The Project Gutenberg eBook of North American Medical and Surgical Journal, Vol. 2, No. 3, July, 1826, by Various et al.

This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at www.gutenberg.org. If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: North American Medical and Surgical Journal, Vol. 2, No. 3, July, 1826

Author: Various

Editor: Franklin Bache

Editor: Benjamin Hornor Coates

Editor: Hugh L. Hodge

Editor: R. La Roche

Editor: Charles D. Meigs

Release Date: July 4, 2009 [EBook #29307]

Language: English

*** START OF THE PROJECT GUTENBERG EBOOK NORTH AMERICAN MEDICAL AND SURGICAL JOURNAL, VOL. 2, NO. 3, JULY, 1826 ***

E-text prepared by Juliet Sutherland, Josephine Paolucci,
and the Project Gutenberg Online Distributed Proofreading Team
(http://www.pgdp.net)

THE

NORTH AMERICAN

MEDICAL AND SURGICAL

JOURNAL.

CONDUCTED BY

HUGH L. HODGE, M.D. | CHAS. D. MEIGS, M.D.
FRANKLIN BACHE, M.D. | B. H. COATES, M.D.

AND

R. LA ROCHE, M.D.

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

VOL. II.

PHILADELPHIA:

PUBLISHED BY J. DOBSON, AGENT.

JESPER HARDING, PRINTER.

1826.

Eastern District of Pennsylvania, to wit

Be It Remembered, that on the 31st day of March, in the 50th year of the Independence of the United States of America, A. D. 1826, Hugh L. Hodge, Franklin Bache, Charles D. Meigs, Benjamin H. Coates, and René La Roche, of the said District, have deposited in this office the Title of a Book, the right whereof they claim as Proprietors, in the words following, to wit:

"*The North American Medical and Surgical Journal. Conducted by Hugh L. Hodge, M. D., Franklin Bache, M. D., Chas. D. Meigs, M. D., B. H. Coates, M. D., and R. La Roche, M. D. Non doctior, sed meliore imbutus doctrina. Vol. II.*"

In conformity to the act of Congress of the United States, intituled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned;"—and also to the act, entitled, "An act supplementary to an act, entitled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned," and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

D. Caldwell, Clerk of the Eastern District of Pennsylvania.

[Pg iii]

CONTENTS

OF VOL. II.

No. III.

ORIGINAL COMMUNICATIONS.

ANALYTICAL REVIEWS.

[Pg iv]

MEDICAL LITERATURE.—RETROSPECTIVE REVIEW.

QUARTERLY SUMMARY OF MEDICAL AND SURGICAL INTELLIGENCE.

No. IV.

ORIGINAL COMMUNICATIONS.

CONTENTS

[Pg vii]

ORIGINAL COMMUNICATIONS.

ANALYTICAL REVIEWS.

MEDICAL LITERATURE.

QUARTERLY SUMMARY OF MEDICAL AND SURGICAL INTELLIGENCE.

THE

[Pg 1]

NORTH AMERICAN

Medical and Surgical Journal.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Description of the Gangrenous Ulcer of the Mouths of Children.* By B. H. Coates, M. D. one of the Physicians to the Philadelphia Children's Asylum, &c.

Having had opportunities of witnessing the ravages and unmanageable character of this destructive disease, I have long and deeply felt the want of some written account, both of the malady, and of a proper mode of treatment. Some research and observation, made in consequence of this feeling, have terminated in the acquisition of more fixed ideas, and of a practice hitherto successful. This convinced me, that it became my duty to lay the result of these inquiries before the public, for the benefit of others. There is, perhaps, no stronger and more peculiar reason for wishing American physicians to write, than the opportunities they possess, of describing and recording many important varieties of morbid affection, which were either unknown to our predecessors, or the descriptions of which, uncombined and uncompared, are only to be found by searching among the more neglected tomes of a public library. Of this, the present case will afford a fair example; as well as an instance of an American physician, who had described the disease from nature, having, from want of encouragement, false modesty, or some other cause, kept it back from publication.

Ever since the establishment of the Children's Asylum, under the care of a committee of the guardians of the poor, of the city and liberties of Philadelphia, in the spring of 1819, this useful institution has been annually visited by the new and distressing scourge of which we are treating. It has here prevailed in a considerable number of cases, forming the principal source of anxiety and trouble during the winter season, and annually sweeping off its little victims, in a manner rendered peculiarly awful by its insidious approach, its loathsome effects, and its apparently uncontrollable progress. Various scattered cases of a similar affection have come within my knowledge, during the last few years; occurring in the practice of several physicians, as well as in my own. In no place, however, near Philadelphia, other than the above, has there existed, so far as I know, a sufficient number of cases at the same time, to enable a physician to examine it in much detail, or to make comparative trials of different modes of treatment, so as clearly to determine the most successful. [Pg 2]

References to Authors.—The notices of this complaint given by authors, to which I have been enabled to refer, are few, and generally too scanty to supply much means of forming a satisfactory judgment, or a practice in which confidence can be reposed. They consist, principally, of the mere mention of an affection resembling that of which we treat; and, in some instances, it is even doubtful whether they are describing the same disease. No notice is taken of this affection in any of our common books; with the exception of the last edition of COOPER'S Surgical Dictionary,[1] and of UNDERWOOD'S work on diseases of children. It is there described under the erroneous title of *cancrum oris*. A reference is given to PEARSON'S Surgery; and the article in the Dictionary is taken exclusively from that work. As this is the only authority with which I am acquainted, that gives a tolerably full account of a disease somewhat similar to that of which we are treating, I have concluded to extract the whole passage, in the words of the author.

"The canker of the mouth is a deep, foul, irregular, fœtid ulcer, with jagged edges, which appears upon the inside of the lips and cheeks; and is attended with a copious flow of diseased saliva. [Pg 3]

"This disease is seldom seen in adults; but it most commonly attacks children, from the age of 18 months, to that of 6 or 7 years. When the ulceration begins at the inner part of the lip, it exhibits a deep, narrow, sulcated appearance, and quickly spreads along the inside of the cheek; which becomes hard, and tumefied externally. The gums are very frequently interested in this complaint, and, in such cases, the teeth are generally found in a loose and diseased state; matter is often found in their sockets, and abscesses sometimes burst externally through the cheek, the lip, or a little below the maxilla inferior: and it is not uncommon to see an exfoliation of the alveolar processes, or even of the greater part of the lower jaw. Among the children of poor people, where this disease is neglected or mismanaged at the beginning, a dreadful gangrene will sometimes supervene.

"The remote causes that give origin to this disease are not very obvious. I think it occurs most frequently among children that live in a marshy situation; that are sustained by unwholesome food; and where a due attention to cleanliness has been wanting. The cancrum oris has been described by some writers, as a complaint very common in England and Ireland, where it is sometimes epidemical among infants. It, however, is commonly seen in other kingdoms, and prevails more especially in those houses where a great number of children are crowded together. I am not able to determine whether it is or is not contagious.

"But adults are not wholly exempted from this morbid affection, and it is not easy in all cases, to distinguish the cancrum oris from a cancerous or venereal ulcer in the mouth; since the uvula, tonsils or fauces may be the seat of each disease. I have seen ulcerations on the uvula and tonsils, with all the marks of a venereal sore, in patients where the presence of such a virus could not be suspected; and by treating them as canker of the mouth, they have been speedily cured.

"The canker of the mouth ought to be distinguished from aphthæ, the epulis and parulis, scurvy, cancerous ulcers, venereal ulcers and exulceration from the use of mercury.

"*The mode of treatment.*—It will be proper,

"1. To remove the diseased teeth, bone, &c. if possible.

"2. To prescribe a milk and vegetable diet, and to allow a prudent use of fermented liquors. [Pg 4]

"3. It will be adviseable to exhibit such remedies as, Peruvian bark; sarsaparilla; elm bark; mineral acids.

"The external applications that I have generally found successful have consisted of such as the following:

"*Preparations of copper*; a diluted mineral acid; burnt alum; decoction of bark with white vitriol; tincture of myrrh, &c."[2]

Of the above articles, those which we have indicated by italics are omitted in the last edition of Cooper's Dictionary; and, in a former one, they are directly prohibited with strong reprobation. Nevertheless, it is among these that we have found, beyond comparison, the most successful one.

Mr. Pearson prefixes to the preceding article a list of synonymes, with references to authors, in the manner of writers on natural history. They are as follow: *Aphthæ Serpentes.*—Sennertus; Medicinâ Practicâ. *Labrosulcium, seu Cheilocace.*—Arnoldus Bootius. *Oris Cancrum.*—Muys. Stalpaart Vander Wiel. *Gangræna Oris.*—Van Sweiten. *Gangrene scorbutique des Gencives.*—Auctores Gallici.

Of these, Sennertus[3] merely mentions, under the article aphthæ, that the latter sometimes spread around the frænum and tongue, occasionally corroding the subjacent parts. He is so far from giving a clear description, under the head of Aphthæ Serpentes, of any affection analogous to that we are about to record, that he quotes Galen as remarking, very properly, that these are not aphthæ at all, but putrid ulcers.

