at Newport, Rhode Island, on the 17th of February 1867.

BACHE, FRANCIS EDWARD (1833-1858), English musical composer, was born in Birmingham on the 14th of September 1833. The pupil of Alfred Mellon for violin and Sterndale Bennett for composition, he afterwards went to Leipzig in 1853 and studied with Hauptmann and Plaidy. Considering the early age at which he died, his compositions are fairly numerous, and the best, a trio for piano and strings, is still held in high esteem. Two operettas, a piano concerto and a number of published pianoforte pieces and songs do little more than show how great was his promise. He died at Birmingham of consumption on the 24th of August 1858. His younger brother, WALTER BACHE (1842-1888), was born in Birmingham on the 19th of June 1842, and followed him to the Leipzig Conservatorium, where he became an excellent pianist. From 1862 to 1865 he studied with Liszt in Rome, and for many years devoted himself to the task of winning popularity for his master's works in England. At his annual concerts in London nearly all Liszt's larger works were heard for the first time in England, and on the occasion of Liszt's last visit to England in 1886, he was entertained by Bache at a memorable reception at the Grosvenor Gallery. Walter Bache was professor of the pianoforte at the Royal Academy of Music for some years before his death, and the foundation of the Liszt scholarship at that institution was mainly due to his efforts. He died in London on the 26th of March 1888.

An interesting memoir of the two brothers, by Miss Constance Bache, appeared in 1901 under the title *Brother Musicians*.

BACHELOR (from Med. Lat. *baccalarius*, with its late and rare variant *baccalaris*—cf. Ital. *baccalare*—through O. Fr. *bacheler*), in the most general sense of the word, a young man. The word, however, as it possesses several widely distinct applications, has passed through many meanings, and its ultimate origin is still involved in a certain amount of obscurity. The derivation from Welsh *bach*, little, is mentioned as "possible" by Skeat (*Etymological Dictionary*), but is "definitely discarded" by the *New English Dictionary*, and that given here is suggested as probable. The word *baccalarius* was applied to the tenant of a *baccalaria* (from *baccalia*, a herd of cows, *bacca* being a Low Latin variant of *vacca*), which was presumably at first a grazing farm and was practically the same as a *vaselleria*, *i.e.* the fief of a sub-vassal. Just, however, as the character and the size of the *baccalaria* varied in different ages, so the word *baccalarius* changed its significance; thus in the 8th century it was applied to the *rustici*, whether men or women (*baccalariae*), who worked for the tenant of a *mansus*. Throughout all its meanings the word has

retained the idea of subordination suggested in this origin. Thus it came to be applied to various categories of persons as follows.—(1) Ecclesiastics of an inferior grade, *e.g.* young monks or even recently appointed canons (Severtius, *de episcopis Lugdunensibus*, p. 377, in du Cange). (2) Those belonging to the lowest stage of knighthood. Knights bachelors were either poor vassals who could not afford to take the field under their own banner, or knights too young to support the responsibility and dignity of knights bannerets (see KNIGHTHOOD AND CHIVALRY). (3) Those holding the preliminary degree of a university, enabling them to proceed to that of master (*magister*) which alone entitled them to teach. In this sense the word *baccalarius* or *baccalaureus* first appears at the university of Paris in the 13th century in the system of degrees established under the auspices of Pope Gregory IX., as applied to scholars still *in statu pupillari*. Thus there were two classes of *baccalarii*: the *baccalarii cursores*, *i.e.* theological candidates passed for admission to the divinity course, and the *baccalarii dispositi*, who, having completed this course, were entitled to proceed to the higher degrees. In modern universities the significance of the degree of bachelor, in relation to the others, varies; *e.g.* at Oxford and Cambridge the bachelor can proceed to his mastership by simply retaining his name on the books and paying certain fees; at other universities a further examination is still necessary. But in no case is the bachelor a full member of the university. The degree of bachelor (of arts, &c.) is borne by women also. (4) The younger or inferior members of a trade gild or city company, otherwise known as "yeomen" (now obsolete). (5) Unmarried men, since these presumably have their fortunes yet to make and are not full citizens. The word bachelor, now confined to men in this connotation, was formerly sometimes used of women also.

Bachelors, in the sense of unmarried men, have in many countries been subjected to penal laws. At Sparta, citizens who remained unmarried after a certain age suffered various penalties. They were not allowed to witness the gymnastic exercises of the maidens; and during winter they were compelled to march naked round the market-place, singing a song composed against themselves and expressing the justice of their punishment. The usual respect of the young to the old was not paid to bachelors (Plut. *Lyc.* 15). At Athens there was no definite legislation on this matter; but certain minor laws are evidently dictated by a spirit akin to the Spartan doctrine (see Schömann, *Gr. Alterth.* i. 548). At Rome, though there appear traces of some earlier legislation in the matter, the first clearly known law is that called the Lex Julia, passed about 18 B.C. It does not appear to have ever come into full operation; and in A.D. 9 it was incorporated with the Lex Papia et Poppaea, the two laws being frequently cited as one, Lex Julia et Papia Poppaea. This law, while restricting marriages between the several classes of the people, laid heavy penalties on unmarried persons, gave certain privileges to those citizens who had several children, and finally imposed lighter penalties on married persons who were childless. Isolated instances of such penalties occur during the middle ages, *e.g.* by a charter of liberties granted by Matilda I., countess of Nevers, to Auxerre in 1223, an annual tax of five *solidi* is imposed on any man *qui non habet uxorem et est bachelarius*. In Britain there has been no direct legislation bearing on bachelors; but, occasionally, taxes have been made to bear more heavily on them than on others. Instances of this are the act (6 and 7 Will. III.) passed in 1695; the tax on servants, 1785; and the income tax, 1798.

BACHIAN (Dutch *Batjan*), one of the Molucca Islands, in the residency of Ternate, Dutch East Indies, in the Molucca Sea, in 0°13′-0°55′ S. and 127°22′-128° E. With its subordinate islands, Mandioli, Tawali and others, it lies west of the southern peninsula of the island of Halmahera or Jilolo, and has an area of 914 sq. m. It is of irregular form, consisting of two distinct mountainous parts, united by a low isthmus, which a slight subsidence would submerge. The island is in part of volcanic formation, and the existence of hot springs points to volcanic activity. There are, however, especially in the southern portion, ancient and non-volcanic rocks. The highest elevation occurs at the south of the island, the mountain of Labua reaching 6950 ft. Coal and other minerals have been discovered. A large portion of the island is richly wooded, and sago, cocoa-nuts and cloves (which are indigenous) are abundantly produced. Bachian is remarkable as the most eastern point on the globe inhabited by any of the *Quadrumana*, a black ape occurring here as in Celebes. The island is very rich in birds and insects. The interior of the island is uninhabited and none of the dwellers on the coast are indigenous. They consist of the Sirani or Christian descendants of the Portuguese, of Malays, with a Papuan element, Galela men from the north of Halmahera, immigrants from Celebes, with some Chinese and Arabs. The total number of inhabitants is about 13,000. The chief village, called Amasing by the inhabitants, but also called Bachian, is situated on the west side of the isthmus. Bachian is the most important island of a group formerly governed by a sultan, but since 1889 by a committee of chiefs under the control of a Dutch *contrôleur*. From 1882 onwards a Batjan company attempted to exploit the
[v.03 p.0133] island, but unsuccessfully, owing to a deficient knowledge of the soil and its capabilities and a lack of labourers.

BACK-BOND, or BACK-LETTER, in Scots law, a deed qualifying the terms of another deed, or declaratory of the purposes for which another deed has been granted. Thus an *ex facie* absolute disposition, qualified by a back-bond expressing the limited nature of the right actually held by the person to whom the disposition is made, would constitute what in England is termed a deed of trust.

BACK-CHOIR, RETRO-CHOIR, a space behind the high altar in the choir of a church, in which there is, or was, a small altar standing back to back with the other.

BACKERGUNJE, or BAKARGANJ, a district of British India in the Dacca division of Eastern Bengal and Assam. It forms part of the joint delta of the Ganges and the Brahmaputra, and its area is

4542 sq. m. The general aspect of the district is that of a flat even country, dotted with clusters of bamboos and betel-nut trees, and intersected by a perfect network of dark-coloured and sluggish streams. There is not a hill or hillock in the whole district, but it derives a certain picturesque beauty from its wide expanses of cultivation, and the greenness and freshness of the vegetation. This is especially conspicuous in the rains, but at no time of the year does the district present a dried or burnt-up appearance. The villages, which are always walled round by groves of bamboos and betel-nut palms, have often a very striking appearance; and Backergunje has many beauties of detail which strike a traveller in passing through the country. The level of the country is low, forming as it does a part of the great Gangetic delta; and the rivers, streams and water-courses are so numerous that it is very difficult to travel except by boat at any season of the year. Every natural hollow is full of water, around the margin of which long grasses, reeds and other aquatic plants grow in the greatest profusion, often making it difficult to say where the land ends and the water begins. Towards the north-west the country is very marshy and nothing is to be seen for miles but tracts of unreclaimed swamps and rice lands, with a few huts scattered here and there and raised on mounds of earth. In the south of the district, along the coast of the Bay of Bengal, lie the forest tracts of the Sundarbans, the habitation of tigers, leopards and other wild beasts.

The principal rivers of the district are the Meghna, the Arial Khan and the Haringhata or Baleswar, with their numerous offshoots. The Meghna represents the accumulated waters of the Brahmaputra and Ganges. It flows along the eastern boundary of the district in a southerly direction for about 100 m. till it debouches into the Bay of Bengal. During the latter part of its course this noble river expands into a large estuary containing many islands, the principal of which is that of Dakshin Shahbazpur. The islands on the sea-front are exposed to devastation by cyclonic storm-waves. The Arial Khan, a branch of the Ganges, enters the district from the north, and flows generally in a south-easterly direction till it falls into the estuary of the Meghna. The main channel of the Arial Khan is about 1700 yds. in width in the dry season, and from 2000 to 3000 yds. in the rains. It receives a number of tributaries, sends off several offshoots, and is navigable throughout the year by native cargo boats of the largest size. The Haringhata, Baleswar, Madhumati and Garai are various local names for the same river in different parts of its course and represent another great offshoot of the Ganges. It enters Backergunje near the north-west corner of the district, whence it forms its western boundary, and runs south, but with great windings in its upper reaches, till it crosses the Sundarbans, and finally falls into the Bay of Bengal by a large and deep estuary, capable of receiving ships of considerable burden. In the whole of its course through the district the river is navigable by native boats of large tonnage, and by large sea-going ships as high up as Morrellganj, in the neighbouring district of Jessore. Among its many tributaries in Backergunje the most important is the Kacha, itself a considerable stream and navigable by large boats all the year round, which flows in a southerly direction for 20 m., when it falls into the Baleswar. Other rivers of minor importance are the Barisal, Bishkhali, Nihalganj, Khairabad, Ghagar, Kumar, &c. All the rivers in the district are subject to tidal action from the Meghna on the north, and from the Bay of Bengal on the south, and nearly all of them are navigable at high tide by country boats of all sizes. The rise of the tide is very considerable in the estuary of the Meghna, and many of the creeks and water-courses in the island of Dakshin Shahbazpur, which are almost dry at ebb tide, contain 18 or 19 ft. of water at the flood. A very strong "bore" or tidal wave runs up the estuary of the Meghna at spring tides, and a singular sound like thunder, known as the "Barisal guns," is often heard far out at sea about the time it is coming in. There are numerous marshes in the district, of great size and depth, and abounding in fish.

The Mussulmans of Backergunje are among the worst of their creed, steeped in ignorance and prejudice, easily excited to violence and murder, very litigious and grossly immoral. On account of an epidemic of murders disarmament had to be enforced in the district. The Faraizis or Puritan sect of Mahommedans are exceedingly numerous in the district. The Buddhist population consists of Maghs or the people of Arakan, who first settled in Backergunje about 1800, and have made themselves very useful in the clearing of the Sundarbans. A gipsy-like tribe called the Bebajias are rather numerous in this district. They live principally in boats, travelling from place to place, profess Mahommedanism, and gain their subsistence by wood-cutting in the Sundarbans, fishing, fortune-telling and trading in trinkets. In 1901 the population was 2,291,752, showing an increase of 6% in the decade.

A number of small trading villages exist throughout the district, and each locality has its periodical fairs for purposes of traffic. The material condition of the people is good. Every inhabitant is a small landholder and cultivates sufficient rice and other necessaries for the support of his family. Owing to this reason, hired labour is very scarce. Rice is the great crop of the district, and three harvests are obtained annually—the *aman*, or winter rice; *aus*, or autumn crop; and *boro*, or spring rice. The climate of Backergunje is one of the healthiest in Eastern Bengal, owing to the strong south-west monsoon, which comes up directly from the Bay of Bengal, and keeps the atmosphere cool; but the heavy rainfall and consequent humidity of the atmosphere, combined with the use of bad water, are fruitful sources of disease. The average annual temperature varies from 78° to 85° F. The thermometer ranges from 62° to 98°.

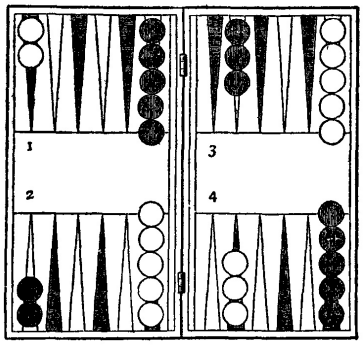
Barisal, the headquarters station, situated on the west bank of the Barisal river, had a population in 1901 of 18,978. The next largest town is Pirojpur (14,119).

BACKGAMMON, a game played with draughtsmen and a special board, depending on the throw of dice. It is said to have been invented about the 10th century (Strutt). A similar game (*Ludus duodecim scriptorum*, the "twelve-line game") was known to the Romans, and Plato (*Republic*, bk.

x.) alludes to a game in which dice were thrown and men were placed after due consideration. The etymology of the word "backgammon" is disputed; it is probably Saxon—*baec*, back, *gamen*, game; *i.e.* a game in which the players are liable to be sent back. Other derivations are, Dan. *bakke*, tray, *gammen*, game (Wedgwood); and Welsh *bach*, little, *cammaun*, battle (Henry). Chaucer alludes to a game of "tables," played with three dice, in which "men" were moved from the opponent's "tables," the game (*ludus Anglicorum*) being described in the Harleian MSS. (1527). The French name for backgammon is *trictrac*, imitative of the rattle of the dice.

Backgammon is played by two persons. The "board" (see diagram) is divided into four "tables," each table being marked with six "points" coloured differently. The inner and outer tables are separated from each other by a projecting *bar*. The board (in the ordinary form of the game) is furnished with fifteen white and fifteen black men, "set" or arranged as in the diagram. It is usual to make the inner table the one nearest to the light. Two dice-boxes are required, one for each player, and a pair of dice, which are used by both players. The dice are marked with numbers on their six sides, from one to six, number one being called, "ace"; two, "deuce": three, "trey." [v.03 p.0134] Formerly the four was called "quatre" (pronounced "cater"); the five, "cinque" (pronounced either "sank" or "sink"); and the six, "six" (size).

For the right to start each player throws one or two dice; the one who throws the higher number has the right of playing first; and he may either adopt the numbers thrown or he may throw again, using both dice.



Backgammon Board.
1. Black's ace-point. 3. Black's bar-point.
2. White's ace-point. 4. White's bar-point.

The men are moved on from point to point, according to the throws of the dice made by the players alternately. White moves from black's inner table to black's outer, and from this to white's outer table, and so on to white's inner table; and all black's moves must be in the contrary direction. A player may move any of his men a number of points corresponding to the numbers thrown by him, provided the point to which the move would bring him is not *blocked* by two or more of his adversary's men being on it. The whole throw may be taken with one man, or two men maybe moved, one the exact number of points on one die, the other the number on the other die. If doublets are thrown (*e.g.* two sixes), four moves of that number (*e.g.* four moves of six points) may be made, either all by one man or separately by more. Thus, suppose white throws five, six, he may move one of his men from the left-hand corner of the black's inner table to the left-hand corner of black's outer table for six; he may, again, move the same man five points farther on, when his move is completed; or he may move any other man five points. But white cannot move a man for five from the black's ace-point, because the six-point in that table is blocked. Any part of the throw which cannot be moved is of no effect, but it is compulsory for a player to move the whole throw unless blocked. Thus if the men were differently placed, and white could move a six, and having done so could not move a five, his move is completed. If, however, by moving the five first, he can afterwards move a six, he must make the move in that manner.

When a player so moves as to place two men on the same point, he is said to "make a point."

When there is only a single man on a point, it is called a "blot." When a blot is left, the man there may be taken up (technically the blot may be "hit") by the adversary if he throws a number which will enable him to place a man on that point. The man hit is placed on the bar, and has to begin again by entering the adversary's home table again at the next throw should it result in a number that corresponds to an unblocked point. The points in the home tables count for this purpose as 1, 2, 3, 4, 5, 6, beginning from the ace-point. A player is not allowed to move any other man while he has one to enter. It is, therefore, an advantage to have made all the points in your own board, so that your adversary, if you take a man up, cannot enter; and you can then continue throwing until a point is opened.

The game proceeds until one of the players gets all his men into his inner table or *home*. Then he begins to take his men off the board, or to *bear* them, *i.e.* to remove a man from any point that corresponds in number with his throw. If such a point is unoccupied, a move must be made, if there is room for it, and a move may be taken, instead of bearing a man, at any time; but when six is empty, if six is thrown a man may be borne from five and so on. If, after a player has commenced throwing off his men, he should be hit on a blot, he must enter on his adversary's inner table and must bring the man taken up into his own inner table before he can bear further.

Whoever first takes off all his men wins the game:—a single game (a "hit") if his adversary has begun bearing; a double game (a "gammon") if the adversary has not borne a man; and a triple game (a "backgammon") if, at the time the winner bears his last man, his adversary, not having borne a man, has one in the winner's inner table, or has a man up. When a series of games is played, the winner of a hit has the first throw in the succeeding game; but if a gammon is won, the players each throw a single die to determine the first move of the next game.

In order to play backgammon well, it is necessary to know all the chances on two dice and to apply them in various ways. The number of different throws that can be made is thirty-six. By taking all the combinations of these throws which include given numbers, it is easily discovered where blots may be left with the least probability of being hit. For example, to find the chance of

being hit where a blot can only be taken up by an ace, the adversary may throw two aces, or ace in combination with any other number up to six, and he may throw each of these in two different ways, so that there are in all eleven ways in which an ace may be thrown. This, deducted from thirty-six (the total number of throws), leaves twenty-five; so that it is 25 to 11 against being hit on an ace. It is very important to bear in mind the chance of being hit on any number. The following table gives the odds against being hit on any number within the reach of one or two dice: -

It is	25	to	11,	or about	9	to	4,	against being hit on	1
"	24	"	12,	or	2	"	1,	"	2
"	22	"	14,	or about	3	"	2,	"	3
"	21	"	15,	or	7	"	5,	"	4
"	21	"	15,	"	7	"	5,	"	5
"	19	"	17,	"	9½	"	8½,	"	6
"	30	"	6,	"	5	"	1,	"	7
"	30	"	6,	"	5	"	1,	"	8
"	31	"	5,	or about	6	"	1,	"	9
"	33	"	3,	or	11	"	1,	"	10
"	34	"	2,	"	17	"	1,	"	11
"	33	"	3,	"	11	"	1,	"	12

The table shows that if a blot must be left within the reach of one die, the nearer it is left to the adversary's man the less probability there is of its being hit. Also, that it is long odds against being hit on a blot which is only to be reached with double dice, and that, in that case (on any number from 7 to 11), the farther off the blot is, the less chance there is of its being hit.

The table assumes that the board is open for every possible throw. If part of the throw is blocked by an intervening point being held by adverse men, the chance of being hit is less.

Two principles, then, have to be considered in moving the men:— (1) To make points where there is the best chance of obstructing the opponent. (2) When obliged to leave blots, to choose the position in which they are least likely to be hit.

The best points to secure are the five-point in your own inner table and the five-point in your adversary's inner table. The next best is your own bar-point; and the next best the four in your own inner table.

The best move for some throws at the commencement of a game is as follows:—Aces (the best of all throws), move two on your bar-point and two on your five-point. This throw is often given to inferior players by way of odds.

Ace, trey: make the five-point in your inner table.

Ace, six: make your bar-point.

Deuces: move two on the four-point in your inner table, and two on the trey-point in your opponent's inner table.

Deuce, four: make the four-point in your own table.

Threes: play two on the five-point in your inner table, and two on the four-point of your adversary's inner table, or make your bar-point.

Trey, five: make the trey-point in your own table.

Trey, six: bring a man from your adversary's ace-point as far as he will go.

Fours: move on two on the five-point in your adversary's inner table, and two from the five in his outer table.

Four, five and four, six: carry a man from your adversary's ace-point as far as he will go.

Fives: move two men from the five in your adversary's outer table to the trey-point in your inner table.

Five, six: move a man from your adversary's ace-point as far as he will go.

Sixes (the second-best throw): move two on your adversary's bar-point and two on your own bar-point.

In carrying the men home carry the most distant man to your adversary's bar-point, to the six-point in your outer table, and then to the six-point in your inner table. By following this rule as nearly as the throws admit, you will carry the men to your inner table in the fewest number of throws.

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Avoid carrying many men upon the trey or deuce-point in your own tables, as these men are out of play.

Whenever you have taken up two of your adversary's men, and two or more points made in your inner table, spread your other men in the hope of making another point in your tables, and of

hitting the man your adversary enters.

Always take up a man if the blot you leave in making the move can only be hit with double dice, but if you already have two of your opponent's men in your tables it is unwise to take up a third.

In entering a man which it is to your adversary's advantage to hit, leave the blot upon the lowest point you can, *e.g.* ace-point in preference to deuce-point.

When your adversary is bearing his men, and you have two men in his table, say, on his ace-point, and several men in the outer table, it is to your advantage to leave one man on the ace-point, because it prevents his bearing his men to the greatest advantage, and gives you the chance of his leaving a blot. But if you find that you can probably save the gammon by bringing both your men out of his table, do not wait for a blot. Eight points is the average throw.

The laws of backgammon (as given by Hoyle) are as follows:—

1. When a man is touched by the caster it must be played if possible; if impossible no penalty. 2. A man is not played till it is placed upon a point and quitted. 3. If a player omits a man from the board there is no penalty. 4. If he bears any number of men before he has entered a man taken up, men so borne must be entered again. 5. If he has mistaken his throw and played it, and his adversary has thrown, it is not in the choice of either of the players to alter it, unless they both agree to do so. 6. If one or both dice are "cocked," *i.e.* do not lie fairly and squarely on the table, a fresh throw is imperative.

Russian Backgammon varies from the above game in that the men, instead of being set as in the diagram, are entered in the same table by throws of the dice, and both players move in the same direction round to the opposite table. There are various rules for this game. By some a player is not obliged to enter all his men before he moves any; he can take up blots at any time on entering, but while he has a man up, he must enter it before entering any more or moving any of those already entered. If he cannot enter the man that is up, he loses the benefit of the throw.