Arnold Bootius, in his little treatise "de morbis omissis," of diseases omitted in the books, published in London, in 1649,[4] gives, from his own observation, an account of a disease, to which he applies the names above attributed to him. It differs from the cases which have attracted our attention, chiefly in its situation. He describes it as an ulcer, soon becoming black and fœtid, corroding the inside of both lips, separating them widely from the gums and allowing them to fall outwards upon the face; thus producing a horrible deformity. Besides this, the author states, that a deep fissure usually extended down each half of the inside of each lip; thus adding four deep and ghastly ramifications to the ulcer. This shocking affection is stated to have prevailed extensively, both in England and Ireland; in which latter country the author practised [Pg 5] and held several important offices. It occasionally became epidemic, and then destroyed great numbers of children. It principally prevailed between 2 and 4 years of age; though it was occasionally met with both earlier and later in life. It was frequently, but not always, accompanied with aphthæ.

This disease was, in general, successfully treated by our author, with a decoction of "Chærephyllum, Quinquefolium, Myrrhis, Rosæ et Salvia;" in which was dissolved a "sat magna copia" of white vitriol.—A combination about as precise as some of the prescriptions which have been recommended to me, for the present disease, in this country. With this mixture, he touched the ulcers several times a day; and then washed them with a liniment of acetate of lead, aqua plantaginis, and oleum rosaceum. He also used *issues* in both arms; and confined the patient, in more obstinate cases, for drink, to a decoction of sarsaparilla, china, and several other articles, which we will spare our readers. To this disease, Bootius devotes about five small 18mo. pages, forming his tenth chapter.

Vander Wiel cites Bootius, and expresses his belief, that the disease described by the latter was identical with one which he saw himself. This last, however, though described in a cursory manner, appears to resemble much more nearly the disease of the Children's Asylum; beginning in the gums, and extending to the adjacent parts. He treats it by the following lotion:

R. Mel. Rosar.	ʒi
—— Ægyptiaci,	ʒij
Olei Vitrioli,	gtt. *aliquot.*
	misce.

Under this treatment, and by removing the teeth, when loose, the small number of cases he saw recovered in a few days.

Vander Wiel was a practitioner in Holland; and, though he does not specify the fact, his cases were probably in a marshy country.[5]

Muys, in a little treatise entitled "Chirurgia Rationalis,"[6] published in 1684, has an account of a disease, which is evidently supposed by Pearson to be that which he describes. This also, [Pg 6] however, appears to have been a "labrosulcium;" an ulcer between the lips and the incisor teeth. There is but little to be gathered from his paper; as it is principally occupied with an attempt to prove, that this ulcer is owing to an accumulation of *acidity* in the blood, increased, at this point, by the putrescence of particles of food which collect there. He illustrates this doctrine by an examination of a *burnt rag* under a microscope; and this he considers as in a state analogous to the gangrene. "Opinionum commenta delet dies," &c. We give his treatment; which is aimed at acidity.

R. Theriaci,	℥ijss
Ung. Egypt.	℥iss
Gum. Laccæ, et Spirit. Sal. *Armon.* aa	℈ij
—— Cochleariæ,	℥ij
	m. ft. ung.

To be softened with a little alcohol, the part washed with the mixture six times a day, and a rag moistened with the same compound left in the ulcer. Here we take leave of the Chirurgia *Rationalis*.

In the 14th volume of the Memoirs of the French Royal Academy of Surgery, are papers containing accounts of two cases, which have some points in common with the disease of which we treat; but the identity of at least one of which it is hard to establish. The first piece is entitled, "*Sur la gangrene scorbutique des gencives dans les enfans. Par feu M. Berthe.*"[7] The author is described, in a note, as a young surgeon of great promise, who was carried off by an early death. M. Berthe commences by quoting Fabricius Hildanus; who describes a gangrene of the gums, occuring principally at about 4 years of age, and of which all the patients died. Fabricius takes the occasion to give a caution to young surgeons, to avoid being too sanguine in predicting recovery from gangrenes. Next a case is given us, drawn from M. Saviard, in which death was the result. This author seems, subsequently, to have had somewhat better success, but at the expense of horrible disfigurements; such as great holes through the cheek, and the loss of a large piece of [Pg 7] the jaw; which, indeed, are described as having been worse than death. In another case, recorded by M. Poupart, in the "Histoire de l'Academie des Sciences," this affection terminated in death; preceded, however, and in the opinion of the author, caused, by the production of two tumours, one by the side of the tongue, the other inside of the cheek. This is not at all unlike the progress, which will be hereafter mentioned to have taken place in many of the Asylum cases.

M. Berthe then remarks, that the greater number of instances of gangrene of the gums had terminated unfavourably.

His own patient was ill from April to September, 1753; and exhibited swelled and bleeding gums, frequently projecting beyond the teeth,—black and fœtid stools, fœtid urine, and ecchymoses over the surface of the body. He treated it with antiscorbutics, internally and externally, and apparently with success. The patient, however, relapsed in January, 1754; when M. Berthe proceeded to a very different, and far more severe treatment. The gums were pared away, in many successive operations; and the wounds were washed with aluminous water. A roll of linen was, during the intervals, kept fastened in the patient's mouth, for the purpose of allowing the escape of the fluids of the part; which he apprehended to possess a putrid character, and to aggravate the original disease, whenever they passed into the stomach. At length, his patient recovered, and continued well.

It appears to the writer of these notes to be hardly necessary to state, that M. Berthe evidently mistook the disease; the latter being in reality scorbutic, and not a single symptom of gangrene being described during its whole history.

The same, however, cannot be said of M. Capdeville; whose "*Observations sur les effets rapides de la pourriture des gencives*" appear in the same volume with the foregoing, and immediately subsequent to it.[8] This writer's case took place after a fever, and no tumefaction of the gums nor ecchymoses of the skin are mentioned as occurring in it. M. Capdeville attended this case in consultation, in 1764; and complains of too feeble means being employed, as the case was trusted to antiscorbutics. This treatment ended in death. M. C. refers to Van Sweiten, whose correct [Pg 8] account we shall mention; and it is evident that it was the disease of the Children's Asylum: though he manifests a strong propensity to connect it with scorbutus, and the "blanchet," or a species of aphthæ, which destroyed a great number of children in the Foundling Hospital, in 1746. Reference is also made to cases which occurred in "La Pitié," under the care of Chopart. Of these, a very scanty account is given. They terminated in death; after a treatment by lotions of honey of roses and spirit of vitriol, with emollient and resolvent cataplasms.

Van Sweiten, in the article devoted to the consideration of gangrene,[9] has left us a far more exact description of the disease, into which we are inquiring. Practising in a marshy country, he had frequent opportunities of meeting with it; and his account of it, and his mode of treatment, though brief, are every way worthy of the close, practical inquirer into nature, and the sound medical philosopher. His description is not unmixed with strong expressions of horror and commiseration at its ravages. He describes it in a manner so similar to that in which it now prevails, that no doubt can exist of the identity of the diseases. He acknowledges, however, "rubedo, calor, dolor," among its symptoms. Cochlearia, theriaca and similar articles, according

to him, are almost always injurious. If no fœtor exist, (and, of coarse, no actual mortification,) he applies a solution of sal ammoniac or nitre, with some vinegar or lemon juice; sometimes as a lotion, sometimes by keeping a rag imbued with it always in the ulcer. Hard rubbing he reprobates. If the disease have made progress, and fœtor exist, muriatic acid is used: in the less aggravated stages, diluted with honey of roses and water; in the worst cases, pure. This practice he states never to have failed him, unless where the bone was affected.

In an early edition of Dr. Underwood's Treatise on Diseases of Children, in the library of the Pennsylvania Hospital, no mention is made of this disease; although an article is devoted to "*gangrenous erosion of the cheek*." The account is wholly borrowed from a work by Mr. Dease, of Dublin, "on the diseases of lying-in women," &c. also in the library. Mr. Dease describes this affection as occurring from 2 to 6 or 8 years of age; especially in unhealthy children, including [Pg 9] such as have been subject to worms. The whole body often appeared cold upon the approach of the disease. A black spot then occurred, but *without marks of inflammation*, on one of the cheeks or lips. The whole cheek was sometimes destroyed, and the lower jaw fell down upon the breast. Muriatic acid, infusion of roses, the effervescing draught, and, in the decline of the disease, bark, broths, jellies, and wine, besides magnesia or rhubarb, to remove the putrid matters swallowed, were the internal remedies employed. The parts were washed and injected with muriatic acid, diluted with chamomile or sage tea; and afterwards dressed with the acid, mixed with honey of roses, and, over this, a carrot poultice. By this practice, Mr. Dease lays claim to almost total success.

In the Philadelphia republication of Dr. Underwood's book, taken from the sixth London edition, there is an article entitled Cancrum Oris. The author appears to have read Pearson's account; but as his description does not at all agree with the disease of which we are treating, nor with that of Mr. Pearson, we shall not stop longer to analyse it.

I have no doubt, from views that will be hereafter developed, that many of the above writers have had cases similar to those which we are about to describe; but have mistaken them, from the want of a sufficiently early and close inspection of the ulcers. In the second stage, this disease much resembles an inflamed sore between the lips and gums, extending to the latter; although I hope to prove that this state of things is secondary.

Locality of the Disease.—The Philadelphia Children's Asylum is situated in South Fifth street, between Prime and Federal streets, in the district of Southwark. The soil is what is called alluvial, or rather diluvial; as is well known to be the case with all that district, lying south of Philadelphia, as well as the southern part of the city itself. The house was built, and for many years occupied, as a mansion, by the head of a most respectable and wealthy family. Its situation possesses some of the qualities usually selected in choosing the site of a country seat. The buildings stand on a swell of ground, leaving an open lawn, now interrupted by several unoccupied streets, and extending, on the right hand, to the banks of the Delaware, and, on the left, to the Navy Yard and part of the suburb of Southwark. Towards the north, it is not far from [Pg 10] the edge of a thickly built appendage of the city.

The district immediately south of the Asylum is marshy, and has long been noted for the prevalence of intermittent fevers; but the slightly elevated site of the building had been generally healthy, and continued so, till the universal and distressing epidemic, which infested all the outskirts of Philadelphia, in 1822 and 1823. Even at this period, the persons resident at the Asylum, were far from suffering so severely as the adjacent neighbourhood; and, since those years, it has again become, in general, tolerably healthy. In 1819, 1820, 1821, and 1822, a lot, situated at a short distance, on which were deposited the contents of a number of privies, proved a source of great inconvenience, and some disease, at the Asylum. This focus of effluvia, together with the general and copious use of similar materials in manuring the adjacent fields, occasioned an intolerable stench, and generated diarrhœas, in the early part of the spring. When the grass and weeds, however, were grown sufficiently to protect the surface of the soil from the sun and wind, this effect entirely ceased; and I know not that any other inconvenience was experienced from the same source, unless we attribute to this, as may fairly be done, the destruction of the purity of the well. This formerly afforded very good water; and, since that period, it has much improved. When the corporations of Southwark and Moyamensing shall introduce, as it is to be hoped they will, the Fairmount water into their streets, one remaining cause of inconvenience and ill health, will be removed from the Children's Asylum.

Prevalent Diseases.—Ophthalmias and furuncular eruptions, the latter principally on the face, are epidemic every year; generally in the spring and early summer months. When prevalent in the city, the measles, small pox, and varioloid disease have reached the Asylum; the scarlatina has, at no period, I believe, been peculiarly troublesome there. Intermittents, which were anticipated by many, from the nature of the situation, have seldom, if ever, prevailed in the house, to any very considerable extent. One of the worst visitations which it has experienced, in this respect, was in the autumn of 1823. In many cases, it was in patients who had been labouring under disease of this description, that the ulcer we are about to describe exhibited itself; but it was by no means confined to those who were known to have so suffered. Many, perhaps, most of the children [Pg 11] affected, were free from any apparent ailment; although it is by no means impossible that the little, uncomplaining subjects were, at the time, labouring under what has been called "febricula" or "inward fever."

Regimen.—To the impurity of the water we have already adverted. The diet of the children furnishes them with meat every day, with the exception, during a part of the existence of the

institution, of two days in every week. Molasses was freely used; indian mush was greatly in demand; and the breakfast and supper were of bread and milk. During the summer months, this diet was abundantly nourishing; but in winter, it was thought that an additional quantity of animal food was desirable; and, accordingly, it was, during the two last winters, given every day.

Description of the Disease.—The ulcer of which we speak, may begin in many parts of the mouth. In by far the greater number of cases, however, it commences immediately at the edges of the gums, in contact with the necks of the teeth, and, most generally, of the two lower incisors. A separation is found here; which exhibits a slight loss of substance at the extreme edge of the gums, and, as far as I have observed, a whitishness of the diseased surface. In some instances, though not very frequently, this is preceded by a slight swelling and redness. In this state, the disease may continue for a long time; and I have reason to believe, that patients have remained thus affected, during the whole period of three months, for which I attended the Asylum. At one time, when the disease was at its height, threatening several patients with destruction, I found upwards of 70 children, out of a population amounting to about 240, more or less affected with these ulcerations. No remarkable change is at this stage observable in the functions of the little sufferer; except a general air of languor and weakness. The appetite and the muscular activity continue, but are somewhat reduced; not sufficiently, however, to disable the child from attending school, taking the air, or continuing his ordinary practices. In this state, no symptoms of irritation have been at all discovered. The skin is cool during the day, no pain is complained of; and no account has ever been given me of any nocturnal paroxysm of fever. It would appear to be purely a state of asthenia. We are, however, by no means certain, that there was no concealed [Pg 12] irritation in the system. We were, of necessity, obliged to depend, in a great measure, upon the reports of nurses, and other females; and these were liable to overlook, or mistake for mere weakness, the signs of an obscure disease. In this manner, commencing cases were frequently not discovered, and nothing was done, till the affection had made further progress; and this continued until the ascertained existence of the epidemic in the house, combined with the recollection of its former ravages, had excited an alarm, which led to the inspection of the mouths of all the children in the institution.

The disease, in this form, must be within the curative powers of nature; as, if this were not the case, we should hear of more numerous unfavourable terminations. It has seldom, however, if at all, been within my power to witness this tendency; and, when not controlled by a particular treatment, the cases have almost always either remained stationary, or increased in severity. Its first progress is, most generally, by extending to the edges of the gums round other teeth; frequently affecting a large portion of the dental arches. A very early progress is, however, mostly effected, down the length of the tooth, in the direction of the socket; and, in this way, the disease commits great and unsuspected ravages. When it reaches the edges of the bony socket, the tooth begins to be loose, and when drawn, exhibits portions of the fang, including parts which had been contained within the alveolus, entirely denuded of their periosteum. Indeed, from observation, I should say, that the latter membrane was the part, which was the most peculiarly liable to injury and death from this disease; and it is by no means clear, to my apprehension, that this is not frequently the commencement of the complaint. The injury generally proceeds with augmenting rapidity; especially when it has affected the deeper parts: and it is while in the act of rapidly spreading, that it occasions gangrene.

In the production of gangrenous sloughs, it much resembles the descriptions usually given of sloughing ulcers. A portion of the parts immediately subjacent to the ulcer loses its life; this rapidly separates; and, before or after a complete removal, a fresh slough is formed in the same manner. The sloughs are generally black, with ash-coloured edges. I have not been able to discern a change of colour, the production of vesicles, or any material tumefaction, as antecedent [Pg 13] to the gangrene. There is generally, by this time, an increased heat in the parts; with the sensation termed "calor mordens." The discharge now, for the first time, becomes acrimonious; giving pain when it comes in contact with cuts in the finger; and excoriations are produced on all parts in contact with the sloughing ulcerations; as the lips, the cheeks, the tongue, and the adjoining surface of the part where the ulcer is situated.

As soon as the external gangrene has reached the level of the edge of the bony socket, and frequently much sooner, the adjacent portion of the latter is found deprived of its life; forming a necrosis. The death of the periosteum in the socket, at least that of the fang of the tooth, precedes, by some interval of time, that of any portion of the bone itself.

When gangrene is formed, a fever of irritation is generally developed. In regard to the time at which this takes place, there is a great diversity in different constitutions. It has appeared to me to depend, principally, upon the inflammation of the mouth, which is secondary to the original disease, and, in most cases, to arise from the acrimony of the discharge. It is aggravated by loss of rest, want of nourishment, and, probably, by putrid matter finding its way into the stomach. To the latter cause I also refer a diarrhœa, which almost uniformly comes on, towards the close.

There are accounts of a similar disease having begun on the inside of the cheeks. I have, however, never seen a well-marked instance of this; the cases which were supposed to be such having, in every instance, been also found to exhibit ulcerations at the edges of the gums. That the disease spreads from the gums to the cheek, is a fact which have often seen exemplified. It is, indeed, the most usual termination of bad cases. After producing gangrene and necrosis in the gums and alveoli, and after the discharge becomes, as above stated, acrimonious, a gangrenous spot is not unfrequently found about the opening of the Stenonian duct, on the inside of the upper or lower lip, opposite the incisors, in some other part of the inside of the lip or cheek, or in

more than one of these situations at the same time. Whether this be owing to excoriation from the discharge, or to some other cause, I cannot say; it has, however, in every instance which I have seen sufficiently early to witness its rise, been subsequent to the symptoms previously described. [Pg 14]

When the gangrene reaches the cheek or lip, however, very active inflammatory symptoms are uniformly developed. In the cellular substance of these parts, they assume the well known characters which have been attributed to the *phlegmonous* species. We have a great thickening, forming, in the cheek, a large, rounded, prominent tumour, with great heat and pain. Sometimes redness is perceived externally; but, more frequently, the great distension of the skin of the cheek seems to empty the cutaneous vessels; giving to the part, a smooth, polished, dense, white appearance, very much resembling the effect of a violent salivation. I have no doubt that this is the tumour described by POUPART, and alluded to in an earlier part of this paper. Great thickness and hardness have always occurred, in the other situations where this gangrene has approached the external cellular masses of the face; in the lip, however, they are less remarkable, perhaps from the smaller amount of cellular matter. After reaching this stage, a black spot is frequently seen on the outer surface of the swelling. This spreads rapidly; and has always been, in my own experience, the immediate harbinger of death. It is proper to state, however, that I have heard it said, that cases had recovered in this city, in which the gangrene had produced a hole through the cheek. Under what physician's care this occurred, I have never learned.