A player who throws doublets must play or enter not only the number thrown, but also doublets of the number corresponding to the opposite side of the dice; thus, if he throws sixes, he must first enter or move the sixes, as the case may be, and then aces, and he also has another throw. Some rules allow him to play either doublets first, but he must always complete one set before playing the other. If a player cannot play the whole of his throw, his adversary is sometimes allowed to play the unplayed portion, in which cases the caster is sometimes allowed to come in and complete his moves, if he can, and in the event of his having thrown deuce-ace or doublets to throw again. If he throws doublets a second time, he moves and throws again, and so on. The privilege is sometimes restricted by not allowing this advantage to the first doublets thrown by each player. It is sometimes extended by allowing the thrower of the deuce-ace to choose any doublets he likes on the opposite side of the dice, and to throw again. The restriction with regard to the first doublets thrown does not apply to deuce-ace, nor does throwing it remove the restriction with regard to first doublets. A player must first be able to complete the doublets thrown. If the player cannot move the whole throw he cannot take the corresponding doublets, and he is not allowed another throw if he cannot move all the points to which he is entitled.

BACKHUYSEN, or BAKHUISEN, **LUDOLF** (1631-1708), Dutch painter, was born at Emden, in Hanover. He was brought up as a merchant at Amsterdam, but early discovered so strong a genius for painting that he relinquished business and devoted himself to art. He studied first under Allart van Everdingen and then under Hendrik Dubbels, two eminent masters of the time, and soon became celebrated for his sea-pieces. He was an ardent student of nature, and frequently exposed himself on the sea in an open boat in order to study the effects of tempests. His compositions, which are very numerous, are nearly all variations of one subject, and in a style peculiarly his own, marked by intense realism or faithful imitation of nature. In his later years Backhuysen employed his time in etching and calligraphy. He died in Amsterdam on the 17th of November 1708.

BACKNANG, a town of Germany, in the kingdom of Württemberg, 19 m. by rail N.E. from Stuttgart. Pop. (1900) 7650. It has an interesting church, dating from the 12th century, and notable tanneries and leather factories, woollen and cloth mills. In 1325 Backnang was ceded to Württemberg by Baden. In the vicinity is the Wilhelmsheim sanatorium for consumptives.

BACKSCRATCHER, a long slender rod of wood, whalebone, tortoiseshell, horn or cane, with a carved human hand, usually of ivory, mounted at the extremity. Its name suggests the primary use of the implement, but little is known of its history, and it was unquestionably also employed as a kind of rake to keep in order the huge "heads" of powdered hair worn by ladies during a considerable portion of the 18th and the early part of the 19th centuries. The backscratcher varies in length from 12 to 20 in., and the more elaborate examples, which were occasionally hung from the waist, are silver-mounted, and in rare instances the ivory fingers bear carved rings. The hand is sometimes outstretched, and sometimes the fingers are flexed; the modelling is frequently good, the fingers delicately formed and the nails well defined. As a rule the rod is finished off with a knob. The hand was now and again replaced by a rake or a bird's claw. The hand was indifferently dexter or sinister, but the Chinese variety usually bears a right hand. Like most of the obsolete appliances of daily life, the backscratcher, or scratch-back, as it is sometimes called, has become scarce, and it is one of the innumerable objects which attract the attention of the modern collector.

BACK'S RIVER (*Thlewechodyeth*, or "Great Fish"), a river in Mackenzie and Keewatin districts, Canada, rising in Sussex lake, a small body of water in 108° 20′ W. and 64° 25′ N., and flowing with a very tortuous course N.E. to an inlet of the Arctic Ocean, passing through several large lake-expansions—Pelly, Carry, MacDougall and Franklin. Like the Coppermine, the only other large river of this part of Canada, it is rendered unnavigable by a succession of rapids and rocks. It was discovered and explored by Sir George Back in 1834. Its total length is 560 m.

BACKWARDATION, or, as it is more often called for brevity, BACK, a technical term employed on the London Stock Exchange to express the amount charged for the loan of stock from one account to the other, and paid to the purchaser by the seller on a bear account (see ACCOUNT) in order to allow the seller to defer the delivery of the stock. The seller, having sold for delivery on a certain date, stocks or shares which probably he does not possess, in the hope that he may be able, before the day fixed for delivery, to buy them at a cheaper price and so earn a profit, finds on settling-day that the prices have not gone down according to his expectation, and therefore pays the purchaser an agreed amount of interest (*backwardation*) for the privilege of deferring the delivery, either in order to procure the stock, or else in the hope that there will be a shrinkage in the price which will enable him to gain a profit. (See also STOCK EXCHANGE).

BACON, FRANCIS (BARON VERULAM, VISCOUNT ST ALBANS) (1561-1626), English philosopher, statesman and essayist, was born at York House in the Strand, London, on the 22nd of January 1560/1. He was the youngest son of Sir Nicholas Bacon (*q.v.*). His mother, the second wife of Sir Nicholas, was a daughter of Sir Anthony Cooke, formerly tutor to Edward VI. She was a woman of considerable culture, well skilled in the classical studies of the period, and a warm adherent of the Reformed or Puritan Church. Very little is known of Bacon's early life and education. His health being then, as always, extremely delicate, he probably received much of his instruction at home. In April 1573 he was entered at Trinity College, Cambridge, where for three years he resided with his brother Anthony. At Cambridge he applied himself diligently to the several sciences as then taught, and came to the conclusion that the methods employed and the results attained were alike erroneous. Although he preserved a reverence for Aristotle (of whom, however, he seems to have known but little), he learned to despise the current Aristotelian philosophy. It yielded no fruit, was serviceable only for disputation, and the end it proposed to itself was a mistaken one. Philosophy must be taught its true purpose, and for this purpose a new
[v.03 p.0136]
method must be devised. With the first germs of this great conception in his mind, Bacon left the university.

On the 27th of June 1576 he and his brother Anthony were entered *de societate magistrorum* at Gray's Inn, and a few months later he was sent abroad with Sir Amyas Paulet, the English ambassador at Paris. The disturbed state of government and society in France at that time afforded him valuable political instruction. It was formerly supposed that certain *Notes on the State of Christendom*, usually printed in his works, contain the results of his observations, but Spedding has shown that there is no reason for ascribing these *Notes* to him, and that they may be attributed with more probability to one of his brother Anthony's correspondents.

The sudden death of his father in February 1578/9 necessitated Bacon's return to England, and exercised a very serious influence on his fortunes. A considerable sum of money had been laid up by Sir Nicholas for the purchase of an estate for his youngest son, the only one otherwise unprovided for. Owing to his sudden death, this intention was not carried out, and a fifth only of the money descended to Francis. This was one of the gravest misfortunes of his life; he started with insufficient means, acquired a habit of borrowing and was never afterwards out of debt. As it had become necessary that he should adopt some profession, he selected that of law, and took up his residence at Gray's Inn in 1579.

In the fragment *De Interpretation Naturae Prooemium* (written probably about 1603) Bacon analyses his own mental character and lays before us the objects he had in view when he entered on public life. If his opening sentence, "Ego cum me ad utilitates humanas natum existimarem" ("since I thought myself born to be of advantage to mankind"), seems at first sight a little arrogant, it must be remembered that it is the arrogance of Aristotle's μεγαλόψυχος,[1] who thinks himself worthy of great things, and is worthy. The ideal of production of good to the human race through the discovery of truth, was combined in him with the practical desire to be of service to his country. He purposed, therefore, to obtain, if possible, some honourable post in the state which would give him the means of realizing these projects, and would enable him to do somewhat for the church, the third of the objects whose good he had at heart. The constant striving after these three ends is the key to Bacon's life. His qualifications for accomplishing the task were not small. His intellect was far-seeing and acute, quick and yet cautious, meditative, methodical and free from prejudice. If we add to this account that he seems to have been of an unusually amiable disposition we have a fairly complete picture of his mental character at this critical period of his life.

In 1580 he appears to have taken the first step in his career by applying, through his uncle, Burghley, the lord treasurer, for some post at court. His suit, though well received by the queen, was unsuccessful; the particulars are totally unknown. For two years after this disappointment he worked quietly at Gray's Inn, and in 1582 was admitted an outer barrister. In 1584 he took his seat in parliament for Melcombe in Dorsetshire, but the notes for the session do not disclose what reputation he gained. About the same time he made another application to Burghley, apparently with a view to expediting his progress at the bar. His uncle, who appears to have "taken his zeal for ambition," wrote him a severe letter, taking him to task for arrogance and

pride, qualities which Bacon vehemently disclaimed. As his advancement at the bar was unusually rapid, his uncle's influence may have been exerted in his behalf. In 1589 he received the first substantial piece of patronage from his powerful kinsman, the reversion of the clerkship of the Star Chamber. The office was worth about £1600 a year; but it did not become vacant for nearly twenty years. A considerable period of his life thus slipped away, and his affairs had not prospered. He had written on the condition of parties in the church; he had set down his thoughts on philosophical reform in the lost tract, *Temporis Partus Maximus*; but he had failed in obtaining the position which he looked upon as an indispensable condition of success. A long and eloquent letter to Burghley[2] throws additional light upon his character, and gives a hint as to the cause of his uncle's slackness in promoting him.

Some time before this, perhaps as early as 1588, Bacon appears to have become acquainted with the earl of Essex, Elizabeth's favourite. At the close of 1591 he was acting as the earl's confidential adviser, and exerted himself, together with his brother Anthony, diligently in the earl's service. In February 1593 parliament was called, and Bacon took his seat for Middlesex. The special occasion for which the House had been summoned was the discovery of one of the numerous popish plots that distracted Elizabeth's reign.

As Bacon's conduct in this emergency seriously affected his fortunes and has been much misunderstood, it is necessary to state, as briefly as possible, the whole facts of the case. The House having been duly informed of the state necessities, assented to a double subsidy and appointed a committee to draw up the requisite articles. Before this was completed, a message arrived from the House of Lords requesting a conference, which was granted. The committee of the Commons were then informed that the crisis demanded a triple subsidy to be collected in a shorter time than usual, that the Lords could not assent to less than this, and that they desired to confer on the matter. This proposal of the Lords to discuss supply infringed upon the privileges of the Commons; accordingly, when the report of committee was read to the Lower House, Bacon spoke against the proposed conference, pointing out at the same time that a communication from the Lords might be received, but that the actual deliberation on it must be taken by themselves alone. His motion, after some delay, was carried and the conference was rejected. The Lords upon this lowered their demands, and desired merely to make a communication, which, being legitimate, was at once assented to. The House had then before them the proposal for a triple subsidy, to be collected in three, or, as the motion ultimately was shaped, in four years, instead of in six, as the ordinary custom would have been. Bacon, who approved of the increased subsidy, was opposed to the short period in which it was proposed to raise it. He suggested that it would be difficult or impossible for the people to meet such heavy demands, that discontent and trouble would arise, and that the better method of procedure was to raise money by levy or imposition. His motion appears to have received no support, and the four years' subsidy was passed unanimously. Bacon, as it turned out, had been mistaken in thinking that the country would be unable to meet the increased taxation, and his conduct, though prompted by a pure desire to be
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of service to the queen, gave deep and well-nigh ineradicable offence. He was accused of seeking popularity, and was for a time excluded from the court. His letter to Burghley,[3] who had told him of the queen's displeasure with his speech, offers no apology for what he had said, but expresses regret that his motives should have been misunderstood. He soon felt that the queen's anger was not to be appeased by such a justification. The attorney-generalship had fallen vacant and Bacon became a candidate for the office, his most formidable rival being his life-long antagonist, Edward Coke, who was then solicitor. Essex warmly espoused Bacon's cause and earnestly pressed his claims upon the queen; but his impetuous, pettish pleading tended to retard the cause. Burghley, on the other hand, in no way promoted his nephew's interest; he would recommend him for the solicitorship, but not for the attorney-generalship; and it is not improbable that Sir Robert Cecil secretly used his influence against his cousin. The queen delayed the appointment, and Bacon's fortunes, as they then stood, could ill brook delay. He was harassed with debt and at times so disheartened that he contemplated retirement from public life. In March 1594 it was at last understood that Coke was to be attorney-general. Essex, though bitterly mortified, at once threw all his energies into the endeavour to procure for Bacon the solicitorship; but in this case also, his method of dealing, which was wholly opposed to Bacon's advice,[4] seemed to irritate the queen. The old offence was not yet forgiven, and after a tedious delay, the office was given, in October 1595, to Serjeant Thomas Fleming. Burghley and Sir John Puckering seem to have assisted Bacon honestly, if not over-warmly, in this second application; but the conduct of Cecil had roused suspicions which were not perhaps without foundation. Essex, to compensate in some degree for Bacon's disappointment, insisted on presenting him with a piece of land, worth about £1800, and situated probably near Twickenham Park. Nor did his kindness cease there; before sailing on the expedition to Cadiz, in the beginning of 1596, he addressed letters to Buckhurst, Fortescue and Egerton, earnestly requesting them to use their influence towards procuring for Bacon the vacant office of master of the rolls. Before anything came of this application, the Cadiz expedition had resulted in a brilliant success, and Essex became the idol of the army and the people. Bacon saw clearly that such a reputation would assuredly alienate the affections of the queen, who loved not to have a subject too powerful or too popular. He therefore addressed an eloquent and imploring letter to the earl, pointing out the dangers of his position and urging upon him what he judged to be the only safe course of action, to seek and secure the favour of the queen alone; above all things dissuading him from the appearance of military popularity. His advice, however, was unpalatable and proved ineffectual. The earl still continued his usual course of dealing with the queen, depending solely upon her supposed affection for him, and insanely jealous of any other whom she might seem to favour. His unskilful and unlucky management of the sea expedition to Ferrol and the Azores in no way

lowered his popularity with the people, but undoubtedly weakened his influence with the queen.

Bacon's affairs in the meantime had not been prospering. He had increased his reputation by the publication in 1597 of his *Essays*, along with which were the *Colours of Good and Evil* and the *Meditationes Sacrae*; but his private fortunes were in a bad condition. No public office apparently could be found for him; a scheme for retrieving his position by a marriage with the wealthy widow, Lady Elizabeth Hatton, failed, and in 1598 he was arrested for debt. He seems, however, to have been growing in favour with the queen. Some years previously (perhaps about 1594), he had begun to be employed by her in crown affairs, and he gradually acquired the standing of one of the learned counsel, though he had no commission or warrant, and received no salary. At the same time he was no longer on the former friendly terms with Essex, a certain estrangement having sprung up between them, caused no doubt by the earl's dislike of his friend's advice. The earl's affairs were then at a somewhat critical stage, and as our judgment upon a most important episode in Bacon's life depends upon our knowledge of the events of the ensuing year, it will be requisite to enter somewhat minutely into proceedings with which Bacon himself had nothing to do.

Ireland was then in a rebellious and discontented condition, and it was difficult for the English government to decide either on a definite course of policy with regard to it, or on a leader by whom that policy might be carried out. A violent quarrel took place between the queen and Essex, who for some months retired from court and refused to be reconciled. At last he came forth from his seclusion, and it was soon understood that he was in person to undertake the subjugation of the rebels in Ireland, with a larger force than had ever before been sent into that country. Into the obscure details of this unhappy campaign it is unnecessary to enter; one fact stands out clearly, that Essex endeavoured to carry out a treasonable design. His jealousy and ill-temper had been so roused that the only course open to him seemed to be the obtaining a powerful military force, the possession of which would compel the queen to reinstate him in her favour. Whether or not this plan was in contemplation before he undertook the Irish expedition is not evident, though even outsiders at that time entertained some suspicions, but there can be no doubt of the treasonable character of the negotiations carried on in Ireland. His plans, probably not very definite, were disturbed by an imperative message from the queen, ordering him not to return to England without her permission. He at once set off, and, trusting apparently to her affection for him, presented himself suddenly before her. He was, for the moment, received kindly, but was soon afterwards ordered to keep his chamber, and was then given into the custody of the lord keeper at York House, where he remained till March 1600. His great popularity, and the general ignorance of the reasons for his imprisonment, stirred up a strong feeling against the queen, who was reported to be influenced by Bacon, and such indignation was raised against the latter that his friends feared his life would be in danger. It was at last felt necessary that the queen should in some way vindicate her proceedings, and this she at first did, contrary to Bacon's advice, by a declaration from the Star Chamber. This, however, gave little or no satisfaction, and it was found expedient to do what Bacon had always recommended, to have a fair trial, yet not one in which the sentence must needs be damaging to the earl. The trial accordingly took place before a body of her majesty's councillors, and Bacon had a subordinate and unimportant part in the accusation. Essex does not seem to have been at all hurt by his action in this matter, and shortly after his release they were again on friendly terms, Bacon drawing up letters as if to or from the earl with the design of having them brought before the queen. But Bacon did not know the true character of the transactions in which Essex had been engaged. The latter had been released from all custody in August, but in the meantime he had been busily engaged in treasonable correspondence with James of Scotland, and was counting on the Irish army under his ally, Charles Blount, Baron Mountjoy (afterwards earl of Devonshire), the new deputy. But Mountjoy had apparently come to see how useless the attempt would be to force upon the queen a settlement of the succession and declined to go farther in the matter. Essex was thus thrown upon his own resources, and his anger against the queen being roused afresh by the refusal to renew his monopoly of sweet wines, he formed the desperate project of seizing her person and compelling her to dismiss from her council his enemies Raleigh, Cobham, and Cecil. As some pretext, he intended to affirm that his life was in danger from these men, who were in league with the Spaniards. The plot was forced on prematurely by the suspicions excited at court, and the rash attempt to rouse the city of London (8th of February 1601), proved a complete *fiasco*. The leaders were arrested that night and thrown into prison. Although the actual rising might have appeared a mere outburst of frantic passion, the private examinations of the most prominent conspirators disclosed to the government a plot so widely spread, and involving so many of the highest in the land, that it would have been perilous to have pressed home accusations against all who might be implicated. Essex was tried along with the young earl of Southampton, and Bacon, as one of her majesty's counsel, was present on the occasion. Coke, who was principal spokesman, managed the case with great want of skill, incessantly allowing the thread of the evidence to escape, and giving the prisoners opportunity to indulge in irrelevant justifications and protestations which were not ineffectual in distracting attention from the real question at issue. On the first opportunity Bacon rose and briefly pointed out that the earl's plea of having done nothing save what was absolutely necessary to defend his life from the machinations of his enemies was weak and worthless, inasmuch as these enemies were purely imaginary; and he compared his case to that of Peisistratus, who had made use of a somewhat similar stratagem to cloak his real designs upon the city of Athens. He was thereupon interrupted by the earl, who proceeded to defend himself, by declaring that in one of the letters drawn up by Bacon, and purporting to be from the earl to Anthony Bacon, the existence of these rumours, and the dangers to be apprehended from them, had been admitted; and he continued, "If these

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reasons were then just and true, not counterfeit, how can it be that now my pretences are false and injurious?" To this Bacon replied, that "the letters, if they were there, would not blush to be seen for anything contained in them, and that he had spent more time in vain in studying how to make the earl a good servant to the queen than he had done in any thing else." It seems to be forgotten in the general accounts of this matter, not only that Bacon's letters bear out what he said, but that the earl's excuses were false. A second time Bacon was compelled to interfere in the course of the trial, and to recall to the minds of those present the real question at issue. He animadverted strongly upon the puerile nature of the defence, and in answer to a remark by Essex, that if he had wished to stir up a rebellion he would have had a larger company with him, pointed out that his dependence was upon the people of London, and compared his attempt to that of the duke of Guise at Paris. To this the earl made little or no reply. Bacon's use of this illustration and of the former one of Peisistratus, has been much commented on, and in general it seems to have been thought that had it not been for his speeches Essex might have escaped, or, at all events, have been afterwards pardoned. But this view of the matter depends on the supposition that Essex was guilty only of a rash outbreak.[5] That this was not the case was well known to the queen and her council. Unfortunately, prudential motives hindered the publication of the whole evidence; the people, consequently, were still ignorant of the magnitude of the crime, and, till recently, biographers of Bacon have been in a like ignorance.[6] The earl himself, before execution, confessed his guilt and the thorough justice of his sentence, while, with singular lack of magnanimity, he incriminated several against whom accusations had not been brought, among others his sister Lady Rich. After his execution it was thought necessary that some account of the facts should be drawn up and circulated, in order to remove the prejudice against the queen's action in the matter. This was entrusted to Bacon, who drew up a *Declaration of the Practices and Treasons attempted and committed by Robert, late Earl of Essex*, his first draft being extensively altered and corrected by the queen and council. Nothing is known with certainty of the reception given to this official explanation, but the ill-feeling against Bacon was not wholly removed, and some years later, in 1604, he published, in the form of a letter to Mountjoy, an *Apology* for his action in the case. This *Apology* gives a most fair and temperate history of the relations between Bacon and Essex, shows how the prudent counsel of the one had been rejected by the other, and brings out very clearly what we conceive to be the true explanation of the matter. Everything that Bacon could do was done by him, until the real nature of Essex's design was made apparent, and then, as he had repeatedly told the earl, his devotion and respect were for the queen and state, not for any subject; friendship could never take rank above loyalty. Those who blame Bacon must acquit Essex of all wrong-doing.

Bacon's private fortunes, during the period after the death of Essex, were not in a flourishing condition. He had obtained a grant of £1200 from the fines imposed on Catesby, one of the conspirators, but his debts were sufficient to swallow up this and much more. And, though he was trusted by Elizabeth, and on good terms with her, he seems to have seen that he had no chance of advancement. But her death in 1603, followed by the undisputed succession of James, gave him new hopes. He used every means in his power to bring himself under James's notice, writing to all his friends at the Scottish court and to the king himself. He managed to obtain a personal interview with the king, but does not seem to have been much satisfied with it. In fact, while the king confirmed in their situations those who had held crown offices under Elizabeth, Bacon, not holding his post by warrant, was practically omitted. He was, however, continued, by special order of the king, as learned counsel extraordinary, but little or no law business appears to have been entrusted to him. He procured, through his cousin Cecil, the dignity of knighthood, which, contrary to his inclination, he received along with about 300 others, on the 23rd of July 1603. Between this time and the opening of James's first parliament he was engaged in literary work, and sent to the king two pamphlets—one on the Union, the other on measures for the pacification of the church. Shortly after he published his *Apology*. In March 1604 parliament met, and during their short session Bacon's hands seem to have been full of work. It was a busy and stirring time, and events occurred during it which carried within them the seeds of much future dissension. Prerogative and privilege came more than once into collision, the abuses of purveyance and wardship were made matters of conference, though the thorough discussion of them was deferred to a succeeding session; while James's temper was irritated by the objections brought against his favourite scheme of the Union, and by the attitude taken up by the House with regard to religious affairs. The records are barely full enough to enable us to judge of the share taken by Bacon in these discussions; his name generally appears as the reporter of the committees on special subjects. We can occasionally, however, discern traces of his tact and remarkable prudence; and, on the whole, his attitude, particularly with regard to the Union question, recommended him to James. He was shortly afterwards formally installed as learned counsel, receiving the salary of £40, and at the same time a pension of £60 yearly. He was also appointed one of the commission to treat of the conditions necessary for the Union; and the admirable manner in which the duties of that body were discharged must be attributed mainly to his influence and his complete mastery of the subject. During the recess he published his *Advancement of Learning*, dedicated to the king.