In two cases it commenced in the fauces; and was marked by the same unsuspected progress. In one of these, the little patient was remarked to be languid, but had no positive external marks of disease. The mouth was examined, and found healthy; but no suspicion of the real situation of the disease was entertained, till after 3 or 4 days more, when he complained of a slight sore throat. A large gangrene of the tonsils, half-arches and pharynx, was now found; and the event need hardly be told.

The closing stage of this affection is marked by large gangrenous patches in the gums; deep fissures between these and the teeth; the latter loose, or falling out; large pieces of the alveolar processes, often containing the roots of several teeth, in a state of entire necrosis; the whole lining membrane of the mouth suffering a violent excoriation; the whole adjacent external cellular substance, hard and swelled; large gangrenous spots in the inside of the cheek or lips, occasionally extending quite through to the outer surface; a total incapability to sleep, or to take the least food; fever; a swelled abdomen, and diarrhœa. [Pg 15]

Dissection.—The inspection of the body after death had never thrown much light upon this obscure affection. Since I began to prepare materials for this paper, I have been able to dissect but one subject. The appearances were as follow:

Exterior, emaciated.

Alimentary canal, externally and internally, altogether in a natural state, except what appeared to me to be owing to the subsidence of blood to depending portions of the intestines. The mucous membrane was carefully examined throughout its whole length; but not being at that time aware of the importance, attached, by some pathologists, to small rednesses in this organ, it is highly probable that some such may have been overlooked.

Liver and Spleen, enlarged, but of a natural appearance.

Heart, thoracic œsophagus, and one kidney, (the other not examined,) natural.

Lungs, containing much mucus in the bronchial cavities. The fore part of their substance contained much hepatization.

Pathology.—The nature and production of this disease are certainly very obscure. We may, however, as in other branches of knowledge, attempt to develop and record what knowledge we possess respecting it; carefully separating truth and reason from conjecture. We have already said, that its access was very frequently preceded by no marks of visible disease, or at least none that attracted attention. The little subjects were, apparently, in merely a drooping or enfeebled state. In other instances, the ulceration followed a common remittent or intermittent fever; insomuch that, at one time, whenever a child was brought to the nursery for fever, it was expected, as a matter of course, that his mouth would become sore. In the other cases, as we have already had occasion to say, it is quite possible that a concealed "inward fever" may have existed; and this is rendered the more probable, by the circumstance of their losing their appetites. In the instance where the body was opened, we have seen that the original disease was hepatization of the lungs; and yet it is quite probable, that this affection had caused, as it often does, that species of disease, which a rapidly spreading pathology refers to a slow inflammation of the stomach and intestines. With regard to marks of this last not having been detected by me, it is evident that I am in the same situation with a very numerous body of other observers. [Pg 16]

The local appearances, at the commencement, did not appear to be of an *inflammatory* nature, at least generally. If the gums were really the first part affected, it was not so; as these parts when inflamed, as they frequently are in affections of the teeth, exhibit decided soreness, pain, swelling, and an increase of redness. The ulcerated part was, in about nine cases out of ten, paler than natural; and then neither soreness nor increased heat was perceptible, except in a few cases, in which the mouth was generally hotter than natural, though it was not, in a striking manner, referrible to the gums. In a few cases, distinct redness, and a slight swelling, were perceptible round the ulcer. These patients generally did better than the others.

If, on the other hand, we suppose the original derangement to have taken place in the periosteum, we shall be enabled, more easily, to explain some of the phenomena. We then reason thus: The whole of the body had shrunk considerably, from disease, and, the circulation being deprived of a part of its usual vigour, the periosteum, a part possessed of little vitality, was unable to bear the additional extension, which it underwent, across the unyielding bone of the tooth. The blood ceased to circulate in it, and it died. Ulceration of the adjacent parts followed, as a matter of course; and these parts, especially the periosteum, being possessed of but little sensibility, the sympathies of the other parts of the system were but little interested, until an extensive portion of the mucous membrane of the mouth, or a mass of cellular substance, became affected. We certainly see that, in every case but two, the disease commenced in contact with the teeth. This doctrine will also explain the rapid and deep penetration of the ulcer along the roots of the teeth; and the destruction of the bone. We may recur to the statement, that a portion of the fang of every loose tooth was always found deprived of its periosteum.

In the two cases excepted, we have seen it apparently begin in the mucous membrane of the fauces; and indeed the manner in which it generally spreads from the gums to the cheek and lips, [Pg 17] seems to me, unquestionably, to indicate a greater liability than common to gangrene in more than one part of the mouth.

The soreness and pain of the socket, which forms a part of most tooth-achs, might have been reasonably expected here; but neither was ever complained of, even when the teeth were loosening: and, as no fever existed at this time, the original irritation can hardly be considered as inflammatory; excepting perhaps the cases which exhibited redness, and slight swelling of the gums.

Is this disease scorbutic?—I never observed ecchymoses, nor in more than a single instance any the minutest red specks upon the cutis, which might be thought to resemble petechiæ. The patients never fainted; the gums were never spongy, nor did they bleed more than those of any other child would have bled, under an equal degree of violence. I however requested my friend, Dr. Harris, who has had ample opportunities of making himself acquainted with scorbutus, to see some patients with me. He complied, with his usual kindness, and pronounced their disease not at all to resemble the scurvy.

The teeth.—But few cases occurred during the second dentition; and it is doubtful whether any one took place during the first. It should be remarked, however, that children under 2 years, were not admitted to the institution, unless by deception on the part of the parents. No child ever lost a tooth of the second set; and, indeed, the second dentition seemed often to cure the complaint. The greater number of cases occurred between 2 and 5 years of age, but some as late as 8 or 10. In several instances, the ulcer destroyed a portion of the enamel capsule; and the teeth were then cut, with *very perfect enamel* upon the lower part, while the bone was entirely bare at the ulcerated portion of the capsule. This singular fact proves that no inflammation of the capsule, sufficient to interrupt the function of its remaining portion, took place in consequence of the opening of its cavity.

Prevalence of this disease in our own country.—Many elderly persons remember during different periods of their lives, a tradition and particular instances of a formidable disease of the mouth, by the name of "Black Canker."[10] Round Philadelphia, it appears to have been rare. Having been [Pg 18] informed by a friend, that the disease had prevailed extensively at Salem, New Jersey, under the notice of my friend, Dr. Theophilus R. Beesley, I addressed a letter to that gentleman, to which he furnished me with an obliging and instructive reply, which I have unfortunately mislaid. Numerous cases have occurred, in that vicinity, within the last 30 years; and were, in general, successfully treated by the women. Cases seldom came under the view of physicians, until gangrene had commenced; and of these, many died: so that the old women were generally more in vogue for its cure, than the regular practitioners. Dr. Beesley, Dr. Vanmeter, and my friend Dr. E. Q. Keasbey, had met with much of this complaint; and the result of many of their observations had been combined in a thesis, written, but, according to our unfortunate custom, not published, by the younger Dr. Vanmeter. It was there considered as a sequela of intermittent and slow remittent fevers, and seldom occurred but in marshy districts, and among the poor. It generally prevailed between the ages of 2 and 10 years. Of the remedies employed we shall again speak. Dr. Samuel Tucker has also seen it in marshy situations near Burlington. I have heard of its existence on the Schuylkill. Dr. Parrish has for several years noticed a stage of this complaint, under the name of "a disease resembling the effects of mercury," in his private lectures. Drs. Physick, Hartshorne, Hewson, Meigs, Wood, Rhea Barton, and Remington, and several others who will pardon me for omitting their names, have also met with cases.

Prevention.—Our precautionary measures should be directed to the predisposed or commencing state already described; to the prevention and cure of fevers, to the removal of "febricula," and other internal disorders, and to the general restoration of strength. Finally, its commencing stage should be watched, and promptly met; and success, I believe, will always attend our endeavours.

At the Children's Asylum, all the weakly children were made to take bitters, of different [Pg 19] descriptions; and Dr. Sylvester's antiscorbutic drink, composed of cream of tartar and juniper berries, infused in water. As the disease declined in the house, under this administration of bitters, it is highly probable that they had a preventive agency. I much question, however, whether Dr. Sylvester's drink was productive of any advantage.

One question of some importance yet remains. *Has mercury any agency in producing this*

affection? The salivary glands have never been observed to be affected in it. Dr. Parrish informs me, that, after a strict examination, he has come to the conclusion that the previous use of mercury does not bring on, or aggravate this complaint, as he has noticed it. I have made the same observation; and, not being peculiarly sparing of the use of calomel in fevers, have had opportunities to verify it. I think I can add, that, in some cases, by shortening and moderating an attack of fever, calomel has been useful in preventing the ulceration. Given during the progress of one, and that a fatal case, it did not appear to aggravate it.

There is no evidence whatever tending to excite the suspicion of *contagion*.