He was now brought into relations with James, and his prospects began to improve. It is important for us to know what were his ideas upon government, upon parliaments, prerogative, and so forth, since a knowledge of this will clear up much that would seem inexplicable in his life. It seems quite evident[7] that Bacon, from position, early training and, one might almost think, natural inclination, held as his ideal of government the Elizabethan system. The king was the supreme power, the centre of law and justice, and his prerogative must not be infringed. Parliament was merely a body called to consult with the king on emergencies (*circa ardua regni*)

and to grant supplies. King and parliament together make up the state, but the former is first in nature and importance. The duty of a statesman was, therefore, to carry out the royal will in as prudent a manner as possible; he was the servant of the king, and stood or fell according to his
[v.03 p.0139] pleasure. He was not singular in his opinions and he was undoubtedly sincere; and it is only by keeping them constantly in mind that we can understand his after relations with the king.

In the second parliament there was not so much scope for the exercise of his powers. The Gunpowder Plot had aroused in the Commons warmer feelings towards the king; they passed severe laws against recusants, and granted a triple subsidy. At the same time they continued the collection of the grievances concerning which they were to move. In the course of this session Bacon married Alice Barnham "the alderman's daughter, an handsome maiden, to my liking," of whom he had written some years before to his cousin Cecil. Little or nothing is known of their married life.

The third parliament was chiefly occupied with the commercial and legal questions rising out of the proposed Union, in particular, with the dispute as to the naturalization of the *Post Nati*. Bacon argued ably in favour of this measure, but the general feeling was against it. The House would only pass a bill abolishing hostile laws between the kingdoms; but the case of the *Post Nati*, being brought before the law courts, was settled as the king wished. Bacon's services were rewarded in June 1607 by the office of solicitor.[8] Several years passed before he gained another step. Meantime, though circumstances had thrown him too much into active life, he had not forgotten his cherished project of reorganizing natural science. A survey of the ground had been made in the *Advancement*, and some short pieces not published at the time were probably written in the subsequent two or three years. Towards the close of 1607 he sent to his friends a small tract, entitled *Cogitata et Visa*, probably the first draft of what we have under that title. In 1609 he wrote the noble panegyric, *In felicem memoriam Elizabethae*, and the curiously learned and ingenious work, *De Sapientia Veterum*; and completed what seems to have been the *Redargutio Philosophiarum*, or treatise on the "idols of the theatre."

In 1610 the famous fourth parliament of James met. Prerogative, despite Bacon's advice and efforts, clashed more than once with liberty; Salisbury's bold schemes for relieving the embarrassment caused by the reckless extravagance of the king proved abortive, and the House was dissolved in February 1611. Bacon took a considerable share in the debates, consistently upheld the prerogative, and seemed yet to possess the confidence of the Commons. The death of Salisbury, occurring soon after, opened a position in which Bacon thought his great political skill and sagacity might be made more immediately available for the king's service. How far he directly offered himself for the post of secretary is uncertain, but we know that his hopes were disappointed, the king himself undertaking the duties of the office. About the same time he made two ineffectual applications for the mastership of the wards; the first, on Salisbury's death, when it was given to Sir George Carey; the second, on the death of Carey. It is somewhat hard to understand why so little favour was shown by the king to one who had proved himself able and willing to do good service, and who, in spite of his disappointments, still continued zealously to offer advice and assistance. At last in 1613, a fair opportunity for promotion occurred. The death of Sir Thomas Fleming made a vacancy in the chief justiceship of the king's bench, and Bacon, after some deliberation, proposed to the king that Coke should be removed from his place in the court of common pleas and transferred to the king's bench. He gives several reasons for this in his letter to the king, but in all probability his chief motive was that pointed out by Spedding, that in the court of king's bench there would be less danger of Coke coming into collision with the king on questions of prerogative, in handling which Bacon was always very circumspect and tender. The vacancy caused by Coke's promotion was then filled up by Hobart, and Bacon, finally, stepped into the place of attorney-general. The fact of this advice being offered and followed in all essentials, illustrates very clearly the close relations between the king and Bacon, who had become a confidential adviser on most occasions of difficulty. That his adherence to the royal party was already noticed and commented on appears from the significant remark of Chamberlain, who, after mentioning the recent changes among the law officials, says, "There is a strong apprehension that ... Bacon may prove a dangerous instrument."

Further light is thrown upon Bacon's relations with James, and upon his political sympathies, by the letter to the king advocating the calling of a parliament,[9] and by the two papers of notes on which his letter was founded.[10] These documents, even after due weight is given to all considerations urged in their favour,[11] seem to confirm the view already taken of Bacon's theory of government, and at the same time show that his sympathies with the royal party tended to blind him to the true character of certain courses of action, which can only be justified by a straining of political ethics. The advice he offered, in all sincerity, was most prudent and sagacious, and *might* have been successfully carried out by a man of Bacon's tact and skill; but it was intensely one-sided, and exhibited a curious want of appreciation of what was even then beginning to be looked on as the true relation of king, parliament and people. Unfortunately for James, he could neither adopt nor carry out Bacon's policy. The parliament which met in April 1614, in which Bacon sat for Cambridge University, and was dissolved in June, after a stormy session, was by no means in a frame of mind suitable for the king's purposes. The House was enraged at the supposed project (then much misunderstood) of the "Undertakers"; objection was taken to Bacon being elected or serving as a member while holding office as attorney-general; and, though an exception was made in his favour, it was resolved that no attorney-general should in future be eligible for a seat in parliament. No supply was granted, and the king's necessities were increased instead of diminished. The emergency suggested to some of the bishops the idea

of a voluntary contribution, which was eagerly taken up by the noblemen and crown officials. The scheme was afterwards extended so as to take in the whole kingdom, but lost something of its voluntary character, and the means taken to raise the money, which were not what Bacon would have recommended,[12] were calculated to stir up discontent. The general dissatisfaction received a somewhat unguarded and intemperate expression in a letter sent to the justices of Marlborough by a gentleman of the neighbourhood, named Oliver St John,[13] in which he denounced the attempt to raise funds in this way as contrary to law, reason and religion, as constituting in the king personally an act of perjury, involving in the same crime those who contributed, and thereby subjecting all parties to the curses levelled by the church at such offences. St John was summoned before the Star Chamber for slander and treasonable language; and Bacon, *ex officio*, acted as public prosecutor. The sentence pronounced (a fine of £5000 and imprisonment for life) was severe, but it was not actually inflicted, and probably was not intended to be carried out, the success of the prosecution being all that was desired. St John remained a short time in prison, and was then released, after making a full apology and submission. The fine was remitted. It seems incredible that Bacon's conduct on this occasion should have been censured by his biographers. The offence was clear; the law was undoubted; no particular sympathy was excited for the culprit; the sentence was not carried out; and Bacon did only what any one in his place would naturally and necessarily have done. The nature of his office involved him in several trials for treason occurring about the same time, and one of these is of interest
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sufficient to require a somewhat longer examination. Edmund Peacham[14] had been committed to custody for a libel on his superior, James Montagu (1568?-1618), bishop of Bath and Wells. In searching his house for certain papers, the officers came upon some loose sheets stitched together in the form of a sermon, the contents of which were of such a nature that it was judged right to lay them before the council. As it was at first suspected that the writing of this book had been prompted by some disaffected persons, Peacham was interrogated, and after he had declined to give any information, was subjected to torture. Bacon, as one of the learned counsel, was ordered by the council to take part in this examination, which was undoubtedly warranted by precedent, whatever may now be thought of it. Nothing, however, was extracted from Peacham in this way, and it was resolved to proceed against him for treason. Now, in the excited state of popular feeling at that period, the failure of government to substantiate an accusation of treason would have been a serious matter. The king, with whom the council agreed, seems therefore to have thought it desirable to obtain beforehand the opinions of the four chief judges as to whether the alleged offence amounted to treason. In this there was nothing unusual or illegal, and no objection would at that time have been made to it, but James introduced a certain innovation; he proposed that the opinions of the four judges should be given separately and in private. It may be reasonably inferred that his motive for this was the suspicion, or it may be the knowledge, that Coke did not consider the matter treasonable. At all events when Coke, who as a councillor already knew the facts of the case, was consulted regarding the new proposal of the king, he at once objected to it, saying that "this particular and auricular taking of opinions" was "new and dangerous," and "not according to the custom of the realm." He at last reluctantly assented, and proposed that Bacon should consult with him, while the other law officers addressed themselves to the three puisne judges. By Bacon's directions the proposal to the three judges to give their opinions separately was made suddenly and confidently, and any scruples they might have felt were easily overcome. The first step was thus gained, and it was hoped that if "infusion" could be avoided, if the papers bearing on the case were presented to the judges quickly, and before their minds could be swayed by extraneous influence, their decision on the case would be the same as that of the king. It is clear that the extraneous influence to be feared was Coke, who, on being addressed by Bacon, again objected to giving his opinion separately, and even seemed to hope that his brother judges after they had seen the papers would withdraw their assent to giving their decisions privately. Even after the discussion of the case with Bacon, he would not give his opinion until the others had handed in theirs. What the other judges thought is not definitely known, but Bacon appears to have been unable to put in operation the plan he had devised for swaying Coke's judgment,[15] or if he did attempt it, he was unsuccessful, for Coke finally gave an opinion consistent with what he seems to have held at first, that the book was not treasonable, as it did not disable the king's title. Although the opinions of the judges were not made public, yet as we learn, not only from Bacon, but from a sentence in one of Carleton's letters,[16] a rumour had got about that there was doubt as to the book being treasonable. Under these circumstances, Bacon, who feared that such a report might incite other people to attempt a similar offence, proposed to the king that a second rumour should be circulated in order to destroy the impression caused by the first. "I do think it necessary," he says, "that because we live in an age in which no counsel is kept, and that it is true there is some bruit abroad that the judges of the king's bench do doubt of the case that it should not be treason, that it be given out constantly, and yet as it were in secret, and so a fame to slide, that the doubt was only upon the publication, in that it was never published. For that (if your majesty marketh it) taketh away or at least qualifieth the danger of the example; for that will be no man's case."[17] Bacon's conduct in this matter has been curiously misrepresented. He has been accused of torturing the prisoner, and of tampering with the judges[18] by consulting them before the trial; nay, he is even represented as selecting this poor clergyman to serve for an example to terrify the disaffected, as breaking into his study and finding there a sermon never intended to be preached, which merely encouraged the people to resist tyranny.[19] All this lavish condemnation rests on a complete misconception of the case. If any blame attaches to him, it must arise either from his endeavour to force Coke to a favourable decision, in which he was in all probability prompted by a feeling, not uncommon with him, that a matter of state policy was in danger of being sacrificed to some senseless legal

quibble or precedent, or from his advice to the king that a rumour should be set afloat which was not strictly true.

Bacon's share in another great trial which came on shortly afterwards, the Overbury and Somerset case, is not of such a nature as to render it necessary to enter upon it in detail.[20] It may be noted, however, that his letters about this time show that he had become acquainted with the king's new favourite, the brilliant Sir George Villiers, and that he stood high in the king's good graces. In the early part of 1616, when Thomas Egerton, Baron Ellesmere (*c.* 1540-1617), the lord chancellor, was dangerously ill, Bacon wrote a long and careful letter to the king, proposing himself for the office, should it fall vacant, and stating as frankly as possible of what value he considered his services would be. In answer, he appears to have received a distinct promise of the reversion of the office; but, as Ellesmere recovered, the matter stood over for a time. He proposed, however, that he should be made a privy councillor, in order to give him more weight in his almost recognized position of adviser to the king, and on the 9th of June 1616 he took the oaths and his seat at the council board.

Meanwhile, his great rival Coke, whose constant tendency to limit the prerogative by law and precedent had made him an object of particular dislike to James, had on two points come into open collision with the king's rights. The first case was an action of *praemunire* against the court of chancery, evidently instigated by him, but brought at the instance of certain parties whose adversaries had obtained redress in the chancellor's court after the cause had been tried in the court of king's bench. With all his learning and ingenuity Coke failed in inducing or even forcing the jury to bring in a bill against the court of chancery, and it seems fairly certain that on the technical point of law involved he was wrong. Although his motive was, in great measure, a feeling of personal dislike towards Ellesmere, yet it is not improbable that he was influenced by the desire to restrict in every possible way the jurisdiction of a court which was the direct exponent of the king's wishes. The other case, that of the *commendams*, was more important in itself and in the circumstances connected with it. The general question involved in a special instance was whether or not the king's prerogative included the right of granting at pleasure livings *in commendam*, *i.e.* to be enjoyed by one who was not the incumbent. Bacon, as attorney-general, delivered a speech, which has not been reported; but the king was informed that the arguments on the other side had not been limited to the special case, but had directly impugned the general prerogative right of granting livings. It was necessary for James, as a party interested, at once to take measures to see that the decision of the judges should not be given on the general question without due consultation. He accordingly wrote to Bacon, directing him to intimate to the judges his pleasure that they should delay judgment until after discussion of the matter with himself. Bacon communicated first with Coke, who in reply desired that similar notice should be given to the other judges. This was done by Bacon, though he seems to hint that
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in so doing he was going a little beyond his instructions. The judges took no notice of the intimation, proceeded at once to give judgment, and sent a letter in their united names to the king announcing what they had done, and declaring that it was contrary to law and to their oath for them to pay any attention to a request that their decision should be delayed. The king was indignant at this encroachment, and acting partly on the advice of Bacon, held a council on the 6th of June 1616, at which the judges attended. James then entered at great length into the case, censuring the judges for the offensive form of their letter, and for not having delayed judgment upon his demand, which had been made solely because he was himself a party concerned. The judges, at the conclusion of his speech, fell on their knees, and implored pardon for the manner of their letter; but Coke attempted to justify the matter contained in it, saying that the delay required by his majesty was contrary to law. The point of law was argued by Bacon, and decided by the chancellor in favour of the king, who put the question to the judges individually, "Whether, if at any time, in a case depending before the judges, which his majesty conceived to concern him either in power or profit, and thereupon required to consult with them, and that they should stay proceedings in the meantime, they ought not to stay accordingly?" To this all gave assent except Coke, who said that "when the case should be, he would do that should be fit for a judge to do." No notice was taken by the king of this famous, though somewhat evasive, reply, But the judges were again asked what course they would take in the special case now before them. They all declared that they would not decide the matter upon general grounds affecting the prerogative, but upon special circumstances incident to the case; and with this answer they were dismissed. Bacon's conduct throughout the affair has been blamed, but apparently on wrong grounds. As attorney he was merely fulfilling his duty in obeying the command of the king; and in laying down the law on the disputed point, he was, we may be sure, speaking his own convictions. Censure might more reasonably be bestowed on him because he deliberately advised a course of action than which nothing can be conceived better calculated to strengthen the hands of an absolute monarch.[21] This appeared to Bacon justifiable and right, because the prerogative would be defended and preserved intact. Coke certainly stands out in a better light, not so much for his answer, which was rather indefinite, and the force of which is much weakened by his assent to the second question of the king, but for the general spirit of resistance to encroachment exhibited by him. He was undeniably troublesome to the king, and it is no matter for wonder that James resolved to remove him from a position where he could do so much harm. On the 26th June he was called before the council to answer certain charges, one of which was his conduct in the *praemunire* question. He acknowledged his error on that head, and made little defence. On the 30th he was suspended from council and bench, and ordered to employ his leisure in revising certain obnoxious opinions in his reports. He did not perform the task to the king's satisfaction, and a few months later he was dismissed from office.

Bacon's services to the king's cause had been most important; and as he had, at the same time, acquired great favour with Villiers, his prospects looked brighter than before. According to his custom, he strove earnestly to guide by his advice the conduct of the young favourite. His letters, in which he analyses the various relations in which such a man must stand, and prescribes the course of action suitable for each, are valuable and deserving of attention.[22] Very striking, in view of future events, are the words[23] in which he gives him counsel as to his dealing with judges: "By no means be you persuaded to interpose yourself by word or letter in any cause depending, or like to be depending, in any court of justice, nor suffer any man to do it where you can hinder it; and by all means dissuade the king himself from it, upon the importunity of any, either for their friends or themselves. If it should prevail, it perverts justice; but if the judge be so just, and of so undaunted a courage (as he ought to be) as not to be inclined thereby, yet it always leaves a taint of suspicions and prejudice behind it." It is probable that Villiers at this time had really a sense of the duties attaching to his position[24] and was willing to be guided by a man of approved wisdom. It was not long before an opportunity occurred for showing his gratitude and favour. Ellesmere resigned the chancellorship on the 5th of March 1616/7, and on the 7th the great seal was bestowed upon Bacon, with the title of lord keeper. Two months later he took his seat with great pomp in the chancery court, and delivered a weighty and impressive opening discourse. He entered with great vigour on his new labours, and in less than a month he was able to report to Buckingham that he had cleared off all outstanding chancery cases. He seemed now to have reached the height of his ambition; he was the first law officer in the kingdom, the accredited minister of his sovereign, and on the best terms with the king and his favourite. His course seemed perfectly prosperous and secure, when a slight storm arising opened his eyes to the frailty of the tenure by which he held his position.

Coke was in disgrace but not in despair; there seemed to be a way whereby he could reconcile himself to Buckingham, through the marriage of his daughter, who had an ample fortune, to Sir John Villiers, brother of the marquess, who was penniless or nearly so. The match was distasteful to Lady Hatton and to her daughter; a violent quarrel was the consequence, and Bacon, who thought the proposed marriage most unsuitable, took Lady Hatton's part. His reasons for disapproval he explained to the king and Buckingham, but found to his surprise that their indignation was strongly roused against him. He received from both bitter letters of reproof; it was rumoured that he would be disgraced, and Buckingham was said to have compared his present conduct to his previous unfaithfulness to Essex. Bacon, who seems to have acted from a simple desire to do the best for Buckingham's own interests, at once changed his course, advanced the match by every means in his power, and by a humble apology appeased the indignation that had been excited against him. It had been a sharp lesson, but things seemed to go on smoothly after it, and Bacon's affairs prospered.

On the 4th of January 1617/8 he received the higher title of lord chancellor; in July of the same year he was made Baron Verulam and in January 1620/1 he was created Viscount St Albans. His fame, too, had been increased by the publication in 1620 of his most celebrated work, the *Novum Organum*. He seemed at length to have made satisfactory progress towards the realization of his cherished aims; the method essential for his Instauration was partially completed; and he had attained as high a rank in the state as he had ever contemplated. But his actions in that position were not calculated to promote the good of his country.

Connected with the years during which he held office is one of the weightiest charges against his character. Buckingham, notwithstanding the advice he had received from Bacon himself, was in the habit of addressing letters to him recommending the causes of suitors. In many cases these seem nothing more than letters of courtesy, and, from the general tone, it might fairly be concluded that there was no intention to sway the opinion of the judge illegally, and that Bacon did not understand the letters in that sense. This view is supported by consideration of the few answers to them which are extant.[25] One outstanding case, however, that of Dr Steward,[26] casts some suspicion on all the others. The terms of Buckingham's note[27] concerning it might easily have aroused doubts; and we find that the further course of the action was to all appearances exactly accommodated to Dr Steward, who had been so strongly recommended. It is, of course, dangerous to form an extreme judgment on an isolated and partially understood case, of which also we have no explanation from Bacon himself, but if the interpretation advanced by Heath be the true one, Bacon certainly suffered his first, and, so far as we can see, just judgment on the case to be set aside, and the whole matter to be reopened in obedience to a request from Buckingham.

It is somewhat hard to understand Bacon's position with regard to the king during these years. He was the first officer of the crown, the most able man in the kingdom, prudent, sagacious and devoted to the royal party. Yet his advice was followed only when it chimed in with James's own will; his influence was of a merely secondary kind; and his great practical skill was employed simply in carrying out the measures of the king in the best mode possible. We know indeed that he sympathized cordially with the home policy of the government; he had no objection to such monopolies or patents as seemed advantageous to the country, and for this he is certainly not to be blamed.[28] The opinion was common at the time, and the error was merely ignorance of the true principles of political economy. But we know also that the patents were so numerous as to be oppressive, and we can scarcely avoid inferring that Bacon more readily saw the advantages to the government than the disadvantages to the people. In November 1620, when a new parliament was summoned to meet on January following, he earnestly pressed that the most obnoxious patents, those of alehouses and inns, and the monopoly of gold and silver thread,

should be given up, and wrote to Buckingham, whose brothers were interested, advising him to withdraw them from the impending storm. This prudent advice was unfortunately rejected. But while he went cordially with the king in domestic affairs, he was not quite in harmony with him on questions of foreign policy. Not only was he personally in favour of a war with Spain for the recovery of the Palatinate, but he foresaw in such a course of action the means of drawing together more closely the king and his parliament. He believed that the royal difficulties would be removed if a policy were adopted with which the people could heartily sympathize, and if the king placed himself at the head of his parliament and led them on. But his advice was neglected by the vacillating and peace-loving monarch, his proffered proclamation was put aside, and a weak, featureless production substituted in its place. Nevertheless the new parliament seemed at first more responsive than might have been looked for. A double subsidy was granted, which was expressly stated to be "not on any consideration or condition for or concerning the Palatinate." The session, however, was not far advanced when the question of patents was brought up; a determined attack was made upon the very ones of which Bacon had been in dread, and it was even proposed to proceed against the referees (Bacon and Montagu) who had certified that there was no objection to them in point of law. This proposal, though pressed by Coke, was allowed to drop; while the king and Buckingham, acting under the advice of Williams, afterwards lord keeper, agreed to give up the monopolies. It was evident, however, that a determined attack was about to be made upon Bacon, and that the proceeding against the referees was really directed against him. It is probable that this charge was dropped because a more powerful weapon had in the meantime been placed in his enemies' hands. This was the accusation of bribery and corrupt dealings in chancery suits, an accusation apparently wholly unexpected by Bacon, and the possibility of which he seems never to have contemplated until it was actually brought against him. At the beginning of the session a committee had been appointed for inquiring into abuses in the courts of justice. Some illegal practices of certain chancery officials had been detected and punished by the court itself, and generally there was a disposition to overhaul its affairs, while Coke and Lionel Cranfield, earl of Middlesex (1575-1645) directly attacked some parts of the chancellor's administration. But on the 14th of March one Christopher Aubrey appeared at the bar of the House, and charged Bacon with having received from him a sum of money while his suit was going on, and with having afterwards decided against him. Bacon's letter[29] on this occasion is worthy of serious attention; he evidently thought the charge was but part of the deliberate scheme to ruin him which had already been in progress. A second accusation (Edward Egerton's case) followed immediately after, and was investigated by the House, who, satisfied that they had just matter for reprehension, appointed the 19th for a conference with the Lords. On that day Bacon, as he had feared, was too ill to attend. He wrote[30] to the Lords excusing his absence, requesting them to appoint a convenient time for his defence and cross-examination of witnesses, and imploring them not to allow their minds to be prejudiced against him, at the same time declaring that he would not "trick up an innocency with cavillations, but plainly and ingenuously declare what he knew or remembered." The charges rapidly accumulated, but Bacon still looked upon them as party moves, and was in hopes of defending himself.[31] Nor did he seem to have lost his courage, if we are to believe the common reports of the day,[32] though certainly they do not appear worthy of very much credit.

The notes[33] bearing upon the interview which he obtained with the king show that he had begun to see more clearly the nature and extent of the offences with which he was charged, that he now felt it impossible altogether to exculpate himself, and that his hopes were directed towards obtaining some mitigation of his sentence. The long roll of charges made upon the 19th of April finally decided him; he gave up all idea of defence, and wrote to the king begging him to show him favour in this emergency.[34] The next day he sent in a general confession to the Lords, [35] trusting that this would be considered satisfactory. The Lords, however, decided that it was not sufficient as a ground for their censure, and demanded a detailed and particular confession. A list of twenty-eight charges was then sent him, to which an answer by letter was required. On the 30th of April his "confession and humble submission"[36] was handed in. In it, after going over the several instances, he says, "I do again confess, that on the points charged upon me, although they should be taken as myself have declared them, there is a great deal of corruption and neglect; for which I am heartily and penitently sorry, and submit myself to the judgment, grace, and mercy of the court."[37] On the 3rd of May, after considerable discussion, the Lords decided upon the sentence, which was,[38] That he should undergo fine and ransom of £40,000; that he should be imprisoned in the Tower during the king's pleasure; that he should be for ever incapable of any office, place or employment in the state or commonwealth; that he should never
[v.03 p.0143] sit in parliament, or come within the verge of the court. This heavy sentence was only partially executed. The fine was in effect remitted by the king; imprisonment in the Tower lasted for about four days; a general pardon (not of course covering the parliamentary censure) was made out, and though delayed at the seal for a time by Lord Keeper Williams, was passed probably in November 1621. The cause of the delay seems to have lain with Buckingham, whose friendship had cooled, and who had taken offence at the fallen chancellor's unwillingness to part with York House. This difference was finally smoothed over, and it was probably through his influence that Bacon received the much-desired permission to come within the verge of the court. He never again sat in parliament.

So ends this painful episode, which has given rise to the most severe condemnation of Bacon, and which still presents great and perhaps insuperable difficulties. On the whole, the tendency of the most recent and thorough researches has been towards the opinion that Bacon's own account of

the matter (from which, indeed, our knowledge of it is chiefly drawn) is substantially correct. He distinguishes three ways in which bribes may be given,[39] and ingenuously confesses that his own acts amounted to corruption and were worthy of condemnation. Now, corruption strictly interpreted would imply the deliberate sale of justice, and this Bacon explicitly denies, affirming that he never "had bribe or reward in his eye or thought when he pronounced any sentence or order." When we analyse the specific charges against him, with his answers to them, we find many that are really of little weight. The twenty-eighth and last, that of negligence in looking after his servants, though it did him much harm, may fairly be said to imply no moral blame. The majority of the others are instances of gratuities given after the decision, and it is to be regretted that the judgment of the peers gives us no means of determining how such gifts were looked upon, whether or not the acceptance of them was regarded as a "corrupt" practice. In four cases specifically, and in some others by implication, Bacon confesses that he had received bribes from suitors *pendente lite*. Yet he affirms, as we said before, that his intention was never swayed by a bribe; and so far as any of these cases can be traced, his decisions, often given in conjunction with some other official, are to all appearance thoroughly just. In several cases his judgment appears to have been given against the party bestowing the bribe, and in at least one instance, that of Lady Wharton, it seems impossible to doubt that he must have known when accepting the present that his opinion would be adverse to her cause. Although, then, he felt that these practices were really corrupt, and even rejoiced that his own fall would tend to purify the courts from them,[40] he did not feel that he was guilty of perverting justice for the sake of reward. How far, then, is such defence or explanation admissible and satisfactory? It is clear that two things are to be considered: the one the guilt of taking bribes or presents on any consideration, the other the moral guilt depending upon the wilful perversion of justice. The attempt has sometimes been made to defend the whole of Bacon's conduct on the ground that he did nothing that was not done by many of his contemporaries. Bacon himself disclaims a defence of this nature, and we really have no direct evidence which shows to what extent the offering and receiving of such bribes then prevailed. That the practice was common is indeed implied by the terms in which Bacon speaks of it, and it is not improbable that the fact of these gifts being taken by officials was a thing fairly well known, although all were aware of their illegal character, and it was plain that any public exposure of such dealings would be fatal to the individual against whom the charge was made out.[41] Bacon knew all this; he was well aware that the practice was in itself indefensible,[42] and that his conduct was therefore corrupt and deserving of censure. So far, then, as the mere taking of bribes is concerned, he would permit no defence, and his own confession and judgment on his action contain as severe a condemnation as has ever been passed upon him. Yet in the face of this he does not hesitate to call himself "the justest chancellor that hath been in the five changes since Sir Nicholas Bacon's time";[43] and this on the plea that his intentions had always been pure, and had never been affected by the presents he received. His justification has been set aside by modern critics, not on the ground that the evidence demonstrates its falsity,[44] but because it is inconceivable or unnatural that any man should receive a present from another, and not suffer his judgment to be swayed thereby. It need hardly be said that such an *a priori* conviction is not a sufficient basis on which to found a sweeping condemnation of Bacon's integrity as an administrator of justice. On the other hand, even if it be admitted to be possible and conceivable that a present should be given by a suitor simply as seeking favourable consideration of his cause, and not as desirous of obtaining an unjust decree, and should be accepted by the judge on the same understanding, this would not entitle one absolutely to accept Bacon's statement. Further evidence is necessary in order to give foundation to a definite judgment either way; and it is extremely improbable, nay, almost impossible, that such can ever be produced. In these circumstances, due weight should be given to Bacon's own assertions of his perfect innocence and purity of intention; they ought not to be put out of court unless found in actual contradiction to the facts, and the reverse of this is the case, so far as has yet appeared.[45]

The remaining five years of his life, though he was still harassed by want of means, for James was not liberal, were spent in work far more valuable to the world than anything he had accomplished in his high office. In March 1622 he presented to Prince Charles his *History of Henry VII.*; and immediately, with unwearied industry, set to work to complete some portions of his great work. In November 1622 appeared the *Historia Ventorum*; in January 1622/3, the *Historia Vitae et Mortis*; and in October of the same year, the *De Augmentis Scientiarum*, a Latin translation, with many additions, of the *Advancement*. Finally, in December 1624, he published his *Apophthegms*, and *Translations of some of the Psalms*, dedicated to George Herbert; and, in 1625, a third and enlarged edition of the *Essays*.

Busily occupied with these labours, his life now drew rapidly to a close. In March 1626 he came to London, and when driving one day near Highgate, was taken with a desire to discover whether snow would act as an antiseptic. He stopped his carriage, got out at a cottage, purchased a fowl, and with his own hands assisted to stuff it with snow. He was seized with a sudden chill, and became so seriously unwell that he had to be conveyed to Lord Arundel's house, which was near at hand. Here his illness increased, the cold and chill brought on bronchitis and he died, after a few days' suffering, on the 9th of April 1626.

Bacon's Works and Philosophy.

A complete survey of Bacon's works and an estimate of his place in literature and philosophy are matters for a volume. It is here proposed merely to classify the works, to indicate their general

character and to enter somewhat more in detail upon what he himself regarded as his great achievement,—the reorganization of the sciences and the exposition of a new method by which the human mind might proceed with security and certainty towards the true end of all human thought and action.

Putting aside the letters and occasional writings, we may conveniently distribute the other works into three classes, *Professional, Literary, Philosophical*. The Professional works include the *Reading on the Statute of Uses*, the *Maxims of Law* and the treatise (possibly spurious) on the *Use of the Law*. "I am in good hope," said Bacon himself, "that when Sir Edward Coke's reports and my rules and decisions shall come to posterity, there will be (whatsoever is now thought) question who was the greater lawyer." If Coke's reports show completer mastery of technical details, greater knowledge of precedent, and more of the dogged grasp of the letter than do Bacon's legal writings, there can be no dispute that the latter exhibit an infinitely more comprehensive intelligence of the abstract principles of jurisprudence, with a richness and ethical fulness that more than compensate for their lack of dry legal detail. Bacon seems indeed to have been a lawyer of the first order, with a keen scientific insight into the bearings of isolated facts and a power of generalization which admirably fitted him for the self-imposed task, unfortunately never completed, of digesting or codifying the chaotic mass of the English law.

Among the literary works are included all that he himself designated moral and historical pieces, and to these may be added some theological and minor writings, such as the *Apophthegms*. Of the moral works the most valuable are the *Essays*, which have been so widely read and universally admired. The matter is of the familiar, practical kind, that "comes home to men's bosoms." The thoughts are weighty, and even when not original have acquired a peculiar and unique tone or cast by passing through the crucible of Bacon's mind. A sentence from the *Essays* can rarely be mistaken for the production of any other writer. The short, pithy sayings have become popular mottoes and household words. The style is quaint, original, abounding in allusions and witticisms, and rich, even to gorgeousness, with piled-up analogies and metaphors. [46] The first edition contained only ten essays, but the number was increased in 1612 to thirty-eight, and in 1625 to fifty-eight. The short tract, *Colours of Good and Evil*, which with the *Meditationes Sacrae* originally accompanied the Essays, was afterwards incorporated with the *De Augmentis*. Along with these works may be classed the curiously learned piece, *De Sapientia Veterum*, in which he works out a favourite idea, that the mythological fables of the Greeks were allegorical and concealed the deepest truths of their philosophy. As a scientific explanation of the myths the theory is of no value, but it affords fine scope for the exercise of Bacon's unrivalled power of detecting analogies in things apparently most dissimilar. The *Apophthegms*, though hardly deserving Macaulay's praise of being the best collection of jests in the world, contain a number of those significant anecdotes which Bacon used with such effect in his other writings. Of the historical works, besides a few fragments of the projected history of Britain there remains the *History of Henry VII.*, a valuable work, giving a clear and animated narrative of the reign, and characterizing Henry with great skill. The style is in harmony with the matter, vigorous and flowing, but naturally with less of the quaintness and richness suitable to more thoughtful and original writings. The series of the literary works is completed by the minor treatises on theological or ecclesiastical questions. Some of the latter, included among the occasional works, are sagacious and prudent and deserve careful study. Of the former, the principal specimens are the *Meditationes Sacrae* and the *Confession of Faith*. The *Paradoxes* (Characters of a believing Christian in paradoxes, and seeming contradictions), which was often and justly suspected, has been conclusively proved by Grosart to be the work of another author.

Philosophical Works.—The great mass of Bacon's writings consists of treatises or fragments, which either formed integral parts of his grand comprehensive scheme, or were closely connected with it. More exactly they may be classified under three heads: (A) Writings originally intended to form parts of the *Instauratio*, but which were afterwards superseded or thrown aside; (B) Works connected with the *Instauratio*, but not directly included in its plan; (C) Writings which actually formed part of the *Instauratio Magna*.

(A) This class contains some important tracts, which certainly contain little, if anything, that is not afterwards taken up and expanded in the more elaborate works, but are not undeserving of attention, from the difference in the point of view and method of treatment. The most valuable of them are: (1) *The Advancement of Learning*, of which no detailed account need be given, as it is completely worked up into the *De Augmentis*, and takes its place as the first part of the *Instauratio*. (2) *Valerius Terminus*, a very remarkable piece, composed probably about 1603, though perhaps retouched at a later period. It contains a brief and somewhat obscure outline of the first two parts in the *Instauratio*, and is of importance as affording us some insight into the gradual development of the system in Bacon's own mind. (3) *Temporis Partus Masculus*, another curious fragment, remarkable not only from its contents, but from its style, which is arrogant and offensive, in this respect unlike any other writing of Bacon's. The adjective *masculus* points to the power of bringing forth fruit possessed by the new philosophy, and perhaps indicates that all previous births of time were to be looked upon as feminine or imperfect; it is used in a somewhat similar sense in *Letters and Life*, vi. 183, "*In verbis masculis*, no flourishing or painted words, but such words as are fit to go before deeds." (4) *Redargutio Philosophiarum*, a highly finished piece in the form of an oration, composed probably about 1608 or 1609, and containing in pretty full detail much of what afterwards appears in connexion with the *Idola Theatri* in book i. of the *Novum Organum*. (5) *Cogitata et Visa*, perhaps the most important of the minor philosophical writings, dating from 1607 (though possibly the tract in its present form may have been to some extent altered), and containing in weighty and sonorous Latin the substance of the first book of

the *Organum*. (6) The *Descriptio Globi Intellectualis*, which is to some extent intermediate between the *Advancement* and the *De Augmentis*, goes over in detail the general classification of the sciences, and enters particularly on some points of minor interest. (7) The brief tract *De Interpretatione Naturae Sententiae Duodecim* is evidently a first sketch of part of the *Novum Organum*, and in phraseology is almost identical with it. (8) A few smaller pieces, such as the *Inquisitio de Motu*, the *Calor et Frigus*, the *Historia Soni et Auditus* and the *Phaenomena Universi*, are early specimens of his *Natural History*, and exhibit the first tentative applications of the new method.

(B) The second group consists of treatises on subjects connected with the *Instauratio*, but not forming part of it. The most interesting, and in many respects the most remarkable, is the philosophic romance, the *New Atlantis*, a description of an ideal state in which the principles of the new philosophy are carried out by political machinery and under state guidance, and where many of the results contemplated by Bacon are in imagination attained. The work was to have been completed by the addition of a second part, treating of the laws of a model commonwealth, which was never written. Another important tract is the *De Principiis atque Originibus secundum Fabulas Cupidinis et Caeli*, where, under the disguise of two old mythological stories, he (in the manner of the *Sapientia Veterum*) finds the deepest truths concealed. The tract is unusually interesting, for in it he discusses at some length the limits of science, the origin of things and the nature of primitive matter, giving at the same time full notices of Democritus among the ancient philosophers and of Telesio among the modern. Deserving of attention are also the *Cogitationes de Natura Rerum*, probably written early, perhaps in 1605, and the treatise on the theory of the tides, *De Fluxu et Refluxu Maris*, written probably about 1616.

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(C) The philosophical works which form part of the *Instauratio* must of course be classed according to the positions which they respectively hold in that scheme of the sciences.

The great work, the reorganization of the sciences, and the restoration of man to that command over nature which he had lost by the fall, consisted in its final form of six divisions.

I. *Partitiones Scientiarum*, a survey of the sciences, either such as then existed or such as required to be constructed afresh—in fact, an inventory of all the possessions of the human mind. The famous classification[47] on which this survey proceeds is based upon an analysis of the faculties and objects of human knowledge. This division is represented by the *De Augmentis Scientiarum*.

II. *Interpretatio Naturae.*—After the survey of all that has yet been done in the way of discovery or invention, comes the new method, by which the mind of man is to be trained and directed in its progress towards the renovation of science. This division is represented, though only imperfectly, by the *Novum Organum*, particularly book ii.

III. *Historia Naturalis et Experimentalis.*—The new method is valueless, because inapplicable, unless it be supplied with materials duly collected and presented—in fact, unless there be formed a competent natural history of the *Phaenomena Universi*. A short introductory sketch of the requisites of such a natural history, which, according to Bacon, is essential, necessary, the *basis totius negotii*, is given in the tract *Parasceve*, appended to the *Novum Organum*. The principal works intended to form portions of the history, and either published by himself or left in manuscript, are *Historia Ventorum*, *Historia Vitae et Mortis*, *Historia Densi et Rari*, and the extensive collection of facts and observations entitled *Sylva Sylvarum*.

IV. *Scala Intellectus.*—It might have been supposed that the new philosophy could now be inaugurated. Materials had been supplied, along with a new method by which they were to be treated, and naturally the next step would be the finished result. But for practical purposes Bacon interposed two divisions between the preliminaries and the philosophy itself. The first was intended to consist of types or examples of investigations conducted by the new method, serviceable for keeping the whole process vividly before the mind, or, as the title indicates, such that the mind could run rapidly up and down the several steps or grades in the process. Of this division there seems to be only one small fragment, the *Filum Labyrinthi*, consisting of but two or three pages.

V. *Prodromi*, forerunners of the new philosophy. This part, strictly speaking, is quite extraneous to the general design. According to the *Distributio Operis*,[48] it was to contain certain speculations of Bacon's own, not formed by the new method, but by the unassisted use of his understanding. These, therefore, form temporary or uncertain anticipations of the new philosophy. There is extant a short preface to this division of the work, and according to Spedding some of the miscellaneous treatises, such as *De Principiis*, *De Fluxu et Refluxu*, *Cogitationes de Natura Rerum*, may probably have been intended to be included under this head. This supposition receives some support from the manner in which the fifth part is spoken of in the *Novum Organum*, i. 116.

VI. The new philosophy, which is the work of future ages, and the result of the new method.

Bacon's grand motive in his attempt to found the sciences anew was the intense conviction that the knowledge man possessed was of little service to him. "The knowledge whereof the world is now possessed, especially that of nature, extendeth not to magnitude and certainty of works."[49] Man's sovereignty over nature, which is founded on knowledge alone, had been lost, and instead of the free relation between things and the human mind, there was nothing but vain notions and blind experiments. To restore the original commerce between man and nature, and to recover the

imperium hominis, is the grand object of all science. The want of success which had hitherto attended efforts in the same direction had been due to many causes, but chiefly to the want of appreciation of the nature of philosophy and its real aim. Philosophy is not the science of things divine and human; it is not the search after truth. "I find that even those that have sought knowledge for itself, and not for benefit or ostentation, or any practical enablement in the course of their life, have nevertheless propounded to themselves a wrong mark, namely, satisfaction (which men call Truth) and not operation."[50] "Is there any such happiness as for a man's mind to be raised above the confusion of things, where he may have the prospect of the order of nature and error of man? But is this a view of delight only and not of discovery? of contentment and not of benefit? Shall he not as well discern the riches of nature's warehouse as the beauty of her shop? Is truth ever barren? Shall he not be able thereby to produce worthy effects, and to endow the life of man with infinite commodities?"[51] Philosophy is altogether practical; it is of little matter to the fortunes of humanity what abstract notions one may entertain concerning the nature and the principles of things.[52] This truth, however, has never yet been recognized;[53] it has not yet been seen that the true aim of all science is "to endow the condition and life of man with new powers or works,"[54] or "to extend more widely the limits of the power and greatness of man."[55] Nevertheless, it is not to be imagined that by this being proposed as the great object of search there is thereby excluded all that has hitherto been looked upon as the higher aims of human life, such as the contemplation of truth. Not so, but by following the new aim we shall also arrive at a *true* knowledge of the universe in which we are, for without knowledge there is no power; truth and utility are in ultimate aspect the same; "works themselves are of greater value as pledges of truth than as contributing to the comforts of life."[56] Such was the conception of philosophy with which Bacon started, and in which he felt himself to be thoroughly original. As his object was new and hitherto unproposed, so the method he intended to employ was different from all modes of investigation hitherto attempted. "It would be," as he says, "an unsound fancy and self-contradictory, to expect that things which have never yet been done can be done except by means which have never yet been tried."[57] There were many obstacles in his way, and he seems always to have felt that the first part of the new scheme must be a *pars destruens*, a destructive criticism of all other methods. Opposition was to be expected, not only from previous philosophies, but especially from the human mind itself. In the first place, natural antagonism might be looked for from the two opposed sects, the one of whom, in despair of knowledge, maintained that all science was impossible; while the other, resting on authority and on the learning that had been handed down from the Greeks, declared that science was already completely known, and consequently devoted their energies to methodizing and elaborating it. Secondly, within the domain of science itself, properly so called, there were two "kind of rovers" who must be dismissed. The first were the speculative or logical philosophers, who construe the universe *ex analogia hominis*, and not *ex analogia mundi*, who fashion nature according to preconceived ideas, and who employ in their investigations syllogism and abstract reasoning. The second class, who were equally offensive, consisted of those who practised blind experience,
[v.03 p.0146]
which is mere groping in the dark (*vaga experientia mera palpatio est*), who occasionally hit upon good works or inventions, which, like Atalanta's apples, distracted them from further steady and gradual progress towards universal truth. In place of these straggling efforts of the unassisted human mind, a graduated system of helps was to be supplied, by the use of which the mind, when placed on the right road, would proceed with unerring and mechanical certainty to the invention of new arts and sciences.

Such were to be the peculiar functions of the new method, though it has not definitely appeared what that method was, or to what objects it could be applied. But, before proceeding to unfold his method, Bacon found it necessary to enter in considerable detail upon the general subject of the obstacles to progress, and devoted nearly the whole of the first book of the *Organum* to the examination of them. This discussion, though strictly speaking extraneous to the scheme, has always been looked upon as a most important part of his philosophy, and his name is perhaps as much associated with the doctrine of Idols (*Idola*) as with the theory of induction or the classification of the sciences.

The doctrine of the kinds of fallacies or general classes of errors into which the human mind is prone to fall, appears in many of the works written before the *Novum Organum*, and the treatment of them varies in some respects. The classification in the *Organum*, however, not only has the author's sanction, but has received the stamp of historical acceptation; and comparison of the earlier notices, though a point of literary interest, has no important philosophic bearing. The *Idola* (*Nov. Org.* i. 39)[58] false notions of things, or erroneous ways of looking at nature, are of four kinds: the first two innate, pertaining to the very nature of the mind and not to be eradicated; the third creeping insensibly into men's minds, and hence in a sense innate and inseparable; the fourth imposed from without. The first kind are the *Idola Tribus*, idols of the tribe, fallacies incident to humanity or the race in general. Of these, the most prominent are—the proneness to suppose in nature greater order and regularity than there actually is; the tendency to support a preconceived opinion by affirmative instances, neglecting all negative or opposed cases; and the tendency to generalize from few observations, or to give reality to mere abstractions, figments of the mind. Manifold errors also result from the weakness of the senses, which affords scope for mere conjecture; from the influence exercised over the understanding by the will and passions; from the restless desire of the mind to penetrate to the ultimate principles of things; and from the belief that "man is the measure of the universe," whereas, in truth, the world is received by us in a distorted and erroneous manner. The second kind are the *Idola Specus*, idols of the cave, or errors incident to the peculiar mental or bodily constitution of each

individual, for according to the state of the individual's mind is his view of things. Errors of this class are innumerable, because there are numberless varieties of disposition; but some very prominent specimens can be indicated. Such are the tendency to make all things subservient to, or take the colour of some favourite subject, the extreme fondness and reverence either for what is ancient or for what is modern, and excess in noting either differences or resemblances amongst things. A practical rule for avoiding these is also given: "In general let every student of nature take this as a rule, that whatever his mind seizes and dwells upon with particular satisfaction is to be held in suspicion."[59] The third class are the *Idola Fori*, idols of the market-place, errors arising from the influence exercised over the mind by mere words. This, according to Bacon, is the most troublesome kind of error, and has been especially fatal in philosophy. For words introduce a fallacious mode of looking at things in two ways: first, there are some words that are really merely names for non-existent things, which are yet supposed to exist simply because they have received a name; secondly, there are names hastily and unskilfully abstracted from a few objects and applied recklessly to all that has the faintest analogy with these objects, thus causing the grossest confusion. The fourth and last class are the *Idola Theatri*, idols of the theatre, *i.e.* fallacious modes of thinking resulting from received systems of philosophy and from erroneous methods of demonstration. The criticism of the demonstrations is introduced later in close connexion with Bacon's new method; they are the rival modes of procedure, to which his own is definitely opposed. The philosophies which are "redargued" are divided into three classes, the sophistical, of which the best example is Aristotle, who, according to Bacon, forces nature into his abstract schemata and thinks to explain by definitions; the empirical, which from few and limited experiments leaps at once to general conclusions; and the superstitious, which corrupts philosophy by the introduction of poetical and theological notions.