Treatment.—A variety of remedies had been tried within my knowledge; most of them with but little success, and one or two with somewhat better. Feeling much disappointed with the results of my practice, in the small number of cases which fell under my care in the spring months at the Asylum, as well as elsewhere, I wished to exchange with another physician for a period when the disease was more prevalent; for the purpose of studying it, and making comparative trials of different remedies. Dr. Jos. G. Nancrede was so polite as to indulge me. Having then a large number of patients under my care, I was enabled to make more extensive observations, and with more precision; the results of which course gave me the first satisfaction I had ever felt relative to this disease. Trials were made of every thing that was suggested by friends, and generally upon 4 or 5 selected patients at a time. Thus, choosing them in the ulcerative stage, and having several at a time before our eyes, the result was seen in a very few days, much sooner than if patients had been successively subjected to the remedies; and no material time was lost in appealing to the article which appeared to answer best. [Pg 20]

The remedy which beyond all comparison succeeded best, was sulphate of copper. The usefulness of this substance, though known at Salem, New Jersey, was discovered, at the Asylum, by the mistake of a nurse. It had been previously used, in lotions of the strength of gr. ij or iij to the ounce of water; and with little advantage. Observing that the empirical remedies said to have succeeded, were, as I considered them, immoderately strong, I furnished the nurse with a common solution of sulphate of copper, and with a vial containing 72 grains of the sulphate in an ounce of water, for the purpose of being progressively added to the other at different periods. This stronger solution was applied, by mistake, instead of the diluted one; and it was the first remedy which had produced a rapid tendency to a cure. I finally settled down, after various trials, in the employment of the following:

R. Sulph. Cupri, ℥ij
Pulv. Cinchonæ, ʒss
Aquæ, ʒiv *m.*

S. To be applied twice a day, very carefully, to the full extent of the ulcerations and excoriations.

The cinchona here is not absolutely necessary; but operates by retaining the sulphate longer in contact with the edges of the gums.

Simple ulcerations and small gangrenes, as well as the troublesome excoriation, when not in the last stage, yielded promptly to this remedy; the good effect being generally visible from the first application.

Dr. Fox, my friend and fellow-labourer in the Asylum, had already taught me that it was important early to extract the teeth. I was not, however, sensible of the full extent of this rule, till after examining the fangs of some of them which were drawn. The separation of a portion of the periosteum from the fang, within the socket, which was universally found whenever the tooth was loose, among two or three hundred specimens, proved the existence of the disease in a deep, narrow crevice, into which it was impossible, by any contrivance, to insinuate the lotion. This cavity was laid open by extracting the tooth; and when the remedy was applied, the sanatory effect was surprisingly prompt. From this period, forwards, the universal rule was to extract all teeth, the moment they were discovered to be in the slightest degree loose; and "the blue wash" [Pg 21] above described, became the standing remedy.

It is at all times a dangerous boast for a physician to make, to say that, in the treatment of any complaint, he has always succeeded. He is frequently not credited; and he can never know at what moment disbelief may be borne out by his subsequent failures. A faithful adherence to fact, and justice to the medical art, oblige me to say that it was owing to the observation of these means, that I never had an opportunity of making a dissection, after the one mentioned in a preceding page. Upwards of 120 ulcerated gums came under my notice in the course of three months; of which 70 were affected at one time. Of these, by far the greater number would, unquestionably, have escaped gangrene. The experience of past winters, however, and that of the preceding autumn, justifies the belief that there would have been several gangrenous cases, and some deaths; unless interrupted by remedial means. Some 3 or 4 suffered small spots of mortification, and one, by the delay arising from the tardy report of a nurse, suffered necrosis in a portion of an alveolus; but they were speedily arrested, and the production of more such cases, I believe, prevented, by the employment of the above means.

I have been once, since then, called in consultation to a case in which this remedy failed; but this was only two days previous to death, and during the existence of swelled cheek, and of a thick gangrenous eschar, and it was in fact only once imperfectly applied.

The farthest advanced of all the cases which I have seen, since that time, relieved by this remedy,

was in the practice of my friend, Dr. R. M. Huston. He aided it by the application of a poultice with lead-water to the external surface of the cheek. This was thought to be productive of much relief.

Great attention and care are requisite on the part of the physician, to see that every part of the ulceration and excoriation is made visible, and brought under the influence of the applications employed. Without this entire knowledge of the extent of the evil, the result will be failure. The disgusting sloughs and discharge, and the fear of an imaginary *contagion*, make the nurses very unwilling to introduce their fingers into the reluctant little patient's mouth, and without this scrutiny all is in vain. The physician is compelled to set the example, to try the looseness of the [Pg 22] teeth with his own fingers, and to ensure the nurse's entire knowledge of the extent of the disease.

Dr. Beesley writes that the women in his neighbourhood, frequently used considerable *roughness* in applying the lotions. *Certainty* is absolutely necessary.

After the remedy had been thus accidentally discovered in the Asylum, and used for a few days, I received Dr. Beesley's letter mentioned above; and I then learned that the sulphate of copper was the principal dependence of the physicians at Salem. As, however, I had never seen Dr. Vanmeter's thesis, the use of it at the Asylum was new to me.

An excellent remedy, and one on which the sole dependence should be placed, were we not in possession of one which possesses a decided superiority, is one which was communicated to me by Dr. Parrish. It is as follows, including a slight correction made by the apothecary:

R. Sulph. Zinci, ℥i
Aquæ, ℥ij Solve.
Dein adde, Mellis Despum. et Tinct. Myrrhæ, aa ʒij

To be used in the manner described above. Some bad cases yielded to the following:

R. Sulph. Zinci, ℥ij
Aquæ, ʒi *m.*

It is useful to record failures and unsuccessful trials; as they serve to deter others from unnecessary risk. We therefore record the following as not having succeeded in our hands:

R. Mellis et
Tinct. Myrrhæ, aa ʒi *m.*

The same, with the addition of powdered bark.

R. Aluminis, ℈ij
Tinct. Myrrhæ, et
Mellis, aa ʒij *m.*
R. Pulv. Cinchonæ, ʒi
Myrrhæ et Pulv. Carbonis. a ʒss *m.* et adde
Succ. Limonum, q. s. ad massam
faciendam, quâ illineantur gingivæ.

Caustic potassa; and nitrate of silver. [Pg 23]

Pyroligneous acid, both pure and variously diluted with water. This had but a very limited effect, even in destroying the fœtor; and I am by no means sure that it was of any use in arresting the disease.

Muriatic acid, though praised by such high authorities, did not seem productive of any distinct useful effects. Nitric acid, variously diluted, and sulphuric acid, which was tried in one case, diluted with an equal quantity of water, were entirely useless.

Of *constitutional* treatment, the disease seemed to admit very little. In the early stage, the means employed, were the same mentioned above as means of prevention. It was by no means evident that any of these were useful in retarding the progress of the complaint. Towards the decline of the worst cases, aromatic sirup of rhubarb, with magnesia, were employed, to remove the putrid matters swallowed; and to relieve the diarrhœa which generally took place, by the astringent operation of the first mentioned medicine. It is extremely doubtful whether these means were productive of any benefit.

While the above was in press, I have met with the article, "*Gangrene de la bouche des enfans*," in the Dictionnaire de Medicine; written by M. Marjolin. The author in the Dictionnaire des Sciences Medicales, has given nothing material but references to some of the writers mentioned above; with one or two which were not within my reach. M. Marjolin has evidently identified the disease. He cites Fabricius Hildanus, though we have not found a distinct account of it in that writer's works. He remarks that it is identical with the *necrosis infantilis* of Sauvages. He also refers to

Saviard, Van Sweiten, whom he justly mentions with the highest praise, Underwood, Berthe, Capdeville, M. Baron, and the inaugural thesis of M. Isnard. As we have no means of referring to the two last, we must judge of them by M. Marjolin's statements. He observes the dissimilarity of Berthe's case. From the thesis of M. Isnard, he gives us an account of the disease which corresponds very nearly, indeed, with that of Van Sweiten, and with the appearances observed at the Children's Asylum.

"Almost all the infants affected with this disease in the hospitals of Paris," says M. Marjolin, "sink under it." He recommends, after Van Sweiten, the use of muriatic acid, which he mixes with honey [Pg 24] in equal proportions. Thick sloughs he cuts away with a bistouri or with scissors. MM. Jadelot, Guersent, and Baron, have employed the actual cautery with success in several instances. M. Marjolin has cured three cases; one by the actual cautery, one by caustic potassa, and a third by *muriate of soda!* which, he believes, will always destroy the fœtor. It would be interesting, undoubtedly, to make repeated trials of this simple remedy; and we shall endeavour to do so in cases which admit of delay.

FOOTNOTES:

[1] Vol. I. p. 319, Anderson's edition.

[2] Principles of Surgery; by John Pearson. Lond. 1788. p. 262, et seq.

[3] Opera omnia. Vol. II. p. 271. In the Loganian Library.

[4] Ibidem.

[5] See Cornelii Stalpaart Vander Wiel Observationes Medico-Anatomicæ. p. 167. Note by the editor, P. Stalpaart Vander Wiel. Amsterdam, 1687. In the Loganian Library.

[6] In the Loganian Library.

[7] Page 193.

[8] Page 217.

[9] Commentaria.—Edit. Lugd. Bat. 1742. Vol. I. pp. 766, 767.