Such are the general causes of the errors that infest the human mind; by their exposure the way is cleared for the introduction of the new method. The nature of this method cannot be understood until it is exactly seen to what it is to be applied. What idea had Bacon of science, and how is his method connected with it? Now, the science[60] which was specially and invariably contemplated by him was natural philosophy, the great mother of all the sciences; it was to him the type of scientific knowledge, and its method was the method of all true science. To discover exactly the characteristics and the object of natural philosophy it is necessary to examine the place it holds in the general scheme furnished in the *Advancement* or *De Augmentis*. All human knowledge, it is there laid down, may be referred to man's memory or imagination or reason. In the first, the bare facts presented to sense are collected and stored up; the exposition of them is *history*, which is either natural or civil. In the second, the materials of sense are separated or divided in ways not corresponding to nature but after the mind's own pleasure, and the result is *poesy* or feigned history. In the third, the materials are worked up after the model or pattern of nature, though we are prone to err in the progress from sense to reason; the result is *philosophy*, which is concerned either with God, with nature or with man, the second being the most important. Natural philosophy is again divided into speculative or theoretical and operative or practical, according as the end is contemplation or works. Speculative or theoretical natural philosophy has to deal with natural substances and qualities and is subdivided into physics and metaphysics. Physics inquires into the efficient and material causes of things; metaphysics, into the formal and final causes. The principal objects of physics are concrete substances, or abstract though physical qualities. The research into abstract qualities, the fundamental problem of physics, comes near to the metaphysical study of *forms*, which indeed differs from the first only in being more general, and in having as its results a *form* strictly so called, *i.e.* a nature or quality which is a limitation or specific manifestation of some higher and better-known genus.[61] Natural philosophy is, therefore, in ultimate resort the study of *forms*, and, consequently, the fundamental problem of philosophy in general is the discovery of these *forms*.

> "On a given body to generate or superinduce a new nature or natures, is the work and aim of human power.... Of a given nature to discover the form or true specific difference, or nature-engendering nature (*natura naturans*) or source of emanation (for these are the terms which are nearest to a description of the thing), is the work and aim of human knowledge."[62]

[v.03 p.0147] The questions, then, whose answers give the key to the whole Baconian philosophy, may be put briefly thus—What are forms? and how is it that knowledge of them solves both the theoretical and the practical problem of science? Bacon himself, as may be seen from the passage quoted above, finds great difficulty in giving an adequate and exact definition of what he means by a form. As a general description, the following passage from the *Novum Organum*, ii. 4, may be cited:—

> "The form of a nature is such that given the form the nature infallibly follows.... Again, the form is such that if it be taken away the nature infallibly vanishes.... Lastly, the true form is such that it deduces the given nature from some source of being which is inherent in more natures, and which is better known in the natural order of things than the form itself."[63]

From this it would appear that, since by a *nature* is meant some sensible quality, superinduced upon, or possessed by, a body, so by a form we are to understand the cause of that nature, which cause is itself a determinate case or manifestation of some general or abstract quality inherent in a greater number of objects. But all these are mostly marks by which a form may be recognized, and do not explain what the form really is. A further definition is accordingly attempted in Aph.

13:—

> "The form of a thing is the very thing itself, and the thing differs from the form no otherwise than as the apparent differs from the real, or the external from the internal, or the thing in reference to the man from the thing in reference to the universe."

This throws a new light on the question, and from it the inference at once follows, that the forms are the permanent causes or substances underlying all visible phenomena, which are merely manifestations of their activity. Are the forms, then, forces? At times it seems as if Bacon had approximated to this view of the nature of things, for in several passages he identifies forms with laws of activity. Thus, he says—

> "When I speak of forms I mean nothing more than those laws and determinations of absolute actuality which govern and constitute any simple nature, as heat, light, weight, in every kind of matter and subject that is susceptible of them. Thus the form of heat or the form of light is the same thing as the law of heat or the law of light."[64] "Matter rather than forms should be the object of our attention, its configurations and changes of configuration, and simple action, and law of action or motion; for forms are figments of the human mind, unless you will call those laws of action forms."[65] "Forms or true differences of things, which are in fact laws of pure act."[66] "For though in nature nothing really exists besides individual bodies, performing pure individual acts according to a fixed law, yet in philosophy this very law, and the investigation, discovery and explanation of it, is the foundation as well of knowledge as of operation. And it is this law, with its clauses, that I mean when I speak of forms."[67]

Several important conclusions may be drawn from these passages. In the first place, it is evident that Bacon, like the Atomical school, of whom he highly approved, had a clear perception and a firm grasp of the *physical* character of natural principles; his *forms* are no ideas or abstractions, but highly general physical properties. Further, it is hinted that these general qualities may be looked upon as the modes of action of simple bodies. This fruitful conception, however, Bacon does not work out; and though he uses the word *cause*, and identifies *form* with *formal cause*, yet it is perfectly apparent that the modern notions of cause as dynamical, and of nature as in a process of flow or development, are foreign to him, and that in his view of the ultimate problem of science, cause meant *causa immanens*, or underlying substance, effects were not consequents but manifestations, and nature was regarded in a purely statical aspect. That this is so appears even more clearly when we examine his general conception of the unity, gradation and function of the sciences. That the sciences are organically connected is a thought common to him and to his distinguished predecessor Roger Bacon. "I that hold it for a great impediment towards the advancement and further invention of knowledge, that particular arts and sciences have been disincorporated from general knowledge, do not understand one and the same thing which Cicero's discourse and the note and conceit of the Grecians in their word *circle learning* do intend. For I mean not that use which one science hath of another for ornament or help in practice; but I mean it directly of that use by way of supply of light and information, which the particulars and instances of one science do yield and present for the framing or correcting of the axioms of another science in their very truth and notion."[68] In accordance with this, Bacon placed at the basis of the particular sciences which treat of God, nature and man, one fundamental doctrine, the *Prima Philosophia*, or first philosophy, the function of which was to display the unity of nature by connecting into one body of truth such of the highest axioms of the subordinate sciences as were not special to one science, but common to several.[69] This first philosophy had also to investigate what are called the adventitious or transcendental conditions of essences, such as Much, Little, Like, Unlike, Possible, Impossible, Being, Nothing, the logical discussion of which certainly belonged rather to the laws of reasoning than to the existence of things, but the physical or real treatment of which might be expected to yield answers to such questions as, why certain substances are numerous, others scarce; or why, if like attracts like, iron does not attract iron. Following this summary philosophy come the sciences proper, rising like a pyramid in successive stages, the lowest floor being occupied by natural history or experience, the second by physics, the third, which is next the peak of unity, by metaphysics.[70] The knowledge of the peak, or of the one law which binds nature together, is perhaps denied to man. Of the sciences, physics, as has been already seen, deals with the efficient and material, *i.e.* with the variable and transient, causes of things. But its inquiries may be directed either towards concrete bodies or towards abstract qualities. The first kind of investigation rises little above mere natural history; but the other is more important and paves the way for metaphysics. It handles the configurations and the appetites or motions of matter. The configurations, or inner structure of bodies, include dense, rare, heavy, light, hot, cold, &c.,—in fact, what are elsewhere called simple natures. Motions[71] are either simple or compound, the latter being the sum of a number of the former. In physics, however, these matters are treated only as regards their material or efficient causes, and the result of inquiry into any one case gives no general rule, but only facilitates invention in some similar instance. Metaphysics, on the other hand, treats of the formal or final cause of[72] these same substances and qualities, and results in a general rule. With regard to forms, the investigation may be directed either towards concrete bodies or towards qualities. But the forms of substances "are so perplexed and complicated, that it is either vain to inquire into them at all, or such inquiry as is possible should be put off for a time, and not entered upon till forms of a more simple nature have been rightly investigated and discussed."[73]

"To inquire into the form of a lion, of an oak, or gold, nay, even of water or air, is a vain pursuit; but to inquire the *form* of dense, rare, hot, cold, &c., as well configurations as motions, which in [v.03 p.0148] treating of physic I have in great part enumerated (I call them forms of the first class), and which (like the letters of the alphabet) are not many, and yet make up and sustain the essences and forms of all substances—this, I say, it is which I am attempting, and which constitutes and defines that part of metaphysic of which we are now inquiring." Physics inquires into the same qualities, but does not push its investigations into ultimate reality or reach the more general causes. We thus at last attain a definite conclusion with regard to forms, and it appears clear that in Bacon's belief the true function of science was the search for a few fundamental physical qualities, highly abstract and general, the combinations of which give rise to the simple natures and complex phenomena around us. His general conception of the universe may therefore be called mechanical or statical; the cause of each phenomenon is supposed to be actually contained in the phenomenon itself, and by a sufficiently accurate process could be sifted out and brought to light. As soon as the causes are known man regains his power over nature, for "whosoever knows any form, knows also the utmost possibility of superinducing that nature upon every variety of matter, and so is less restrained and tied in operation either to the basis of the matter or to the condition of the efficients."[74]

Nature thus presented itself to Bacon's mind as a huge congeries of phenomena, the manifestations of some simple and primitive qualities, which were hid from us by the complexity of the things themselves. The world was a vast labyrinth, amid the windings of which we require some clue or thread whereby we may track our way to knowledge and thence to power. This thread, the *filum labyrinthi*, is the new method of *induction*. But, as has been frequently pointed out, the new method could not be applied until facts had been observed and collected. This is an indispensable preliminary. "Man, the servant and interpreter of nature, can do and understand so much, and so much only, as he has observed in fact or in thought of the course of nature; beyond this he neither knows anything nor can do anything." The proposition that our knowledge of nature necessarily begins with observation and experience, is common to Bacon and many contemporary reformers of science, but he laid peculiar stress upon it, and gave it a new meaning. What he really meant by observation was a competent natural history or collection of facts. "The firm foundations of a purer natural philosophy are laid in natural history."[75] "First of all we must prepare a *natural and experimental history*, sufficient and good; and this is the foundation of all."[76] The senses and the memory, which collect and store up facts, must be assisted; there must be a *ministration* of the senses and another of the memory. For not only are instances required, but these must be arranged in such a manner as not to distract or confuse the mind, *i.e.* tables and arrangements of instances must be constructed. In the preliminary collection the greatest care must be taken that the mind be absolutely free from preconceived ideas; nature is only to be conquered by obedience; man must be merely receptive. "All depends on keeping the eye steadily fixed upon the facts of nature, and so receiving their images simply as they are; for God forbid that we should give out a dream of our own imagination for a pattern of the world; rather may He graciously grant to us to write an apocalypse or true vision of the footsteps of the Creator imprinted on his creatures."[77] Concealed among the facts presented to sense are the causes or forms, and the problem therefore is so to analyse experience[78], so to break it up into pieces, that we shall with certainty and mechanical ease arrive at a true conclusion. This process, which forms the essence of the new method, may in its entirety, as a ministration to the reason, be called a logic; but it differs widely from the ordinary or school logic in end, method and form. Its aim is to acquire command over nature by knowledge, and to invent new arts, whereas the old logic strove only after dialectic victories and the discovery of new arguments. In method the difference is even more fundamental. Hitherto the mode of demonstration had been by the syllogism; but the syllogism is, in many respects, an incompetent weapon. It is compelled to accept its first principles on trust from the science in which it is employed; it cannot cope with the subtlety of nature; and it is radically vitiated by being founded on hastily and inaccurately abstracted notions of things. For a syllogism consists of propositions, propositions of words, and words are the symbols of notions. Now the first step in accurate progress from sense to reason, or true philosophy, is to frame a *bona notio* or accurate conception of the thing; but the received logic never does this. It flies off at once from experience and particulars to the highest and most general propositions, and from these descends, by the use of middle terms, to axioms of lower generality. Such a mode of procedure may be called *anticipatio naturae* (for in it reason is allowed to prescribe to things), and is opposed to the true method, the *interpretatio naturae*, in which reason follows and obeys nature, discovering her secrets by obedience and submission to rule. Lastly, the very form of induction that has been used by logicians in the collection of their instances is a weak and useless thing. It is a mere enumeration of a few known facts, makes no use of exclusions or rejections, concludes precariously, and is always liable to be overthrown by a negative instance.[79] In radical opposition to this method the Baconian induction begins by supplying helps and guides to the senses, whose unassisted information could not be relied on. Notions were formed carefully, and not till after a certain process of induction was completed.[80] The formation of axioms was to be carried on by a gradually ascending scale. "Then and only then may we hope well of the sciences, when in a just scale of ascent and by successive steps, not interrupted or broken, we rise from particulars to lesser axioms; and then to middle axioms, one above the other; and last of all to the most general."[81] Finally the very form of induction itself must be new. "The induction which is to be available for the discovery and demonstration of sciences and arts must analyse nature by proper rejections and exclusions; and then, after a sufficient number of negatives, come to a

conclusion on the affirmative instances, which has not yet been done, or even attempted, save only by Plato.[82] ... And this induction must be used not only to discover axioms, but also in the formation of notions."[83] This view of the function of exclusion is closely connected with Bacon's [v.03 p.0149] doctrine of forms, and is in fact dependent upon that theory. But induction is neither the whole of the new method, nor is it applicable to forms only. There are two other grand objects of inquiry: the one, the transformation of concrete bodies; the other, the investigation of the latent powers and the latent schematism or configuration. With regard to the first, in ultimate result it depends upon the theory of forms; for whenever the compound body can be regarded as the sum of certain simple natures, then our knowledge of the forms of these natures gives us the power of superinducing a new nature on the concrete body. As regards the latent process (*latens processus*) which goes on in all cases of generation and continuous development or motion, we examine carefully, and by quantitative measurements, the gradual growth and change from the first elements to the completed thing. The same kind of investigation may be extended to many cases of natural motion, such as voluntary action or nutrition; and though inquiry is here directed towards concrete bodies, and does not therefore penetrate so deeply into reality as in research for forms, yet great results may be looked for with more confidence. It is to be regretted that Bacon did not complete this portion of his work, in which for the first time he approaches modern conceptions of change. The latent configuration (*latens schematismus*) or inward structure of the parts of a body must be known before we can hope to superinduce a new nature upon it. This can only be discovered by analysis, which will disclose the ultimate constituents (natural particles, not atoms) of bodies, and lead back the discussion to forms or simple natures, whereby alone can true light be thrown on these obscure questions. Thus, in all cases, scientific explanation depends upon knowledge of forms; all phenomena or secondary qualities are accounted for by being referred to the primary qualities of matter.

The several steps in the inductive investigation of the form of any nature flow readily from the definition of the form itself. For that is always and necessarily present when the nature is present, absent when it is absent, decreases and increases according as the nature decreases and increases. It is therefore requisite for the inquiry to have before us instances in which the nature is present. The list of these is called the table of *Essence and Presence*. Secondly, we must have instances in which the nature is absent; only as such cases might be infinite, attention should be limited to such of them as are most akin to the instances of presence.[84] The list in this case is called table of *Absence in Proximity*. Thirdly, we must have a number of instances in which the nature is present in different degrees, either increasing or decreasing in the same subject, or variously present in different subjects. This is the table of *Degrees*, or *Comparison*. After the formation of these tables, we proceed to apply what is perhaps the most valuable part of the Baconian method, and that in which the author took most pride, the process of exclusion or rejection. This elimination of the non-essential, grounded on the fundamental propositions with regard to forms, is the most important of Bacon's contributions to the logic of induction, and that in which, as he repeatedly says, his method differs from all previous philosophies. It is evident that if the tables were complete, and our notions of the respective phenomena clear, the process of exclusion would be a merely mechanical *counting out*, and would *infallibly* lead to the detection of the cause or form. But it is just as evident that these conditions can never be adequately fulfilled. Bacon saw that his method was impracticable (though he seems to have thought the difficulties not insuperable), and therefore set to work to devise new helps, *adminicula*. These he enumerates in ii., *Aph.* 21:—*Prerogative Instances, Supports of Induction, Rectification of Induction, Varying the Investigation according to the Nature of the Subject, Prerogative Natures, Limits of Investigation, Application to Practice, Preparations for Investigation, the Ascending and Descending Scale of Axioms*. The remainder of the *Organum* is devoted to a consideration of the twenty-seven classes of Prerogative Instances, and though it contains much that is both luminous and helpful, it adds little to our knowledge of what constitutes the Baconian method. On the other heads we have but a few scattered hints. But although the rigorous requirements of science could only be fulfilled by the employment of all these means, yet in their absence it was permissible to draw from the tables and the exclusion a hypothetical conclusion, the truth of which might be verified by the use of the other processes; such an hypothesis is called fantastically the First Vintage (*Vindemiatio*). The inductive method, so far as exhibited in the *Organum*, is exemplified by an investigation into the nature of heat.

Such was the method devised by Bacon, and to which he ascribed the qualities of absolute certainty and mechanical simplicity. But even supposing that this method were accurate and completely unfolded, it is evident that it could only be made applicable and produce fruit when the phenomena of the universe have been very completely tabulated and arranged. In this demand for a complete natural history, Bacon also felt that he was original, and he was deeply impressed with the necessity for it;[85] in fact, he seems occasionally to place an even higher value upon it than upon his *Organum*. Thus, in the preface to his series of works forming the third part of the *Instauratio*, he says: "It comes, therefore, to this, that my *Organum*, even if it were completed, would not without the *Natural History* much advance the *Instauration of the Sciences*, whereas the *Natural History* without the *Organum* would advance it not a little."[86] But a complete natural history is evidently a thing impossible, and in fact a history can only be collected by attending to the requirements of the *Organum*. This was seen by Bacon, and what may be regarded as his final opinion on the question is given in the important letter to Jean Antoine Baranzano[87] ("Redemptus": 1590-1622):—"With regard to the multitude of instances by which men may be deterred from the attempt, here is my answer. First, what need to dissemble? Either store of instances must be procured, or the business must be given up. All other ways,

however enticing, are impassable. Secondly, the prerogatives of instances, and the mode of experimenting upon experiments of light (which I shall hereafter explain), will diminish the multitude of them very much. Thirdly, what matter, I ask, if the description of the instances should fill six times as many volumes as Pliny's *History*? ... For the true natural history is to take nothing except instances, connections, observations and canons."[88] The *Organum* and the *History* are thus correlative, and form the two equally necessary sides of a true philosophy; by their union the new philosophy is produced.

Summary.—Two questions may be put to any doctrine which professes to effect a radical change in philosophy or science. Is it original? Is it valuable? With regard to the first, it has been already pointed out that Bacon's induction or inductive method is distinctly his own, though it cannot and need not be maintained that the general spirit of his philosophy was entirely new.[89]

The value of the method is the separate and more difficult question. It has been assailed on the most opposite grounds. Macaulay, while admitting the accuracy of the process, denied its efficiency, on the ground that an operation performed naturally was not rendered more easy or efficacious by being subjected to analysis.[90] This objection is curious when confronted with Bacon's reiterated assertion that the *natural* method pursued by the unassisted human reason is distinctly opposed to his; and it is besides an argument that tells so strongly against many sciences, as to be comparatively worthless when applied to any one. There are, however, more formidable objections against the method. It has been pointed out,[91] and with perfect justice, [v.03 p.0150] that science in its progress has not followed the Baconian method, that no one discovery can be pointed to which can be definitely ascribed to the use of his rules, and that men the most celebrated for their scientific acquirements, while paying homage to the name of Bacon, practically set at naught his most cherished precepts. The reason of this is not far to seek, and has been pointed out by logicians of the most diametrically opposed schools. The mechanical character both of the natural history and of the logical method applied to it resulted necessarily from Bacon's radically false conception of the nature of cause and of the causal relation. The whole logical or scientific problem is treated as if it were one of co-existence, to which in truth the method of exclusion is scarcely applicable, and the assumption is constantly made that each phenomenon has one and only one cause.[92] The inductive formation of axioms by a gradually ascending scale is a route which no science has ever followed, and by which no science could ever make progress. The true scientific procedure is by hypothesis followed up and tested by verification; the most powerful instrument is the deductive method, which Bacon can hardly be said to have recognized. The power of framing hypothesis points to another want in the Baconian doctrine. If that power form part of the true method, then the mind is not wholly passive or recipient; it anticipates nature, and moulds the experience received by it in accordance with its own constructive ideas or conceptions; and yet further, the minds of various investigators can never be reduced to the same dead mechanical level.[93] There will still be room for the scientific use of the imagination and for the creative flashes of genius.[94]

If, then, Bacon himself made no contributions to science, if no discovery can be shown to be due to the use of his rules, if his method be logically defective, and the problem to which it was applied one from its nature incapable of adequate solution, it may not unreasonably be asked, How has he come to be looked upon as the great leader in the reformation of modern science? How is it that he shares with Descartes the honour of inaugurating modern philosophy? To this the true answer seems to be that Bacon owes his position not only to the general spirit of his philosophy, but to the manner in which he worked into a connected system the new mode of thinking, and to the incomparable power and eloquence with which he expounded and enforced it. Like all epoch-making works, the *Novum Organum* gave expression to ideas which were already beginning to be in the air. The time was ripe for a great change; scholasticism, long decaying, had begun to fall; the authority not only of school doctrines but of the church had been discarded; while here and there a few devoted experimenters were turning with fresh zeal to the unwithered face of nature. The fruitful thoughts which lay under and gave rise to these scattered efforts of the human mind, were gathered up into unity, and reduced to system in the new philosophy of Bacon.[95] It is assuredly little matter for wonder that this philosophy should contain much that is now inapplicable, and that in many respects it should be vitiated by radical errors. The details of the logical method on which its author laid the greatest stress have not been found of practical service;[96] yet the fundamental ideas on which the theory rested, the need for rejecting rash generalization, and the necessity for a critical analysis of experience, are as true and valuable now as they were then. Progress in scientific discovery is made mainly, if not solely, by the employment of hypothesis, and for that no code of rules can be laid down such as Bacon had devised. Yet the framing of hypothesis is no mere random guesswork; it is left not to the imagination alone, but to the *scientific imagination*. There is required in the process not merely a preliminary critical induction, but a subsequent experimental comparison, verification or proof, the canons of which can be laid down with precision. To formulate and show grounds for these laws is to construct a philosophy of induction, and it must not be forgotten that the first step towards the accomplishment of the task was made by Bacon when he introduced and gave prominence to the powerful logical instrument of exclusion or elimination.

It is curious and significant that in the domain of the moral and metaphysical sciences his influence has been perhaps more powerful, and his authority has been more frequently appealed to, than in that of the physical. This is due, not so much to his expressed opinion that the inductive method was applicable to all the sciences,[97] as to the generally practical, or, one may

[v.03 p.0151] say, *positive* spirit of his system. Theological questions, which had tortured the minds of generations, are by him relegated from the province of reason to that of faith. Even reason must be restrained from striving after ultimate truth; it is one of the errors of the human intellect that it will not rest in general principles, but must push its investigations deeper. Experience and observation are the only remedies against prejudice and error. Into questions of metaphysics, as commonly understood, Bacon can hardly be said to have entered, but a long line of thinkers have drawn inspiration from him, and it is not without justice that he has been looked upon as the originator and guiding spirit of what is known as the empirical school.

Bacon's Influence.—It is impossible within our limits to do more than indicate the influence which Bacon's views have had on subsequent thinkers. The most valuable and complete discussion of the subject is contained in T. Fowler's edition of the *Novum Organum* (introd. § 14). It is there argued that, both in philosophy and in natural science, Bacon's influence was immediate and lasting. Under the former head it is pointed out (i.) that the fundamental principle of Locke's *Essay*, that all our ideas are product of sensation and reflection, is briefly stated in the first aphorism of the *Novum Organum*, and (ii.) that the whole atmosphere of that treatise is characteristic of the *Essay*. Bacon is, therefore, regarded by many as the father of what is most characteristic in English psychological speculation. As he himself said, he "rang the bell which called the wits together." In the sphere of ethics he is similarly regarded as a forerunner of the empirical method. The spirit of the *De Augmentis* (bk. vii.) and the inductive method which is discussed in the *Novum Organum* are at the root of all theories which have constructed a moral code by an inductive examination of human consciousness and the results of actions. Among such theories utilitarianism especially is the natural result of the application to the phenomenon of conduct of the Baconian experimental method. In this connexion, however, it is important to notice that Hobbes, who had been Bacon's secretary, makes no mention of Baconian induction, nor does he in any of his works make any critical reference to Bacon himself. It would, therefore, appear that Bacon's influence was not immediate.

In the sphere of natural science, Bacon's importance is attested by references to his work in the writings of the principal scientists, not only English, but French, German and Italian. Fowler (*op. cit.*) has collected from Descartes, Gassendi, S. Sorbière, Jean Baptiste du Hamel, quotations which show how highly Bacon was regarded by the leaders of the new scientific movement. Sorbière, who was by no means partial to things English, definitely speaks of him as "celuy qui a le plus puissamment solicité les interests de la physique, et excité le monde à faire des expériences" (*Relation d'un voyage en Angleterre*, Cologne, 1666, pp. 63-64). It was, however, Voltaire and the encyclopaedists who raised Bacon to the pinnacle of his fame in France, and hailed him as "le père de la philosophie expérimentale" (*Lettres sur les Anglois*). Condillac, in the same spirit, says of him, "personne n'a mieux connu que lui la cause de nos erreurs." So the *Encyclopédie*, besides giving a eulogistic article "Baconisme," speaks of him (in d'Alembert's preliminary discourse) as "le plus grand, le plus universel, et le plus éloquent des philosophes." Among other writers, Leibnitz and Huygens give testimony which is the more valuable as being critical. Leibnitz speaks of Bacon as "divini ingenii vir," and, like several other German authors, classes him with Campanella; Huygens refers to his "bonnes méthodes." If, however, we are to attach weight to English writers of the latter half of the 17th century, we shall find that one of Bacon's greatest achievements was the impetus given by his *New Atlantis* to the foundation of the Royal Society (*q.v.*). Dr Thomas Sprat (1635-1713), bishop of Rochester and first historian of the society, says that Bacon of all others "had the true imagination of the whole extent" of the enterprise, and that in his works are to be found the best arguments for the experimental method of natural philosophy (*Hist. of the Royal Society*, pp. 35-36, and Thomas Tenison's *Baconiana*, pp. 264-266). In this connexion reference should be made also to Cowley's *Ode to the Royal Society*, and to Dr John Wallis's remarks in Hearne's *Preface to P. Langtoft's Chronicle* (appendix, num. xi.). Joseph Glanvill, in his *Scepsis Scientifica* (dedication) says, "Solomon's house in the *New Atlantis* was a prophetic scheme of the Royal Society"; and Henry Oldenburg (*c.* 1615-1677), one of the first secretaries of the society, speaks of the new eagerness to obtain scientific data as "a work begun by the single care and conduct of the excellent Lord Verulam." Boyle, in whose works there are frequent eulogistic references to Bacon, regarded himself as a disciple and was indeed known as a second Bacon. The predominating influence of Bacon's philosophy is thus clearly established in the generation which succeeded his own. There is abundant evidence to show that in the universities of Oxford and Cambridge (especially the latter) the new spirit had already modified the old curricula. Bacon has frequently been disparaged on the ground that his name is not mentioned by Sir Isaac Newton. It can be shown, however, that Newton was not ignorant of Bacon's works, and Dr Fowler explains his silence with regard to them on three grounds: (1) that Bacon's reputation was so well established that any definite mention was unnecessary, (2) that it was not customary at the time to acknowledge indebtedness to contemporary and recent writers, and (3) that Newton's genius was so strongly mathematical (whereas Bacon's great weakness was in mathematics) that he had no special reason to refer to Bacon's experimental principles.

If the foregoing examples are held sufficient to establish the influence of Bacon on the intellectual development of his immediate successors, it follows that the whole trend of typically English thought, not only in natural science, but also in mental, moral and political philosophy, is the logical fulfilment of Baconian principles. He argued against the tyranny of authority, the vagaries of unfettered imagination and the academic aims of unpractical dialectic; the vital energy and the reasoned optimism of his language entirely outweigh the fact that his contributions to the stock of actual scientific knowledge were practically inconsiderable. It may be freely admitted that in the domain of logic there is nothing in the *Organum* that has not been more instructively analysed either by Aristotle himself or in modern works; at the same time,

there is probably no work which is a better and more stimulating introduction to logical study. Its terse, epigrammatic phrases sink into the fibre of the mind, and are a healthy warning against crude, immature generalization.

While, therefore, it is a profound mistake to regard Bacon as a great constructive philosopher, or even as a lonely pioneer of modern thought, it is quite unfair to speak of him as a trifler. His great work consists in the fact that he summed up the faults which the widening of knowledge had disclosed in medieval thought, and in this sense he stands high among those who were in many parts of 16th-century Europe striving towards a new intellectual activity.

BIBLIOGRAPHY. *Editions.*—The classical edition is that of R. L. Ellis, J. Spedding and D. D. Heath, 1st ed., 1857; 2nd ed., 1870 (vols. i.-iii., philosophical writings; iv.-v., translations; vi.-vii., literary and professional works). B. Montagu's edition (17 vols., 1825-1834) is full but unscholarly. An extremely useful reprint (in one volume) of the philosophical works (with a few not strictly philosophical), based on the first Ellis-Spedding edition, was published by J. M. Robertson (London, 1905); besides the original introductions, it contains a useful summary by the editor of the various problems of Bacon's life and thought. Numerous cheap editions have lately been published, *e.g.* in the "World's Classics" (1901), and "New Universal Library" series (1905); Sidney Lee, *English Works of Francis Bacon* (London, 1905).

Of particular works there are numerous editions in all the chief languages. The following are the most important:—T. Fowler, *Novum Organum* (Oxford, 1878; ed. 1889), with notes, full introduction on Bacon's philosophy in all its relations, and a most valuable bibliography. This superseded the edition of G. W. Kitchin (Oxford, 1855). The *Essays* have been edited more than twenty times since 1870; the following editions may be mentioned:—Archbishop Whately (6th ed., 1864); W. Aldis Wright (Lond., 1862); F. Storr and Gibson (Lond., 1886); E. A. Abbott (Lond., 1879); John Buchan (Lond., 1879); A. S. West (Cambridge, 1897); W. Evans (Edinburgh, 1897). A facsimile reprint of the 1st edition was published in New York (1904). *Advancement of Learning*:
[v.03 p.0152] —W. Aldis Wright (Camb., 1866; 5th ed., 1900); F. G. Selby (1892-1895); H. Morley (1905); and, with the *New Atlantis*, in the "World's Classics" series (introduction by Prof. T. Case, Lond., 1906). *Wisdom of the Ancients and New Atlantis*, in "Cassell's National Library" (1886 and 1903). G. C. M. Smith, *New Atlantis* (1900). J. Fürstenhagen, *Kleinere Schriften* (Leipzig, 1884).

Biography.—J. Spedding, *The Life and Letters of Lord Bacon* (1861), *Life and Times of Francis Bacon* (1878); also Dr Rawley's *Life* in the Ellis-Spedding editions, and J. M. Robertson's reprint (above); W. Hepworth Dixon, *Personal History of Lord Bacon* (Lond., 1861), and *Story of Lord Bacon's Life* (ib. 1862); John Campbell, *Lives of the Chancellors* (Lond., 1845), ii. 51; P. Woodward, *Early Life of Lord Bacon* (1902); T. Fowler, *Francis Bacon* in "English Philos." series (Lond., 1881); R. W. Church's *Bacon*, in "Men of Letters" series (1884).

Philosophy.—Beside the introductions in the Ellis-Spedding and T. Fowler editions, and general histories of philosophy, see:—Kuno Fischer, *Fr. Bacon* (1856, 2nd ed., 1875, Eng. trans. by John Oxenford, Lond., 1857); Ch. de Rémusat, *Bacon, sa vie ... et son influence* (1857, ed. 1858 and 1877); G. L. Craik, *Lord Bacon, his Writings and his Philosophy* (3 vols., 1846-1847, ed. 1860); A. Dorner, *De Baconis Philosophia* (Berlin, 1867; London, 1886); J. v. Liebig, *Über F. B. v. Verulam* (Mannheim, 1863); Ad. Lasson, *Über B. v. Verulam's wissenschaftliche Principien* (Berl., 1860); E. H. Böhmer, *Über F. B. v. Verulam* (Erlangen, 1864); Ch. Adam, *Philos. de Francis Bacon* (Paris, 1890); Barthélemy St Hilaire, *Étude sur Francis Bacon* (Paris, 1890); R. W. Church, *op. cit.*; H. Heussler, *F. Bacon und seine geschichtliche Stellung* (Breslau, 1889); H. Höffding, *History of Modern Philosophy* (Eng. trans., 1900); J. M. Robertson, *Short History of Freethought* (Lond., 1906); Sidney Lee, *Great Englishmen of the 16th century* (Lond., 1904). For the relations between Bacon and Ben Jonson see *The Tale of the Shakespeare Epitaphs by Francis Bacon* (New York, 1888); for Bacon's poetical gifts see an article in the *Fortnightly Review* (March 1905).

For the Bacon-Shakespeare controversy see SHAKESPEARE.

(R. AD.; J. M. M.)

[1] See *Nic. Eth.* iv. 3. 3. 1123b.

[2] "I wax now somewhat ancient; one-and-thirty years is a great deal of sand in the hour-glass.... I ever bare a mind (in some middle place that I could discharge) to serve her majesty; not as a man born under Sol, that loveth honour; nor under Jupiter, that loveth business (for the contemplative planet carrieth me away wholly); but as a man born under an excellent sovereign, that deserveth the dedication of all men's abilities.... Again the meanness of my estate doth somewhat move me; for though I cannot accuse myself that I am either prodigal or slothful, yet my health is not to spend, nor my course to get. Lastly, I confess that I have as vast contemplative ends as I have moderate civil ends; for I have taken all knowledge to be my province; and if I could purge it of two sorts of rovers, whereof the one with frivolous disputations, confutations and verbosities, the other with blind experiments and auricular traditions and impostures, hath committed so many spoils, I hope I should bring in industrious observations, grounded conclusions and profitable inventions and discoveries—the best state of that province. This, whether it be curiosity, or vain-glory, or nature, or (if one take it favourably) *philanthropia*, is so fixed in my mind as it cannot be removed. And I do easily see, that place of any reasonable commandment doth bring commandment of more wits than of a man's own.

And if your lordship shall find now, or at any time, that I do seek or affect any place

whereunto any that is nearer to your lordship shall be convenient, say then that I am a most dishonest man. And if your lordship will not carry me on,... this I will do, I will sell the inheritance that I have, and purchase some lease of quick revenue, or some office of gain that shall be executed by deputy, and so give over all care of service, and become some sorry bookmaker, or a true pioneer in that mine of truth."—Spedding, *Letters and Life*, i. 108-109.

[3] Spedding, *Letters and Life*, i. 234-235, cf. i. 362. This letter, with those to Puckering or Essex and the queen, i. 240-241, should be compared with what is said of them by Macaulay in his *Essay* on Bacon, and by Campbell, *Lives*, ii. 287.

[4] See *Letters and Life*, i. 289, ii. 34.

[5] See Macaulay's Essay on Bacon.

[6] The whole story of Essex is given in Spedding's *Letters and Life*. It is vigorously told by J. Bruce in the introduction to his *Correspondence of James VI. with Sir Robert Cecil* (Camden Society, 1861).

[7] See *Letters and Life*, iv. 177, vi. 38, vii. 116, 117.

[8] In October 1608 he became treasurer of Gray's Inn. The tercentenary was celebrated in 1908.

[9] *Letters and Life*, iv. 380.

[10] *Ibid.* iv. 365-373.

[11] *Ibid.* iv. 375-378.

[12] *Ibid.* v. 81-83.

[13] Not to be confounded with any of those of the same name who held the title of Baron St John of Bletsho (see *Dict. of Nat. Biog.* vol. 1. p. 150 *ad fin.*).

[14] *Circa* 1554-1616; educated at Cambridge; ordained priest 1581; vicar of Ridge, Herts, 1581; rector of Hinton St George, Somerset, 1587; eventually condemned to death at the Taunton Assizes (7th August 1615). The sentence was not carried out, and Peacham is said to have died in gaol (March 1616). See Gardiner's *Hist. of England*, ii. 272-283; *State Trials*, ii. 869; *Calendar of State Papers* (1603-1606); Hallam's *Constitutional Hist.* i. 343; T. P. Taswell-Langmead, *English Constitutional History* (5th ed., 1896), p. 425. Nearly all works on constitutional law and history discuss the case.

[15] *Letters and Life*, v. 101

[16] Ibid. v. 121, *n*.

[17] *Ibid*. v. 124.

[18] Macaulay's *Essay*.

[19] Campbell, *Lives*, ii. 344.

[20] The mysterious crimes supposed to be concealed under the obscure details of this case have cast a shadow of vague suspicion on all who were concerned in it. The minute examination of the facts by Spedding (*Letters and Life*, v. 208-347) seems to show that these secret crimes exist nowhere but in the heated imaginations of romantic biographers and historians.

[21] A somewhat similar case is that of the writ *De Rege inconsulto* brought forward by Bacon. See *Letters and Life*, v. 233-236.

[22] *Ibid*. vi. 6, 7, 13-26, 27-56.

[23] Ibid. vi. 33.

[24] A position which Bacon in some respects approved. See *Essays*, "Of Ambition." "It is counted by some a weakness in princes to have favourites; but it is of all others the best remedy against ambitious great ones; for when the way of pleasuring and displeasuring lieth by the favourite, it is impossible any other should be over great."

[25] *Letters and Life*, vi. 278, 294-296, 313.

[26] *Ibid*. vii. 579-588, analysis of the case by D. D. Heath, who expresses a strong opinion against Bacon's action in the matter.

[27] *Ibid*. vi. 444.

[28] For a full discussion of Bacon's connexion with the monopolies, see Gardiner, *Prince Charles*, &c. ii. 355-373. For his opinion of monopolies in general, see *Letters and Life*, vi. 49.

[29] *Letters and Life*, vii. 213: "I know I have clean hands and a clean heart, and I hope a clean house for friends or servants. But Job himself, or whosoever was the justest judge, by such hunting for matters against him as hath been used against me, may for a time

seem foul, specially in a time when greatness is the mark and accusation is the game."

[30] *Ibid.* vii. 215-216.

[31] *Ibid.* vii. 225-226. From the letter to the king (March 25, 1621)—"When I enter into myself, I find not the materials of such a tempest as is comen upon me. I have been (as your majesty knoweth best) never author of any immoderate counsel, but always desired to have things carried *suavibus modis*. I have been no avaricious oppressor of the people. I have been no haughty or intolerable or hateful man in my conversation or carriage. I have inherited no hatred from my father, but am a good patriot born. Whence should this be? For these are the things that use to raise dislikes abroad.... And for the briberies and gifts wherewith I am charged, when the book of hearts shall be opened, I hope I shall not be found to have the troubled fountain of a corrupt heart in a depraved habit of taking rewards to pervert justice, howsoever I may be frail, and partake of the abuse of the times."

[32] *Ibid.* vii. 227, and Gardiner, *Prince Charles*, &c. i. 450.

[33] *Letters and Life*, vii. 236, 238.

[34] *Ibid.* vii. 241.

[35] *Ibid.* vii. 242-244; "It resteth therefore that, without fig-leaves, I do ingenuously confess and acknowledge, that having understood the particulars of the charge, not formally from the House but enough to inform my conscience and memory, I find matter sufficient and full, both to move me to desert the defence, and to move your lordships to condemn and censure me."

[36] *Ibid.* vii. 252-262.

[37] *Ibid.* vii. 261.

[38] *Ibid.* vii. 270.

[39] *Letters and Life*, vii. 235-236: "The first, of bargain and contract for reward to pervert justice, *pendente lite*. The second, where the judge conceives the cause to be at an end, by the information of the party or otherwise, and useth not such diligence as he ought to inquire of it. And the third, where the cause is really ended, and it is *sine fraude* without relation to any precedent promise.... For the first of them I take myself to be as innocent as any born upon St Innocent's Day, in my heart. For the second, I doubt on some particulars I may be faulty. And for the last, I conceived it to be no fault, but therein I desire to be better informed, that I may be twice penitent, once for the fact and again for the error."

[40] *Ibid.* vii. 242.

[41] *Ibid.* vii. 244: "Neither will your lordships forget that there are *vitia temporis* as well as *vitia hominis*, and that the beginning of reformations hath the contrary power to the pool of Bethesda, for that had strength to cure only him that was first cast in, and this hath commonly strength to hurt him only that is first cast in."

[42] See, among many other passages, *Essays*, "Of Great Place ": "For corruptions do not only bind thine own hands or thy servant's hands from taking, but bind the hands of suitors also from offering; for integrity used doth the one; but integrity professed, and with a manifest detestation of bribery, doth the other; and avoid not only the fault but the suspicion."

[43] Cf. *Letters and Life*, vii. 560: "I was the justest judge that was in England these fifty years; but it was the justest censure in Parliament that was these two hundred years."

[44] Or on the ground that there was a distinct rule forbidding chancellors and the like officials to take presents. This does not seem to have been the case, if we may judge from what Bacon says *Letters and Life*, vii. 233.

[45] Not only do the cases, so far as they are known, support Bacon's plea of innocence, but it is remarkable that no attempt at a reversal of any of his numerous decrees appears to have been successful. Had his decrees been wilful perversions of justice, it is scarcely conceivable that some of them should not have been overturned. See *Letters and Life*, vii. 555-562.

[46] The peculiarities of Bacon's style were noticed very early by his contemporaries. (See *Letters and Life*, i. 268.) Raleigh and Jonson have both recorded their opinions of it, but no one has characterized it more happily than his friend, Sir Tobie Matthews, "A man so rare in knowledge, of so many several kinds, endued with the facility and felicity of expressing it all in so elegant, significant, so abundant, and yet so choice and ravishing a way of words, of metaphors, of allusions, as perhaps the world hath not seen since it was a world."—"Address to the Reader" prefixed to *Collection of English Letters* (1660).

[47] The division of the sciences adopted in the great French *Encyclopédie* was founded upon this classification of Bacon's. See Diderot's *Prospectus (Œuvres*, iii.) and d'Alembert's *Discours (Œuvres*, i.) The scheme should be compared with later attempts of

the same nature by Ampère, Cournot, Comte and Herbert Spencer.

[48] See also "Letter to Fulgentio," *Letters and Life*, vii. 533.

[49] *Fil. Lab.*; *Cog. et Visa.* i.; cf. Pref. to *Ins. Mag.*

[50] *Val. Ter.* 232; cf. *N. O.* i. 124.

[51] *Letters*, i. 123.

[52] *N. O.* i. 116.

[53] *Fil. Lab.* 5; cf. *N. O.* i. 81; *Val. Ter.* (*Works*, iii. 235); *Advancement*, bk. i. (*Works*, iii. 294).

[54] *Fil. Lab.* 5; cf. *N. O.* i. 81; *Val. Ter.* (*Works*, iii. 222-233); *New Atlantis (Works*, iii. 156).

[55] *N. O.* i. 116.

[56] *Ibid.* i. 124.

[57] *Ibid.* i. 6.

[58] The word *Idola* is manifestly borrowed from Plato. It is used twice in connexion with the Platonic Ideas (*N. O.* i. 23, 124) and is contrasted with them as the false appearance. The εἴδολον with Plato is the fleeting, transient image of the real thing, and the passage evidently referred to by Bacon is that in the *Rep.* vii. 516 A, καὶ πρῶτον μὲν τὰς σκιὰς ἂν ῥᾷστα καθορῴη, καὶ μετὰ τοῦτο ἐν τοῖς ὕδασι τά τε τῶν ἀνθρώπων καὶ τὰ τῶν ἄλλων εἴδωλα, ὕστερον δὲ αὐτά. It is explained well in the *Advancement*, bk. i. (*Works*, iii. 287). (For valuable notes on the *Idola*, see T. Fowler's *Nov. Org.* i. 38 notes; especially for a comparison of the *Idola* with Roger Bacon's *Offendicula*.)

[59] *N. O.* i. 58.

[60] *N. O.* i. 79, 80, 98, 108.

[61] On the meaning of the word *form* in Bacon's theory see also Fowler's *N. O.* introd. § 8.

[62] *N. O.* ii. 1.

[63] This *better known in the order of nature* is nowhere satisfactorily explained by Bacon. Like his classification of causes, and in some degree his notion of form itself, it comes from Aristotle. See *An. Post.* 71 b 33; *Topic*, 141 b 5; *Eth. Nic.* 1095 a 30. It should be observed that many writers maintain that the phrase should be *notiora natura*; others, *notiora naturae*. See Fowler's *N. O.* p. 199 note.

[64] *N. O.* ii. 17.

[65] *Ibid.* i. 51.

[66] *Ibid.* i. 75.

[67] *Ibid.* ii. 2.

[68] *Valerius Terminus*, iii. 228-229.

[69] Cf. *N. O.* ii. 27. Bacon nowhere enters upon the questions of how such a science is to be constructed, and how it can be expected to possess an independent method while it remains the mere receptacle for the generalizations of the several sciences, and consequently has a content which varies with their progress. His whole conception of *Prima Philosophia* should be compared with such a modern work as the *First Principles* of Herbert Spencer.

[70] It is to be noticed that this scale of nature corresponds with the scale of ascending axioms.

[71] Cf. also for motions, *N. O.* ii. 48.

[72] The knowledge of final causes does not lead to works, and the consideration of them must be rigidly excluded from physics. Yet there is no opposition between the physical and final causes; in ultimate resort the mind is compelled to think the universe as the work of reason, to refer facts to God and Providence. The idea of final cause is also fruitful in sciences which have to do with human action. (Cf. *De Aug.* iii. cc. 4, 5; *Nov. Org.* i. 48, ii. 2.)

[73] *De Aug.* iii. 4. In the *Advancement (Works*, iii. 355) it is distinctly said that they are not to be inquired into. One can hardly see how the Baconian method could have applied to concrete substances.

[74] Thus the last step in the theoretical analysis gives the first means for the practical operation. Cf. Aristotle, *Eth. Nic.* iii. 3. 12, τὸ ἔσχατον ἐν τῇ ἀναλύσει πρῶτον εἶναι ἐν τῇ γενέσει. Cf. also *Nov. Org.* i. 103.