[10] This name may be either from the ancient English or the low Dutch; if the one, by tradition, if the other, from the use of it by medical men. *Cancrum* is an odd grammatical blunder; being, in reality, nothing but the accusative of Cancer, put instead of the nominative. The latter name was, as is well known, frequently applied by the older surgeons, in a vague manner, to any terrific and unmanageable ulcer; and, in particular, it was often applied to gangrene. The error appears to have been first made by Pearson, and copied by Mr. Cooper. Compare Muys and Vander Wiel, with Pearson, at the above references.

Article II.—*Case of Purpura in an Infant, attended with Extraordinary Symptoms.* By R. M. Huston, M. D., &c.

On the 28th of August last, A—— V——, after a moderate labour of four hours' continuance, was delivered of a female child. About a month previously, she had laboured under an attack of intermittent fever, which yielded, in a few days, to the ordinary treatment. She was 23 years of age, an English-woman by birth, had generally enjoyed good health, and was as well as usual at the time of her confinement. Her labour was strictly natural, and her delivery accomplished without any extraordinary assistance.

At birth there was nothing remarkable about the child. Its breathing was natural, its skin of the usual colour and appearance; in short, all the common indications of a continuance of life and health were present. A few hours, however, after birth, it became uneasy, cried much, and showed signs of colic. The nurse, supposing these symptoms to arise from flatulence, administered some warm tea; but without any apparent advantage. On the following day, I saw it again, and learned, that it had evacuated a considerable quantity of urine, and some intestinal matter, of the ordinary appearance after birth. The spasms continuing at intervals, a teaspoonful of castor oil was ordered, to evacuate any remaining meconium, that might lie in the bowels, producing irritation; upon the presence of which, it was presumed the spasms depended. It operated well, but without producing the desired relief. On the next day, viz. forty-eight hours [Pg 25] after birth, a number of bluish or purple spots were observed on different parts of the child's body, but most numerous on the extremities. They were of various sizes, from that of a mustard seed, up to that of a grain of Indian corn. Some were slightly elevated, but most of them were not in the least so. In the majority, there was a minute central spot, or little point, more red or pink coloured than the blue areola, by which it was surrounded. In many instances, these little points projected, so as to become manifest to the touch. In the course of twenty-four hours, the spots, which had first appeared, began to decline, leaving a greenish mark, very like the remains of a bruise; but much more rapidly than these declined, others of larger size appeared on different parts of the child's body.

On the third day after birth, large blotches appeared, one behind each ear. These rapidly increased, until they covered the whole extent of the parietal bones, and considerably elevated the skin, giving it a puffy or tumid appearance, like that caused by a blow from a large or blunt instrument. The parts soon became hot and tender to the touch; and this tenderness extended over the greater part of the scalp. A blotch, similar to those upon the exterior surface, was likewise observed within the mouth, covering the whole extent of the palate bones. The child experienced great difficulty in swallowing after the third day; and the *nurse* thought the spasms were often excited by attempts of this kind.

But the most singular feature of the case was the appearance, on the night of the second day, of a discharge from the vagina, *resembling* the menstrual flux. It resembled that flux in *colour*, *consistence*, *want of coagulability*, and in being, withal, accompanied by a considerable quantity of *slimy or mucous matter*. Every diaper which was used during that night, and the greater part of the next day, was stained more or less with this discharge. It was also observed, that, during the flow of this fluid, the spasms ceased; and that, whenever the discharge was suppressed, even for a very short time, they uniformly returned. In this manner they alternated at intervals of a few hours, until the occurrence of the death of the child, which happened on the eighth day after birth.

As this case is related more for its singularity than from an expectation that any practical [Pg 26] suggestions will be furnished by its perusal, but few remarks will be necessary, either upon its pathology or treatment. Although it will be perceived by the scientific reader, that the disease observed, differed materially from any of the forms of *purpura*, described by systematic writers on diseases of the skin; still I apprehend it may be justly considered as more nearly allied to that genus, than to any other.

The spots were evidently caused by an effusion of blood beneath the cutis, and the presumption is strong, that it issued from the little point discoverable in the centre of each spot. Those points were, in all probability, *arterial*. That they were arterial terminations, I think is evident, from the great extent to which the cellular membrane was injected, especially over the parietal bones. The force exerted must have been very considerable to elevate so large a portion of scalp, and yet no pulsation could be discovered in any one of the points.

But whence came the vaginal discharge? That it issued from the *vagina* was most certain; but whether it was furnished by that canal, or by *the uterus*, was not ascertained. To assert that it was menstrual, would be hazarding more than a prudent regard for truth would justify. But, if not, why the pain and spasms which preceded it, and the alternation of these symptoms with each other? and, especially, why the slimy appearance, mixed with red matter, without a trace of any thing like coagula? Certainly we do not find these appearances in ordinary cases of hæmorrhage. So that there is no other way of accounting for the discharge in this case, except by considering it as having been secreted by the vessels of the parts from which it came.

From the difficulty which the child experienced in swallowing, but little food could be taken; and the same difficulty precluded the administration of medicines. What caused this impediment could not be ascertained, but it was supposed to result from a spasmodic action of the muscles of the part.

The only medicine attempted to be given was a weak infusion of bark, and this was soon abandoned.

The spots, particularly the large ecchymosed surface on the head, exhibited no change in appearance, when *viewed superficially*, a few hours after death. No other examination was permitted.

ARTICLE III.—*History of the Natural and Modified Small-Pox, or of the Variolous and Varioloid Diseases, as they prevailed in Philadelphia in the years 1823 and 1824.* By JOHN K. MITCHELL, M. D., and JOHN BELL, M. D. attending physicians at the then Small-Pox Hospital. With a Plate.

[Pg 27]

In a question of less moment, some apology might seem due for once more directing public attention to that which has been so oft discussed and described by many eminent physicians and experienced observers. But, if descriptions of any disease be valuable; if to record faithfully an evil be among the first steps for its removal and prevention; and, still more, if additional confidence, derived from enlarged experience, can be imparted to the means hitherto adopted to guaranty the human frame against a mortal and loathsome malady, our efforts at this time may claim the favourable notice of our professional brethren, and of the community at large.

Sedulously abstaining from the parade of erudite research or indulgence in speculations, however ingenious, it is our intention to describe with accuracy all that we saw; and if, in so doing, we shall be found repeating what others have said before us, and proposing inferences previously drawn, the observations and deductions are to be considered as not the less our own,

since we only speak from conviction, founded on the evidence presented to our senses. Our opportunities for accurate judgment were most ample, being derived as well from an attendance of nine months on the hospital for the reception of the poor, labouring under the disease, as from one of us prescribing, during a part of the time, for the Philadelphia Dispensary, added to the cases furnished us by private practice, and very many others, the records of which have been kindly placed at our disposal by professional friends.

The ravages committed by the small-pox in Baltimore, and the fact of many who had been previously vaccinated having been attacked by the disease during the years 1821 and 1822 were notorious to us all, but were productive of little alarm in Philadelphia. The non-appearance of the scourge in the greater part of the period, when the former city was suffering under it, justified, to a certain extent, this feeling of security, and seemed to call more on our sympathies for our neighbours than on our fears for ourselves. [Pg 28]

In the month of September, 1823, some cases of fever, with pustular eruption, first arrested the attention of the medical faculty, some of whom were, of course, called on to render professional assistance. The residence of some of the persons, thus attacked, in Water street, and their emigration from Europe, naturally induced a suspicion of this disease being no other than the small-pox, imported by, or brought in with them. Very nearly about the same time, however, some scattered cases of a similar eruptive disease, were noticed in the upper or western portion of the city, without our being able to trace any intercourse or connexion between these and the others in the lower or eastern part, viz. Water street.

The first return of death from small-pox, furnished by the Board of Health, was in the week between the 13th and 20th of September. The next was between the 4th and 11th of October. From this time to the end of the year there was a progressive increase of mortality, and the annual return for 1823, presented no fewer than one hundred and sixty deaths by small-pox. The greatest mortality in any one week was thirty-three, from December 20 to 27. During the months of January, February and March, 1824, the disease prevailed extensively, and was fatal to many. In the following months its violence subsided, and in the month of June our attendance on the temporary hospital[11] was discontinued, in consequence of a resolution of the Managers of the Alms House to close it. Though a few patients were afterwards received into it, yet the malady soon disappearing, justified its final closure. The annual return for 1824 exhibited three hundred and twenty-four deaths by small-pox. The entire mortality from this cause was four hundred and seventy-three, in a period of twelve months, from November 1, 1823, to November 1, 1824. The deaths before the first, and after the second date, were but eleven.[12] Contagious as this disease unquestionably was, we cannot, at the same time, withhold our belief of its having been in a measure subjected to epidemical influences, viz. in a particular character of the seasons and [Pg 29] atmospherical changes. It is then within our province, as historians of events, rather than as expounders of causes, to present our readers with a summary account of the weather during the years 1823 and 1824. We do this both from a sense of duty, considering it as pertinent to our present labour, and from a wish to encourage others by our example to preserve and transmit the meteorological registers, in their respective districts, of those years, marked by new or aggravated diseases.