[75] *Cogitationes* (*Works*, iii. 187).

[76] *N. O.* ii. 10.

[77] Pref. to *Instaur.* Cf. *Valerius Term.* (*Works*, iii. 224), and *N. O.* i. 68, 124.

[78] Pref. to *Inst.*

[79] Bacon's summary is valuable. "In the whole of the process which leads from the senses and objects to axioms and conclusions, the demonstrations which we use are deceptive and incompetent. The process consists of four parts, and has as many faults. In the first place, the impressions of the sense itself are faulty, for the sense both fails us and deceives us. But its shortcomings are to be supplied and its deceptions to be corrected. Secondly, notions are all drawn from the impressions of the sense, and are indefinite and confused, whereas they should be definite and distinctly bounded. Thirdly, the induction is amiss which infers the principles of sciences by simple enumeration, and does not, as it ought, employ exclusions and solutions (or separations) of nature. Lastly, that method of discovery and proof according to which the most general principles are first established, and then intermediate axioms are tried and proved by them, is the parent of error and the curse of all science."—*N. O.* i. 69.

[80] *N. O.* i. 105.

[81] *Ibid.*, i. 104; cf. i. 19-26.

[82] This extract gives an answer to the objection sometimes raised that Bacon is not original in his theory of induction. He certainly admits that Plato has used a method somewhat akin to his own; but it has frequently been contended that his induction is nothing more than the ἐπάγωγη of Aristotle (see Rémusat's *Bacon, &c.*, pp. 310-315, and for a criticism, Waddington, *Essais de Logique*, p. 261. sqq.) This seems a mistake. Bacon did not understand by induction the argument from particulars to a general proposition; he looked upon the exclusion and rejection, or upon *elimination*, as the essence of induction. To this process he was led by his doctrine of forms, of which it is the necessary consequence; it is the infallible result of his view of science and its problem, and is as original as that is. Whoever accepts Bacon's doctrine of cause must accept at the same time his theory of the way in which the cause may be sifted out from among the phenomena. It is evident that the Socratic search for the essence by an analysis of instances—an induction ending in a definition—has a strong resemblance to the Baconian inductive method.

[83] *N. O.* i. 105.

[84] That is to say, differing in nothing save the absence of the nature under investigation.

[85] *Distrib. Op.* (*Works*, iv. 28); *Parasceve* (*ibid.* 251, 252, 255-256); *Descrip. Glob. Intel.* ch. 3.

[86] *Works*, ii. 16; cf. *N. O.* i. 130.

[87] A Barnabite monk, professor of mathematics and philosophy at Annecy.

[88] *Letters and Life*, vii. 377.

[89] For a full discussion of Bacon's relation to his predecessors and contemporaries, see Fowler's *N. O.* introd. § 13.

[90] Cf. what Bacon says, *N. O.* i. 130.

[91] Brewster, *Life of Newton* (1855) (see particularly vol. ii. 403, 405); Lasson, *Über Bacon von Verulam's wissenschaftliche Principien* (1860); Liebig, *Über Francis Bacon von Verulam*, &c. (1863). Although Liebig points out how little science proceeds according to Bacon's rules, yet his other criticisms seem of extremely little value. In a very offensive and quite unjustifiable tone, which is severely commented on by Sigwart and Fischer, he attacks the Baconian methods and its results. These results he claims to find in the *Sylva Sylvarum*, entirely ignoring what Bacon himself has said of the nature of that work (*N. O.* i. 117; cf. Rawley's Pref. to the *S. S.*), and thus putting a false interpretation on the experiments there noted. It is not surprising that he should detect many flaws, but he never fails to exaggerate an error, and seems sometimes completely to miss the point of what Bacon says. (See particularly his remarks on *S. S.* 33, 336.) The method he explains in such a way as to show he has not a glimpse of its true nature. He brings against Bacon, of all men, the accusations of making induction start from the undetermined perceptions of the senses, of using imagination, and of putting a quite arbitrary interpretation on phenomena. He crowns his criticism by expounding what he considers to be the true scientific method, which, as has been pointed put by Fischer, is simply that Baconian doctrine against which his attack ought to have been directed. (See his account of the method, *Über Bacon*, 47-49; K. Fischer, *Bacon*, pp. 499-502.)

[92] Mill, *Logic*, ii. pp. 115, 116, 329, 330.

[93] Whewell, *Phil. of Ind. Sc.* ii. 399, 402-403; Ellis, *Int. to Bacon's Works*, i. 39, 61;

Brewster, *Newton*, ii. 404; Jevons, *Princ. of Science* ii. 220. A severe judgment on Bacon's method is given in Dühring's able but one-sided *Kritische Gesch. d. Phil.*, in which the merits of Roger Bacon are brought prominently forward.

[94] Although it must be admitted that the Baconian method is fairly open to the above-mentioned objections, it is curious and significant that Bacon was not thoroughly ignorant of them, but with deliberate consciousness preferred his own method. We do not think, indeed, that the *notiones* of which he speaks in any way correspond to what Whewell and Ellis would call "conceptions or ideas furnished by the mind of the thinker"; nor do we imagine that Bacon would have admitted these as necessary elements in the inductive process. But he was certainly not ignorant of what may be called a deductive method, and of a kind of hypothesis. This is clear from the use he makes of the *Vindemiatio*, from certain hints as to the testing of axioms, from his admission of the syllogism into physical reasoning, and from what he calls *Experientia Literata*. The function of the *Vindemiatio* has been already pointed out; with regard to axioms, he says (*N. O.* i. 106), "In establishing axioms by this kind of induction, we must also examine and try whether the axiom so established be framed to the measure of these particulars, from which it is derived, or whether it be larger or wider. And if it be larger and wider, we must observe whether, by indicating to us new particulars, it confirm that wideness and largeness as by a collateral security, that we may not either stick fast in things already known, or loosely grasp at shadows and abstract forms, not at things solid and realized in matter." (Cf. also the passage from *Valerius Terminus*, quoted in Ellis's note on the above aphorism.) Of the syllogism he says, "I do not propose to give up the syllogism altogether. S. is incompetent for the principal things rather than useless for the generality. In the mathematics there is no reason why it should not be employed. It is the flux of matter and the inconstancy of the physical body which requires induction, that thereby it may be fixed as it were, and allow the formation of notions well defined. In physics you wisely note, and therein I agree with you, that after the notions of the first class and the axioms concerning them have been by induction well made out and defined, syllogism may be applied safely; only it must be restrained from leaping at once to the most general notions, and progress must be made through a fit succession of steps."—("Letter to Baranzano," *Letters and Life*, vii. 377). And with this may be compared what he says of mathematics (*Nov. Org.* ii. 8; *Parasceve*, vii.). In his account of *Experientia Literata* (*De Aug.* v. 2) he comes very near to the modern mode of experimental research. It is, he says, the procedure from one experiment to another, and it is not a science but an art or learned sagacity (resembling in this Aristotle's ἀγχίνοια), which may, however, be enlightened by the precepts of the *Interpretatio*. Eight varieties of such experiments are enumerated, and a comparison is drawn between this and the inductive method; "though the rational method of inquiry by the Organon promises far greater things in the end, yet this sagacity, proceeding by learned experience, will in the meantime present mankind with a number of inventions which lie near at hand." (Cf. *N. O.* i. 103.)

[95] See the vigorous passage in Herschel, *Discourse on the Study of Natural Philosophy*, § 105; cf. § 96 of the same work.

[96] Bacon himself seems to anticipate that the progress of science would of itself render his method antiquated (*Nov. Org.* i. 130).

[97] *Nov. Org.* i. 127.

BACON, JOHN (1740-1799), British sculptor, was born in Southwark on the 24th of November 1740, the son of Thomas Bacon, a cloth-worker, whose forefathers possessed a considerable estate in Somersetshire. At the age of fourteen he was bound apprentice in Mr Crispe's manufactory of porcelain at Lambeth, where he was at first employed in painting the small ornamental pieces of china, but by his great skill in moulding he soon attained the distinction of being modeller to the work. While engaged in the porcelain works his observation of the models executed by different sculptors of eminence, which were sent to be burned at an adjoining pottery, determined the direction of his genius; he devoted himself to the imitation of them with so much success that in 1758 a small figure of Peace sent by him to the Society for the Encouragement of Arts received a prize, and the highest premiums given by that society were adjudged to him nine times between the years 1763 and 1776. During his apprenticeship he also improved the method of working statues in artificial stone, an art which he afterwards carried to perfection. Bacon first attempted working in marble about the year 1763, and during the course of his early efforts in this art was led to improve the method of transferring the form of the model to the marble (technically "getting out the points") by the invention of a more perfect instrument for the purpose. This instrument possessed many advantages above those formerly employed; it was more exact, took a correct measurement in every direction, was contained in a small compass, and could be used upon either the model or the marble. In the year 1769 he was adjudged the first gold medal for sculpture given by the Royal Academy, his work being a bas-relief representing the escape of Aeneas from Troy. In 1770 he exhibited a figure of Mars, which gained him the gold medal of the Society of Arts and his election as A.R.A. As a consequence of this success he was engaged to execute a bust of George III., intended for Christ Church, Oxford. He secured the king's favour and retained it throughout life. Considerable jealousy was entertained against him by other sculptors, and he was commonly charged with ignorance of classic style. This charge he repelled by the execution of a noble head of Jupiter Tonans, and many of his emblematical figures are in perfect classical taste. He died on the 4th of August 1799

and was buried in Whitfield's Tabernacle. His various productions which may be studied in St Paul's cathedral, London, Christ Church and Pembroke College, Oxford, the Abbey church, Bath, and Bristol cathedral, give ample testimony to his powers. Perhaps his best works are to be found among the monuments in Westminster Abbey.

See Richard Cecil, *Memoirs of John Bacon, R.A.* (London. 1801); and also vol. i. of R. Cecil's works, ed. J. Pratt (1811).

BACON, LEONARD (1802-1881), American Congregational preacher and writer, was born in Detroit, Michigan, on the 19th of February 1802, the son of David Bacon (1771-1817), missionary among the Indians in Michigan and founder of the town of Tallmadge, Ohio. The son prepared for college at the Hartford (Conn.) grammar school, graduated at Yale in 1820 and at the Andover Theological Seminary in 1823, and from 1825 until his death on the 24th of December 1881 was pastor of the First Church (Congregational) in New Haven, Connecticut, occupying a pulpit which was one of the most conspicuous in New England, and which had been rendered famous by his predecessors, Moses Stuart and Nathaniel W. Taylor. In 1866, however, though he was never dismissed by a council from his connexion with that church, he gave up the active pastorate. He was, from 1826 to 1838, an editor of the *Christian Spectator* (New Haven); was one of the founders (1843) of the *New Englander* (later the *Yale Review*); founded in 1848 with Dr R. S. Storrs, Joshua Leavitt, Dr Joseph P. Thompson and Henry C. Bowen, primarily to combat slavery extension, the *Independent*, of which he was an editor until 1863; and was acting professor of didactic theology in the theological department of Yale University from 1866 to 1871, and lecturer on church polity and American church history from 1871 until his death. Gradually, after taking up his pastorate, he gained greater and greater influence in his denomination, until he came to be regarded as perhaps the most prominent Congregationalist of his time, and was sometimes popularly referred to as "The Congregational Pope of New England." In all the heated theological controversies of the day, particularly the long and bitter one concerning the views put forward by Dr Horace Bushnell, he was conspicuous, using his influence to bring about harmony, and in the councils of the Congregational churches, over two of which, the Brooklyn councils of 1874 and 1876, he presided as moderator, he manifested great ability both as a debater and as a parliamentarian. In his own theological views he was broad-minded and an advocate of liberal orthodoxy. In all matters concerning the welfare of his community or the nation, moreover, he took a deep and constant interest, and was particularly identified with the temperance and anti-slavery movements, his services to the latter constituting probably the most important work of his life. In this, as in most other controversies, he took a moderate course, condemning the apologists and defenders of slavery on the one hand and the Garrisonian extremists on the other. His *Slavery Discussed in Occasional Essays from 1833 to 1846* (1846) exercised considerable influence upon Abraham Lincoln, and in this book appears the sentence, which, as rephrased by Lincoln, was widely quoted: "If that form of government, that system of social order is not wrong—if those laws of the Southern States, by virtue of which slavery exists there, and is what it is, are not wrong—nothing is wrong." He was early attracted to the study of the ecclesiastical history of New England and was frequently called upon to deliver commemorative addresses, some of which were published in book and pamphlet form. Of these, his *Thirteen Historical Discourses* (1839), dealing with the history of New Haven, and his *Four Commemorative Discourses* (1866) may be especially mentioned. The most important of his historical works, however, is his *Genesis of the New England Churches* (1874). He published *A Manual for Young Church Members* (1833); edited, with a biography, the *Select Practical Writings of Richard Baxter* (1831); and was the author of a number of hymns, the best-known of which is the one beginning,

> "O God, beneath Thy guiding hand
> Our exiled fathers crossed the sea."

There is no good biography, but there is much biographical material in the commemorative volume issued by his congregation, *Leonard Bacon, Pastor of the First Church in New Haven* (New Haven, 1882), and there is a good sketch in Williston Walker's *Ten New England Leaders* (New York, 1901).

[v.03 p.0153] Leonard Bacon's sister DELIA BACON (1811-1859), born in Tallmadge, Ohio, on the 2nd of February 1811, was a teacher in schools in Connecticut, New Jersey and New York, and then, until about 1852, conducted in various eastern cities, by methods devised by herself, classes for women in history and literature. She wrote *Tales of the Puritans* (1831), *The Bride of Fort Edward* (1839), based on the story of Jane M^{c}Crea, partly in blank verse, and *The Philosophy of the Plays of Shakespeare Unfolded* (1857), for which alone she is remembered. This book, in the preparation of which she spent several years in study in England, where she was befriended by Thomas Carlyle and especially by Nathaniel Hawthorne, was intended to prove that the plays attributed to Shakespeare were written by a coterie of men, including Francis Bacon, Sir Walter Raleigh and Edmund Spenser, for the purpose of inculcating a philosophic system, for which they felt that they themselves could not afford to assume the responsibility. This system she professed to discover beneath the superficial text of the plays. Her devotion to this one idea, as Hawthorne says, "had thrown her off her balance," and while she was in England she lost her mind entirely. She died in Hartford, Connecticut, on the 2nd of September 1859.

There is a biography by her nephew, Theodore Bacon, *Delia Bacon: A Sketch* (Boston, 1888), and an appreciative chapter, "Recollections of a Gifted Woman," in Nathaniel Hawthorne's *Our Old Home* (Boston, 1863).

Leonard Bacon's son LEONARD WOOLSEY BACON (1830-1907), graduated at Yale in 1850, was pastor of various Congregational and Presbyterian churches, and published *Church Papers* (1876); *A Life Worth Living: Life of Emily Bliss Gould* (1878); *Irenics and Polemics and Sundry Essays in Church History* (1895); *History of American Christianity* (1898); and *The Congregationalists* (1904).

(W. WR.)

BACON, SIR NICHOLAS (1509-1579), lord keeper of the great seal of England during the reign of Queen Elizabeth, was the second son of Robert Bacon of Drinkstone, Suffolk, and was born at Chislehurst. He was educated at Corpus Christi College, Cambridge, graduating B.A. in 1527, and afterwards spent some time in Paris. Having returned to England and entered Gray's Inn, he was called to the bar in 1533, and four years later began his public life as solicitor of the court of augmentations. Quickly becoming a person of importance he obtained a number of estates, principally in the eastern counties, after the dissolution of the monasteries, and in 1545 became member of parliament for Dartmouth. In 1546 he was made attorney of the court of wards and liveries, an office of both honour and profit; in 1550 became a bencher and in 1552 treasurer of Gray's Inn. Although his sympathies were with the Protestants, he retained his office in the court of wards during Mary's reign, but an order was issued to prevent him from leaving England. The important period in Bacon's life began with the accession of Elizabeth in 1558. Owing largely to his long and close friendship with Sir William Cecil, afterwards Lord Burghley, his brother-in-law, he was appointed lord keeper of the great seal in December of this year, and was soon afterwards made a privy councillor and a knight. He was instrumental in securing the archbishopric of Canterbury for his friend Matthew Parker, and in his official capacity presided over the House of Lords when Elizabeth opened her first parliament. In opposition to Cecil, he objected to the policy of making war on France in the interests of the enemies of Mary queen of Scots, on the ground of the poverty of England; but afterwards favoured a closer union with foreign Protestants, and seemed quite alive to the danger to his country from the allied and aggressive religious policy of France and Scotland. In 1559 he was authorized to exercise the full jurisdiction of lord chancellor. In 1564 he fell temporarily into the royal disfavour and was dismissed from court, because Elizabeth suspected he was concerned in the publication of a pamphlet, "A Declaration of the Succession of the Crowne Imperiall of Ingland," written by John Hales (*q.v.*), and favouring the claim of Lady Catherine Grey to the English throne. Bacon's innocence having been admitted he was restored to favour, and replied to a writing by Sir Anthony Browne, who had again asserted the rights of the house of Suffolk to which Lady Catherine belonged. He thoroughly distrusted Mary queen of Scots; objected to the proposal to marry her to the duke of Norfolk; and warned Elizabeth that serious consequences for England would follow her restoration. He seems to have disliked the proposed marriage between the English queen and Francis, duke of Anjou, and his distrust of the Roman Catholics and the French was increased by the massacre of St Bartholomew. As a loyal English churchman he was ceaselessly interested in ecclesiastical matters, and made suggestions for the better observation of doctrine and discipline in the church. He died in London on the 20th of February 1579 and was buried in St Paul's cathedral, his death calling forth many tributes to his memory. He was an eloquent speaker, a learned lawyer, a generous friend; and his interest in education led him to make several gifts and bequests for educational purposes, including the foundation of a free grammar school at Redgrave. His figure was very corpulent and ungainly. Elizabeth visited him several times at Gorhambury, and had previously visited him at Redgrave. He was twice married and by his first wife, Jane, had three sons and three daughters. His second wife was Anne (d. 1610), daughter of Sir Anthony Cooke, by whom he had two sons. Bacon's eldest son, Nicholas (*c.* 1540-1624), was member of parliament for the county of Suffolk and in 1611 was created premier baronet of England. This baronetcy is still held by his descendants. His second and third sons, Nathaniel (*c.* 1550-1622) and Edward (*c.* 1550-1618), also took some part in public life, and through his daughter, Anne, Nathaniel was an ancestor of the marquesses Townshend. His sons by his second wife were Anthony (1558-1601), a diplomatist of some repute, and the illustrious Francis Bacon (*q.v.*).

See G. Whetstone, "Remembraunce of the life of Sir N. Bacon," in the *Frondes Caducae* (London, 1816); J. A. Froude, *History of England*, passim (London, 1881 f.).

BACON, ROGER (*c.* 1214-*c.* 1294), English philosopher and man of science, was born near Ilchester in Somerset. His family appears to have been in good circumstances, but in the stormy reign of Henry III. their property was despoiled and several members of the family were driven into exile. Roger completed his studies at Oxford, though not, as current traditions assert, at Merton or at Brasenose, neither of which had then been founded. His abilities were speedily recognized by his contemporaries, and he enjoyed the friendship of such eminent men as Adam de Marisco and Robert Grosseteste, bishop of Lincoln.

Very little is known of Bacon's life at Oxford; it is said he took orders in 1233, and this is not improbable. In the following year, or perhaps later, he crossed over to France and studied at the university of Paris, then the centre of intellectual life in Europe. The two great orders, Franciscans and Dominicans, were in the vigour of youth, and had already begun to take the lead in theological discussion. Alexander of Hales was the oracle of the Franciscans, while the rival order rejoiced in Albertus Magnus and Thomas Aquinas.

The scientific training which Bacon had received, mainly from the study of the Arab writers, showed him the manifold defects in the systems reared by these doctors. Aristotle was known but in part, and that part was rendered well-nigh unintelligible through the vileness of the

translations; yet not one of those professors would learn Greek. The Scriptures read, if at all, in the erroneous versions were being deserted for the *Sentences* of Peter Lombard. Physical science, if there was anything deserving that name, was cultivated, not by experiment in the Aristotelian way, but by arguments deduced from premises resting on authority or custom. Everywhere there was a show of knowledge concealing fundamental ignorance. Bacon, accordingly, withdrew from the scholastic routine and devoted himself to languages and experimental research. The only teacher whom he respected was a certain Petrus de Maharncuria Picardus, or of Picardy, probably identical with a certain mathematician, Petrus Peregrinus of Picardy, who is perhaps the author of a MS. treatise, *De Magnete*, contained in the
[v.03 p.0154] Bibliothèque Impériale at Paris. The contrast between the obscurity of such a man and the fame enjoyed by the fluent young doctors roused Bacon's indignation. In the *Opus Minus* and *Opus Tertium* he pours forth a violent tirade against Alexander of Hales, and another professor, not mentioned by name, but spoken of as alive, and blamed even more severely than Alexander. This anonymous writer,[1] he says, acquired his learning by teaching others, and adopted a dogmatic tone, which has caused him to be received at Paris with applause as the equal of Aristotle, Avicenna, or Averroes.

Bacon, during his stay in Paris, acquired considerable renown. He took the degree of doctor of theology, and seems to have received the complimentary title of *doctor mirabilis*. In 1250 he was again at Oxford, and probably about this time entered the Franciscan order. His fame spread at Oxford, though it was mingled with suspicions of his dealings in the black arts and with some doubts of his orthodoxy. About 1257, Bonaventura, general of the order, interdicted his lectures at Oxford, and commanded him to place himself under the superintendence of the body at Paris. Here for ten years he remained under supervision, suffering great privations and strictly prohibited from writing anything for publication. But his fame had reached the ears of the papal legate in England, Guy de Foulques, who in 1265 became pope as Clement IV. In the following year he wrote to Bacon, ordering him notwithstanding any injunctions from his superiors, to write out and send to him a treatise on the sciences which he had already asked of him when papal legate. Bacon, whose previous writings had been mostly scattered tracts, *capitula quaedam*, took fresh courage from this command of the pope. He set at naught the jealousy of his superiors and brother friars, and despite the want of funds, instruments, materials for copying and skilled copyists, completed in about eighteen months three large treatises, the *Opus Majus*, *Opus Minus* and *Opus Tertium*, which, with some other tracts, were despatched to the pope. We do not know what opinion Clement formed of them, but before his death he seems to have bestirred himself on Bacon's behalf, for in 1268 the latter was permitted to return to Oxford. Here he continued his labours in experimental science and also in the composition of complete treatises. The works sent to Clement he regarded as preliminaries, laying down principles which were afterwards to be applied to the sciences. The first part of an encyclopaedic work probably remains to us in the *Compendium Studii Philosophiae* (1271). In this work Bacon makes a vehement attack upon the ignorance and vices of the clergy and monks, and generally upon the insufficiency of the existing studies. In 1278 his books were condemned by Jerome de Ascoli, general of the Franciscans, afterwards Pope Nicholas IV., and he himself was thrown into prison for fourteen years. During this time, it is said, he wrote the small tract *De Retardandis Senectutis Accidentibus*, but this is merely a tradition. In 1292, as appears from what is probably his latest composition, the *Compendium Studii Theologiae*, he was again at liberty. The exact time of his death cannot be determined; 1294 is probably as accurate a date as can be fixed upon.