METEOROLOGICAL REGISTER.[13]

					Winds—Days.	
1823.	MeanTemp.	Variat. Therm.	Variat. Barom.	Snow & Rain Water. Inches.	N. W. to S. W.	N. E. to S. E.
January,	31	44	0.94	3.38	22	8
February,	25	42	1.17	1.93	22	6
March,	37	52	1.65	6.87	21	9
April,	55	47	1.08	1.77	16	14
May,	61	52	0.88	1.60	19	8
June,	68	46	0.65	0.87	20	10
July,	72	30	0.58	6.12	23	6
August,	72	35	0.60	4.68	21	8
September,	63	51	0.61	3.46	15	12
October,	53	42	0.60	2.02	21	9
November,	38	38	0.81	2.47	21	9
December,	34	31	1.07	7.37	21	10
				———	———	——
For the year,	50-3/4	88	1.70	42.54	242	109
1824.						
January,	36	48	1.25	3.67	24	7
February,	31	59	1.55	3.94	21	7
March,	40	39	0.71	2.63	16	15
April,	50	45	1.08	4.54	22	8
May,	60	44	0.88	1.59	24	7
June,	73	46	0.69	6.09	25	5

July,	74	30	0.38	8.80	19	8
August,	70	36	0.45	6.39	20	11
September,	64	41	0.65	6.60	17	7
October,	54	43	0.65	1.53	23	5
November,	42	38	0.89	2.49	24	6
December,	37	43	0.95	2.11	24	7
				———	———	——
For the year,	52-1/2	85	1.55	50.38	259	93

The temperature of the wells and springs, in and near Philadelphia, is 52° Fahrenheit.

[Pg 30]

1823.

Maximum of	Therm.	91,	June 19.	Maximum of Barom.	30.45,	Nov. 29.
Minimum	"	3,	Feb. 7.	Minimum "	28.75,	March 30.
		—			——	
Variation,		88			1.70	

1824.

Maximum of	Therm.	90,	June 8.	Maximum of Barom.	30.45,	Feb. 6.
Minimum	"	5,	Feb. 2.	Minimum "	28.90,	Feb. 26.
		—			——	
Variation,		85			1.55	

The amount of water which fell in rain and snow during the four years, from 1822 to 1825, inclusive, was,

	1822.	1823.	1824.	1825.
Inches,	35.20	42.54	50.38	33.26

We next subjoin a summary of deaths by fever, erysipelas and measles, in the above period; being more desirous of narrating all the circumstances associated with the appearance and continuance of the small-pox, than of insisting on them as supporting causes or necessary connexions. It will appear from the accompanying statement, that the diseases febrile and eruptive were in number, violence and mortality unusually great, in the above mentioned years, as we discover by comparison with the returns for 1822 and 1825.

	Deaths by			
	Fevers.	Erysipelas.	Measles.	Small-pox.
1822	510	4	0	0
1823	758	24	156	160
1824	654	28	102	324
1825	375	12	38	6

In New York and Baltimore, the coincidence between increase of fevers, measles and erysipelas, and the mortality from small-pox, is not so well marked.

	In New York—Deaths by			
	Fevers.	Erysipelas.	Measles.	Small-pox.
1822	393[14]	6	1	0
1823	192[15]	13	117	18
1824	191[16]	14	100	394
1825	445	20	53	40

[Pg 31]

	In Baltimore—Deaths by			
	Fevers.	Erysipelas.	Measles.	Small-pox.
1821	400	0	2	21
1822	430	1	4	122
1823	304	2	175	2
1824	183	3	14	2
1825	138	0	9	3

We now proceed to give a brief sketch of the disease called the natural small-pox, (occurring in persons unprotected by previous vaccination or inoculation,) and the deaths from which are given in the above statements. We must, in advance, insist on the great diversity in the appearance of the eruption in different individuals; so great, that an attempt to make an accurate picture of one case pass for a faithful representation of the many, must be deceptive and injurious.

In the premonitory symptoms, constituting the characters of the fever precursory to the eruption, there was considerable uniformity: the complaint of nearly all those attacked being at first chills and rigors; pains in the loins, head and limbs, with thirst and want of appetite; with which were soon associated gastric uneasiness, and in many, soreness of throat, rendering deglutition painful, hoarseness and weeping eyes. The duration of these symptoms, aggravated by febrile

exacerbations, varied from one to three days, more usually the latter, after which the eruption begins to appear. It is first seen round the forehead and temples, near the hairy scalp; then on the cheeks and breast and back; on the arms near the shoulders; the abdomen and thighs; and subsequently on the fore-arms and hands, and finally on the legs and feet. The appearance of the eruption is that of red or scarlet papulæ, presenting to the touch a sensible resistance, but not much raised, and without roughness or hardness. These papulæ, becoming more and more defined and elevated, are after a day or two converted into vesicles, with small elevated centres [Pg 32] or bodies of a yellowish-white, and more diffused red and somewhat hard bases or margins. The redness extending as the eruption becomes copious, converts the skin, especially of the face, neck, and hands, into a red ground, from which project, in relief, the whitish vesicles. Similar appearances, but of a less marked nature, owing to the eruption being more scattered, are found on the trunk. The vesicles, containing at first a thin, semi-transparent fluid, become gradually larger, fuller and yellower, and filled with a thick, tenacious matter. This change is completed, and the pustules are entirely formed, after a lapse of time from the first eruptive effort, which varies from the fifth to the ninth day, and is occasionally longer. The mean for the beginning of maturation, or the finishing of the secretion of matter in the pustule, may be received as five days for the face, and eight or nine days for the body generally. The stages of the eruption, as regards its appearance, may be very properly called papular, vesicular, and pustular. This last having attained its height, completes what is termed the period of maturation, during which the pustules retain their fulness and spheroid figure; and exhibit the greatest proportion of whitish-yellow shining surface of their body, and diminished extent of redness at their base. A yellow dry point on the summit of the pustule, which loses thereby somewhat of its former spheroidal shape, by becoming flatter, or slightly indented, indicates beginning desiccation, at which time the body exhales that peculiar odour, so unpleasant, and so readily recognizable, after it has once been perceived. There is no uniformity in the size of the pustules on the body generally, nor any equality among them on a particular part: more usually one larger and fuller is surrounded by others less so. Nor is it to be supposed that the changes above mentioned are gone through in regular succession on all parts of the surface, uniformly. It was no uncommon thing to see the eruption papular on the legs, vesicular on the trunk and arms, and pustular on the face, at the same epoch. One part even, as the arm for instance, has exhibited to us the three forms at the same time.

Maturation complete and desiccation going on, the pustules break, and have their thin coverings converted into a yellow hard coat or crust, to which adheres the pus that was not removed by [Pg 33] absorption, and the residue, by evaporation of its watery part, is now converted into a scab of varying thickness, firm and prominent in its centre, and made up outwardly of concentric circles. The margins of the pustules, before of a distinct red, now assume a bluish-red or purplish colour, and the skin begins to desquamate.

The constitutional sympathies, or the symptoms in the milder and regular variety of the disease, are not of any great violence or intensity. The premonitory pains, diminishing or disappearing, after the coming out of the eruption, leave in their place a regular fever. The action of the heart and capillaries is hurried during the papular and vesicular stages; but becomes more equable while maturation is going on. During the former period, the loaded and not unfrequently furred tongue evidences disordered stomach, the cravings of which are for cold drinks. The somewhat laborious respiration may, in some cases, depend on the swelling and soreness of the fauces and pharynx; in others, on the eruption extending along the lining membrane of the larynx; whilst in others, it may be caused by bronchial engorgement.

The febrile symptoms, which abate during the process of maturation, are apt to return during desiccation; and when the skin begins to desquamate, they then constitute what is called secondary fever. The skin which had suffered so much, occasionally exhibits at this time an erysipelatous blush, accompanied by an inflammation of the subjacent cellular tissue, and the formation of troublesome boils, or infiltration of serum, especially where there is much laxity of structure, as in the eyelids, cheeks, lips, &c. The cutaneous system, during and immediately after the removal of its cuticle, and much of its rete mucosum, is of course very sensible, as well to the impression of clothes as to atmospherical extremes, and particularly cold. This is with many a critical time. It not unfrequently happened that persons, who had passed through the different stages of the disease, and were advancing rapidly to convalescence, were suddenly seized with an affection of the chest, pleurisy, bronchitis or pneumonia, and speedily carried off by the violence of the inflammation. The skin, exquisitely sensible in its denuded state to atmospherical vicissitudes, transmits with great promptness the morbid impression to the lungs, already prone to take on disease, in consequence of the active part they are compelled to play during the eruptive fever. [Pg 34]

The anomalous varieties, if we can admit any standard form of the disease, were numerous. Those which most fixed our attention were the *confluent*, the *roseate*, the *tuberculous*, and the *erysipelatous*.

The *confluent* was ushered in by symptoms of greater febrile disorder than the regular distinct variety: the throat was sorer; eyes more suffused and watery, and more intolerant of light; gastric and pulmonic uneasiness, and oppression more aggravated. In place of the papulæ being separate, or merely in clusters, they are so crowded, that on the progress of the eruption the vesicles first and then the pustules are contiguous at their bases, and often run into each other, forming at times, a large irregular bag filled with pus, and technically called blebs, or else exhibiting over a considerable space of skin the appearance of imperfect vesication. The vesicles

and pustules are, in such cases, flattened, and with indented centres, which latter display at times a dark point or spot, while the edges are of a livid red. This is the appearance of the limbs and trunk. The cheeks and forehead during the process of maturation present a continuous puffy elevation of a pearly white colour. The eyes are nearly closed by the swelling of the lids, and the thick copious secretion from the borders and the conjunctiva; the lips are tumid and the angles of the mouth ulcerated. In fact the human face divine, deprived of all lineaments and expression, is now a foul, misshapen mass. Associated with this state are swelled throat, rendering deglutition very painful—salivation, cough—occasional vomiting, delirium, sometimes phrenitical, sometimes evidencing itself in low mutterings and jactation.