Works and Editions.—Leland said that it is easier to collect the leaves of the Sibyl than the titles of the works written by Roger Bacon; and though the labour has been somewhat lightened by the publications of Brewer and Charles, referred to below, it is no easy matter even now to form an accurate idea of his actual productions. An enormous number of MSS. are known to exist in British and French libraries, and probably not all have yet been discovered. Many are transcripts of works or portions of works already published and, therefore, require no notice.[2]

The works hitherto printed (neglecting reprints) are the following:—(1) *Speculum Alchimiae* (1541)—translated into English (1597); French, A Poisson (1890); (2) *De Mirabili Potestate Artis et Naturae* (1542)—English translation (1659); (3) *Libellus de Retardandis Senectutis Accidentibus* (1590)—translated as the "Cure of Old Age," by Richard Brown (London, 1683); (4) *Sanioris Medicinae Magistri D. Rogeri Baconis Anglici de Arte Chymiae Scripta* (Frankfort, 1603)—a collection of small tracts containing *Excerpta de Libra Avicennae de Anima*, *Breve Breviarium*, *Verbum Abbreviatum*,[3] *Secretum Secretorum*, *Tractatus Trium Verborum*, and *Speculum Secretorum*; (5) *Perspectiva* (1614), which is the fifth part of the *Opus Majus*; (6) *Specula Mathematica*, which is the fourth part of the same; (7) *Opus Majus ad Clementem IV.*, edited by S. Jebb (1733) and J. H. Bridges (London, 1897); (8) *Opera hactenus Inedita*, by J. S. Brewer (1859), containing the *Opus Tertium*, *Opus Minus*, *Compendium Studii Philosophiae* and the *De Secretis Operibus Naturae*; (9) *De Morali Philosophia* (Dublin, 1860, see below); (10) *The Greek Grammar of R. Bacon and a Fragment of his Hebrew Grammar*, edited with introduction and notes by E. S. Nolan and S. A. Hirsch (1902); (11) *Metaphysica Fratris Rogeri*, edited by R. Steele, with a preface (1905); (12) *Opera hactenus inedita*, by Robert Steele (1905).

How these works stand related to one another can only be determined by internal evidence. The smaller works, chiefly on alchemy, are unimportant, and the dates of their composition cannot be ascertained. It is known that before the *Opus Majus* Bacon had already written some tracts, among which an unpublished work, *Computus Naturalium*, on chronology, belongs probably to the year 1263; while, if the dedication of the *De Secretis Operibus* be authentic, that short

treatise must have been composed before 1249.

It is, however, with the *Opus Majus* that Bacon's real activity begins. It has been called by Whewell at once the Encyclopaedia and the Organum of the 13th century.

Part I. (pp. 1-22), which is sometimes designated *De Utililate Scientiarum*, treats of the four *offendicula*, or causes of error. These are, authority, custom, the opinion of the unskilled many, and the concealment of real ignorance with pretence of knowledge. The last error is the most dangerous, and is, in a sense, the cause of all the others. The *offendicula* have sometimes been looked upon as an anticipation of Francis Bacon's *Idola*, but the two classifications have little in common. In the summary of this part, contained in the *Opus Tertium*, Bacon shows very clearly his perception of the unity of science and the necessity of encyclopaedic treatment.

Part II. (pp. 23-43) treats of the relation between philosophy and theology. All true wisdom is contained in the Scriptures, at least implicitly; and the true end of philosophy is to rise from the imperfect knowledge of created things to a knowledge of the Creator. Ancient philosophers, who had not the Scriptures, received direct illumination from God, and only thus can the brilliant results attained by them be accounted for.

[v.03 p.0155]

Part III. (pp. 44-57) treats of the utility of grammar, and the necessity of a true linguistic science for the adequate comprehension either of the Scriptures or of books on philosophy. The necessity of accurate acquaintance with any foreign language and of obtaining good texts, is a subject Bacon is never weary of descanting upon. A translator should know thoroughly the language he is translating from, the language into which he is translating, and the subject of which the book treats.

Part IV. (pp. 57-255) contains an elaborate treatise on mathematics, "the alphabet of philosophy," maintaining that all the sciences rest ultimately on mathematics, and progress only when their facts can be subsumed under mathematical principles. This fruitful thought he illustrates by showing how geometry is applied to the action of natural bodies, and demonstrating by geometrical figures certain laws of physical forces. He also shows how his method may be used to determine some curious and long-discussed problems, such as the light of the stars, the ebb and flow of the tide, the motion of the balance. He then proceeds to adduce elaborate and sometimes slightly grotesque reasons tending to prove that mathematical knowledge is essential in theology, and closes this section of his work with two comprehensive sketches of geography and astronomy. That on geography is particularly good, and is interesting as having been read by Columbus, who lighted on it in Petrus de Alliaco's *Imago Mundi*, and was strongly influenced by its reasoning.

Part V. (pp. 256-357) treats of perspective. This was the part of his work on which Bacon most prided himself, and in it, we may add, he seems to owe most to the Arab writers Kindi and Alhazen. The treatise opens with an able sketch of psychology, founded upon, but in some important respects varying from, Aristotle's *De Anima*. The anatomy of the eye is next described; this is done well and evidently at first hand, though the functions of the parts are not given with complete accuracy. Many other points of physiological optics are touched on, in general erroneously. Bacon then discusses vision in a right line, the laws of reflection and refraction, and the construction of mirrors and lenses. In this part of the work, as in the preceding, his reasoning depends essentially upon his peculiar view of natural agents and their activities. His fundamental physical maxims are matter and force; the latter he calls *virtus*, *species*, *imago agentis*, and by numberless other names. Change, or any natural phenomenon, is produced by the impression of a virtus or species on matter—the result being the thing known. Physical action is, therefore, *impression*, or transmission of force in lines, and must accordingly be explained geometrically. This view of nature Bacon considered fundamental, and it lies, indeed, at the root of his whole philosophy. To the short notices of it given in the 4th and 5th parts of the *Opus Majus*, he subjoined two, or perhaps three, extended accounts of it. We possess at least one of these in the tract *De Multiplicatione Specierum*, printed as part of the *Opus Majus* by Jebb (pp. 358-444). We cannot do more than refer to Charles for discussions as to how this theory of nature is connected with the metaphysical problems of force and matter, with the logical doctrine of universals, and in general with Bacon's theory of knowledge.

Part VI. (pp. 445-477) treats of experimental science, *domina omnium scientiarum*. There are two methods of knowledge: the one by argument, the other by experience. Mere argument is never sufficient; it may decide a question, but gives no satisfaction or certainty to the mind, which can only be convinced by immediate inspection or intuition. Now this is what experience gives. But experience is of two sorts, external and internal; the first is that usually called experiment, but it can give no complete knowledge even of corporeal things, much less of spiritual. On the other hand, in inner experience the mind is illuminated by the divine truth, and of this supernatural enlightenment there are seven grades.

Experimental science, which in the *Opus Tertium* (p. 46) is distinguished from the speculative sciences and the operative arts in a way that forcibly reminds us of Francis Bacon, is said to have three great prerogatives over all other sciences:—(1) It verifies their conclusions by direct experiment; (2) It discovers truths which they could never reach; (3) It investigates the secrets of nature, and opens to us a knowledge of past and future. As an instance of his method, Bacon gives an investigation into the nature and cause of the rainbow, which is really a very fine specimen of inductive research.

The seventh part of the *Opus Majus* (*De Morali Philosophia*), not given in Jebb's edition, is

noticed at considerable length in the *Opus Tertium* (cap. xiv.). Extracts from it are given by Charles (pp. 339-348).

As has been seen, Bacon had no sooner finished this elaborate work than he began to prepare a summary to be sent along with it. Of this summary, or *Opus Minus*, part has come down and is published in Brewer's *Op. Ined.* (313-389), from what appears to be the only MS. The work was intended to contain an abstract of the *Opus Majus*, an account of the principal vices of theology, and treatises on speculative and practical alchemy. At the same time, or immediately after, Bacon began a third work as a preamble to the other two, giving their general scope and aim, but supplementing them in many points. The part of this work, generally called *Opus Tertium*, is printed by Brewer (pp. 1-310), who considers it to be a complete treatise. Charles, however, has given good grounds for supposing that it is merely a preface, and that the work went on to discuss grammar, logic (which Bacon thought of little service, as reasoning was innate), mathematics, general physics, metaphysics and moral philosophy. He founds his argument mainly on passages in the *Communia Naturalium*, which indeed prove distinctly that it was sent to Clement, and cannot, therefore, form part of the *Compendium*, as Brewer seems to think. It must be confessed, however, that nothing can well be more confusing than the references in Bacon's works, and it seems well-nigh hopeless to attempt a complete arrangement of them until the texts have been collated and carefully printed.

All these large works Bacon appears to have looked on as preliminaries, introductions, leading to a great work which should embrace the principles of all the sciences. This great work, which is perhaps the frequently-referred-to *Liber Sex Scientiarum*, he began, and a few fragments still indicate its outline. First appears to have come the treatise now called *Compendium Studii Philosophiae* (Brewer pp. 393-519), containing an account of the causes of error, and then entering at length upon grammar. After that, apparently, logic was to be treated; then, possibly, mathematics and physics; then speculative alchemy and experimental science. It is, however, very difficult, in the present state of our knowledge of the MSS., to hazard even conjectures as to the contents and nature of this last and most comprehensive work.

Bacon's fame in popular estimation has always rested on his mechanical discoveries. Careful research has shown that very little can with accuracy be ascribed to him. He certainly describes a method of constructing a telescope, but not so as to lead one to conclude that he was in possession of that instrument. Burning-glasses were in common use, and spectacles it does not appear he made, although he was probably acquainted with the principle of their construction. His wonderful predictions (in the *De Secretis*) must be taken *cum grano salis*; he believed in astrology, in the doctrine of signatures, and in the philosopher's stone, and *knew* that the circle had been squared. For his work in connexion with gunpowder, the invention of which has been claimed for him on the ground of a passage in his *De mirabili potestate artis et naturae*, see Gunpowder.

Summary.—The 13th century, an age peculiarly rich in great men, produced few, if any, who can take higher rank than Roger Bacon. He is in every way worthy to be placed beside Albertus Magnus, Bonaventura, and Thomas Aquinas. These had an infinitely wider renown in their day, but modern criticism has restored the balance in his favour, and is even in danger of erring in the opposite direction. Bacon, it is now said, was not appreciated by his age because he was in advance of it; he is no schoolman, but a modern thinker, whose conceptions of science are more just and clear than are even those of his more celebrated namesake.[4] In this view there is certainly some truth, but it is much exaggerated. As a general rule, no man can be completely dissevered from his national antecedents and surroundings, and Bacon is not an exception. Those who take up such an extreme position regarding his merits have known too little of the state of contemporary science, and have limited their comparison to the works of the scholastic theologians. We never find in Bacon himself any consciousness of originality; he is rather a keen and systematic thinker, working in a well-beaten track, from which his contemporaries were being drawn by theology and metaphysics.

[v.03 p.0156]

Bibliography.—The best work on Roger Bacon is perhaps that of E. Charles, *Roger Bacon, sa vie, ses ouvrages, ses doctrines d'après des textes inédits* (1861). Against the somewhat enthusiastic estimate and modern interpretation given in this work, are Schneider in his *Roger Bacon, Eine Monographie* (Augsburg, 1873); K. Werner, *Die Psychol. ... des Roger Bacon* and *Die Kosmologie ... des Roger Bacon* (Vienna, 1879); S. A. Hirsch, *Early English Hebraists* (1899); *Book of Essays* (London, 1905), deals with Bacon as a Hebraist. The new matter contained in the publications of Charles and Brewer was summarized by H. Siebert, *Roger Bacon: Inaugural Dissertation* (Marburg, 1861). Cf. also J. K. Ingram, *On the Opus Majus of Bacon* (Dublin, 1858); Cousin, "Fragments phil. du moyen âge" (reprinted from *Journal des savans*, 1848); E. Saisset, "Précurseurs et disciples de Descartes," pp. 1-58 (reprinted from *Revue de deux mondes*, 1861); K. Prantl, *Gesch. der Logik*, iii. 120-129 (a severe criticism of Bacon's logical doctrines); Held, *Roger Bacon's praktische Philosophie* (Jena, 1881); Karl Pohl, *Das Verhältniss d. Philos. zur Theol. bei Roger Bacon* (Neustrelitz, 1893); articles in *Westminster Review*, lxxxi. 1 and 512; A. Parrot, *Roger Bacon et ses contemporains* (1894); E. Fluegel, *Roger Bacons Stellung in d. Gesch. d. Philos.* (1902); S. Vogl, *Die Physik Roger Bacos* (1906). For the popular legend see *Famous Historie of Fryer Bacon* (London, 1615; reproduced in Thoms, *Early Prose Romances*, iii.); R. Greene's *Friar Bacon and Friar Bungay* (1587 or 1588), and in publication of the Percy Society, vol. xv. 1844, *A Piece of Friar Bacon's Brazen Heade's Prophesie* (1604). For Bacon as a classical scholar see J. E. Sandys, *Hist. of Class. Schol.* (2nd ed., 1906), cxxxi.

(R. Ad.; X.)

[1] Brewer thinks this unknown professor is Richard of Cornwall, but the little we know of Richard is not in harmony with the terms in which he is elsewhere spoken of by Bacon. Erdmann conjectures Thomas Aquinas, which is extremely improbable, as Thomas was unquestionably not the first of his order to study philosophy. Cousin and Charles think that Albertus Magnus is aimed at, and certainly much of what is said applies with peculiar force to him. But some things do not at all cohere with what is otherwise known of Albert. It is worth pointing out that Brewer, in transcribing the passage bearing on this (*Op. Ined.* p. 327), has the words *fratrum puerulus*, which in his marginal note he interprets as applying to the Franciscan order. In this case, of course, Albert could not be the person referred to, as he was a Dominican. But Charles, in his transcription, entirely omits the important word *fratrum*.

[2] The more important MSS. are:—(1) The extensive work on the fundamental notions of physics, called *Communia Naturalium*, which is found in the Mazarin library at Paris, in the British Museum, and in the Bodleian and University College libraries at Oxford; (2) on the fundamental notions of mathematics, *De Communibus Mathematicae*, part of which is in the Sloane collection, part in the Bodleian; (3) *Baconis Physica*, contained among the additional MSS. in the British Museum; (4) the fragment called *Quinta Pars Compendii Theologiae*, in the British Museum; (5) the *Compendium Studii Theologiae*, in the British Museum; (6) the logical fragments, such as the *Summulae Dialectices*, in the Bodleian, and the glosses upon Aristotle's physics and metaphysics in the library at Amiens. See Little, *The Grey Friars in Oxford* (1892).

[3] At the close of the *Verb. Abbrev.* is a curious note, concluding with the words, "*ipse Rogerus fuit discipulus fratris Alberti!*"

[4] See Dühring, *Kritische Ges. d. Phil.* 192, 249-251.

BACON (through the O. Fr. *bacon*, Low Lat. *baco*, from a Teutonic word cognate with "back," *e.g.* O. H. Ger. *pacho*, M. H. Ger. *backe*, buttock, flitch of bacon), the flesh of the sides and back of the pig, cured by salting, drying, pickling and smoking.

BABYLONIA AND ASSYRIA. Plate I.

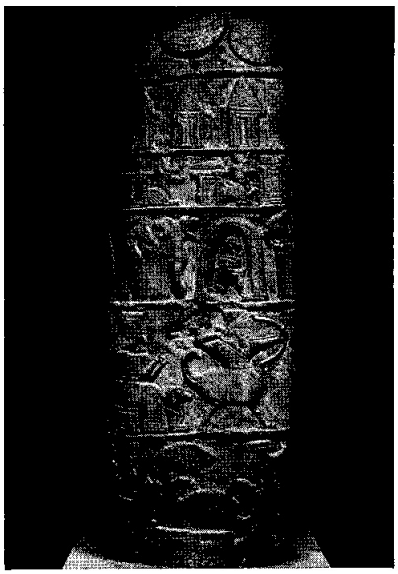
Photos, Mansell & Co.

STELE OF VICTORY OF NARAM-SIN, KING OF AGADE. Louvre.

FIGURE OF GUDEA, PATESI OF LAGASH. Louvre.

FROM STELE ENGRAVED WITH KHAMMURABI CODE OF LAWS.

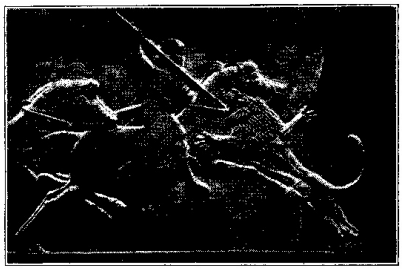
COPPER VOTIVE FIGURE OF ARADSIN, KING OF LARSA.



BOUNDARY-STONE SCULPTURED WITH EMBLEMS OF THE GODS; REIGN OF NEBUCHADREZZAR I.

COLOSSAL WINGED AND HUMAN-HEADED LION FROM THE PALACE OF ASSUR-NAZIR-PAL.

STATUE OF ASSUR-NAZIR-PAL, KING OF ASSYRIA.



RELIEF REPRESENTING ASSUR-BANI-PAL SPEARING A LION.

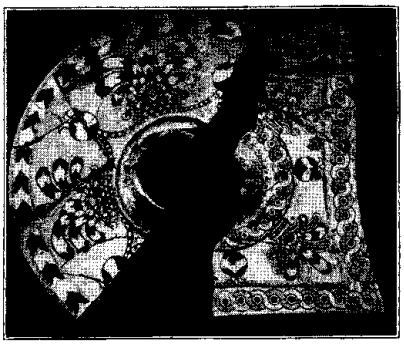
FIGURE OF A DYING LION, FROM THE LION-HUNT RELIEFS OF ASSUR-BANI-PAL.

STATUE OF THE GOD NEBO: REIGN OF ADAD-NIRARI III.

BABYLONIA AND ASSYRIA. Plate II.

Photos, Mansell & Co.

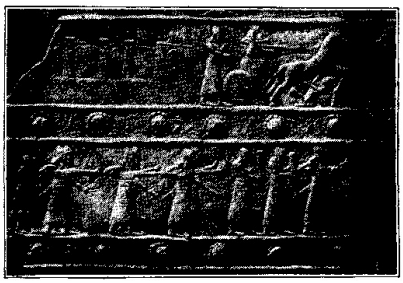
SCULPTURED RELIEF OF THE REIGN OF ASSUR-NAZIR-PAL.



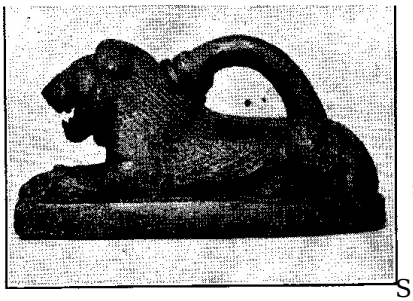
ARCHITECTURAL ORNAMENTS OF PATINTED TERRA-COTTA; FROM NIMRUD.

SCULPTURED RELIEF OF THE REIGN OF ASSUR-BANI-PAL.

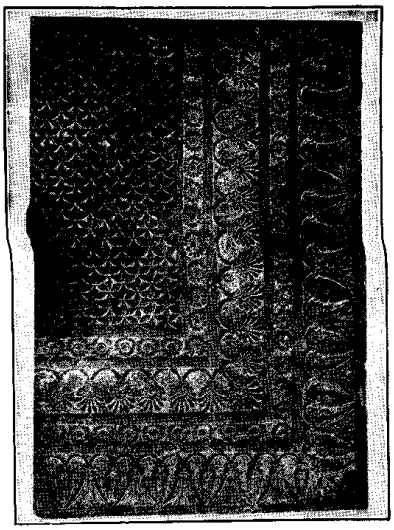
IVORY PANELS WITH LINE ENGRAVING; FROM NIMRUD.



SECTION OF BRONZE SHEATHING FROM GATES OF SHALMANESER II.

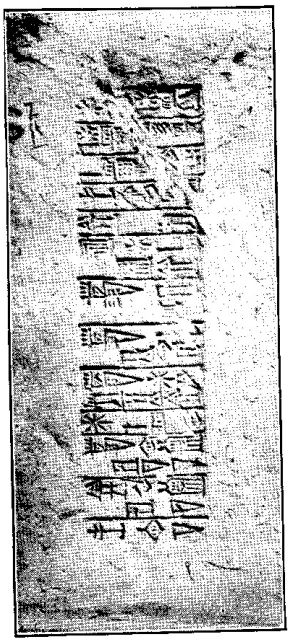


BRONZE LION WEIGHT.

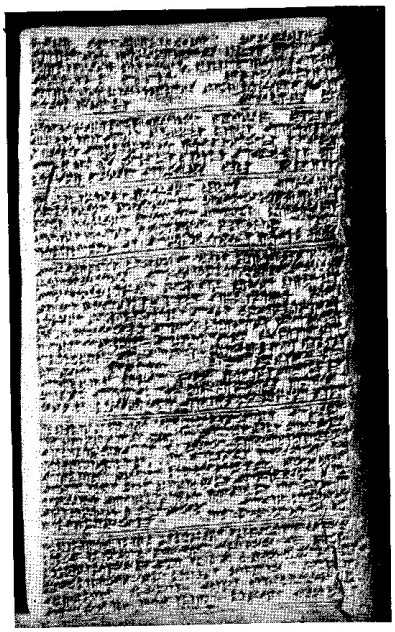


PORTION OF SCULPTURED PAVING SLAB FROM A DOORWAY IN ASSUR-BANI-PAL'S PALACE AT KUYUNJIK (NINEVEH).

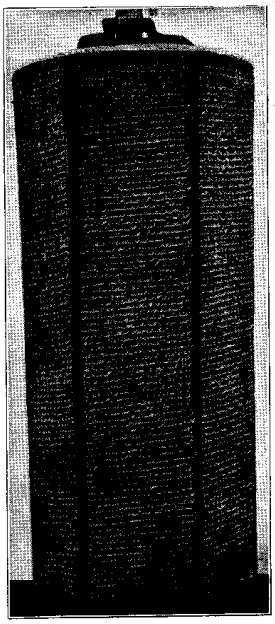
SPECIMENS OF BABYLONIAN AND ASSYRIAN WRITING.



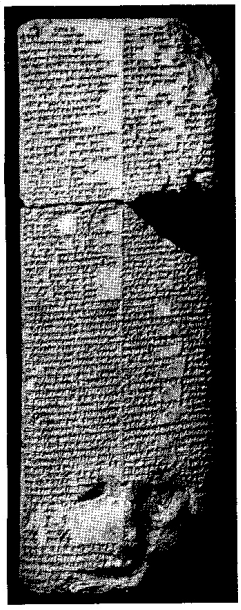
STAMPED BRICK INSCRIPTION OF PŪR-SIN, KING OF UR.



LETTER FROM TUSHRATTA, KING OF MITANI, TO AMENOPHIS III.



PRISM OF SENNACHERIB.



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