The *roseate* variety of small-pox might, without creating much confusion, be ranked with the confluent, which it closely resembles in its second stage. The first is characterized by the rose or pink colour of the face, which is covered with a copious eruption of papulæ, some with dry points, while from others, the bases of which are small and hard, arise minute vesicles of a pearly colour, which soon dry away. The inflammation, however, still continues, but spreads under the cuticle, which is raised in large patches of a white colour, but not vesicular, or distinctly pustular, or containing fluid: they approximate and produce the continuous puffy elevation already described. On the trunk and extremities, the eruption is either of confluent patches or of pustules dry and [Pg 35] flat, with indented centres, the intermediate skin being of a deep red or crimson colour.

The constitutional disorder runs high in these cases,—delirium and great gastric distress being very common symptoms. The tongue, especially at its border, is frequently the seat of eruption, which may be compared to the vesicular stage on the skin, with the summits cut off. The lining membrane of the mouth and fauces and pharynx, are, we presume, similarly affected, judging from the soreness of these parts, and the thick muco-purulent matter sometimes mixed with blood, which is spit out or brought up by screatus. The subjects most liable to the roseate eruption, were the intemperate and debauched of the sanguine temperament.

The *tuberculous* variety of small-pox was most frequent among the negroes. The eruption at first consisted of broad papulæ, which were converted into hard, rough, and knotted prominences, tuberculous at base and flattened in the centre. This was not unaptly called by some the seal skin eruption. Sore throat, causing the greatest difficulty in deglutition, and delirium were the almost invariable concomitants of this variety. Occasionally the patient was in a state of stupor and disinclination to motion—at other times wakeful and restless, and requiring coercive means to confine him to his bed. In many instances, the muscular strength was retained to within a few hours of death. The fatal termination in these three varieties, confluent, roseate, and tuberculous, was in the second period of the disease, that is, in the one corresponding with the completion of maturation, and the absorption and drying away of the pus in the simple distinct form of small pox. After some experience, we were enabled, from the appearance of the eruption at the outset, to presage the event, which in the above described kinds, was almost universally fatal.

The *erysipelatous* variety was more an adventitious conversion of the primary form of the disease, by hospital air and delicacy of the cutaneous tissue induced by prior irregularities of life, than a distinct kind to be met with in general practice. It was most commonly presented to us in persons who had a very copious eruption, interesting to a great degree the whole cutaneous surface, and in whom the process of maturation was complete, and the cuticle began to lose its [Pg 36] adhesion to the subjacent tissue. In some cases, even after desquamation was almost completed, and the skin nearly dry and smooth, erysipelatous inflammation would supervene, and seem to be repeated on the pulmonary and gastric surfaces, producing great trouble in respiration and derangement in the digestive functions, accelerated pulse, and other symptoms of fever.

We could readily pourtray other nicer shades of the natural small-pox, but the originals might not perhaps be so readily recognized by succeeding observers, or their nature well understood by our readers.[17] Our object being to convey practical knowledge, we pass on to a notice of the subjects, most liable to suffer from exposure to the variolous poison.

The African race would seem to be peculiarly obnoxious to the small-pox: the actual number of people of colour brought to the hospital being greater than the whites, and the proportionate mortality much more considerable; being as four deaths to six cases of disease in the former, and two deaths to four cases of disease in the latter. As regards sex, the proportion of deaths among the males was three-fifths, among the females two-fifths, of the entire number under treatment in the hospital. In both, the violence of the disease, and the number of anomalous symptoms and complications, depended greatly on their prior dissolute life. Drunkards among the men, and prostitutes among the women, rarely escaped death. The former had the roseate eruption, and the latter the confluent, on which dark spots as if gangrenous were a frequent appearance. Menorrhagia, at any time in the course of the disease, was a bad augury.

The better to elucidate the nature of this dire malady, we shall now give from our records some cases of fatal termination, and add an account of the appearances on *post mortem* examination of these same subjects.

Cases.—I. Wilhelmina Smith, white, aged nineteen years, of irregular habits, has a well defined circular scar, with smaller pits in it, on the left arm; but has no recollection of having been vaccinated, nor does she remember ever having heard her parents, who are now dead, speak of it.

She was taken sick on Thursday night, the 11th of March, 1824, and in the morning had vomiting [Pg 37] and pains in the back. On the 13th in the afternoon, the eruption first appeared.

15th. Admitted and visited. Eruption on face slightly prominent, is red, tuberculous and rough—small and scattered on the arms, like flea bites. Legs nearly clear: they have many cicatrices, especially on the shin and outer part. There is at present an ulcer above the inner ancle. Tongue yellow, and furred in centre, white at borders. Pulse small and threaded.

16th. Eruption rising vesicular from face and limbs; no fever; tongue greenish and loaded; coughs much.

17th. Eruption fine, dry, flat, and partly indented in centre on the face, which burns much; skin red and inflamed; on limbs same appearance, but eruption less copious; pulse small, threaded, and frequent; tongue furred and yellow in centre; complains of pain in deglutition; cough.

18th. Eruption on face dry, flat, white and small in size, and copious; rather more elevated on limbs and neck; tongue dry and furred; pulse frequent and threaded; throat sore.

19th. Eruption same as yesterday; pulse scarcely to be felt; skin cool; coughs with an appearance of choking.

Dead at midnight. She retained her muscular strength and ability to sit up to the last.

Examination in the afternoon of March 21.—On removing the sternum and anterior portion of the ribs, the anterior mediastinum was found filled with a frothy adipo-mucous collection of a yellowish colour. The lungs on both sides adherent to the thorax, and the left lobes to each other. A sanguineo-serous effusion on both sides, probably a quart on the right, the lungs of which were changed in texture, and shrunk. The pericardium contained a large quantity of the same kind of fluid, which was found in the cavity of the thorax. The heart was highly injected. On removing the lungs and the trachea, and larynx, the lining membrane of the two last showed a brownish-red, coated with mucus, and deeply injected. Same appearances in a more marked degree in the bifurcations of the trachea.

The œsophagus next examined, was found of a natural appearance, except near the stomach, where it was injected and assumed a red hue, contrasting with the whiteness of its upper part. The mucous membrane of the stomach near the cardiac orifice was in some parts of a roseate [Pg 38] hue, in others a brownish-red; while in others it was ash-coloured, and dotted with red and yellow points. Towards the pyloric orifice, less disease. The stomach contained nothing but dark green bile and mucus. The duodenum was also highly injected. Lower down, the small intestines were in places lined with a dark red and brown, and the mesentery highly injected in the portions corresponding to these spots. Intestines much inflated, and omentum dark and injected. The uterus was not examined. The ovaria were large, white and soft; in the left was a small sac of dark blood, which readily burst on pressure.

The liver was very large, of a soft texture and white colour; gall-bladder full of dark green bile, which had in part transuded through its coats.

On looking at the trachea after it was washed, it exhibited in places whitish elevated spots, having all the appearance of an eruption.

II. Ann Collins, white, aged 18 years, unprotected, became sick on Tuesday evening, March 23, 1824, and was taken to the Alms House, as one having the measles, on Wednesday. On Thursday evening, some eruption was visible; on Saturday evening, March 27, admitted.

28th. Visited. Face covered with a red, flat, dry eruption, particularly on the cheeks; small and vesicular on the chin and around the mouth. On the arms, it has the appearance of measles; on the hands, it is of a deep scarlet, with central vesicular elevations; on the legs is slight; tongue loaded and yellow, except at the borders, which are clean; pulse natural; complains much of pain in the back and sickness of stomach.

30th. Eruption covering the face, vesicular on a deep red ground with some tumefaction; rising vesicular on the limbs with scarlet bases. Tongue smooth and shining anteriorly, and with vesicles on it. Throat sore. Salivation. Pulse small and feeble. Has had menorrhagia since her admission into the hospital.

31st. The menorrhagia continues. Had last night epistaxis. Pulse small and slow. Tongue furred and red. Eruption confluent with indented and dark centres. Surface white and dry. Skin between, red and inflamed. Very slight eruption on legs, and none on feet. [Pg 39]

April 1. Menorrhagia continues. Pulse small and labouring. Respiration laborious and hurried. Face swelled. Surface smooth, with white spots to represent the pustules. On breast and arms the eruption is in confluent patches which are nearly continuous—some pustules flat and indented, others smooth, with appearance of radii, and some more elevated forming blebs. Skin of the feet cold, and blue in spots; no elevated eruption on lower extremities. Tongue furred and yellowish. Throat sore. Eruption very copious on body, generally with blebs.

Vespere; pulse hardly perceptible. Anxiety and distress great. Dead at 10, P. M.

Examination April 2nd, in the afternoon.—On opening the thorax, the lungs and heart were found of the natural appearance and size. The larynx and trachea being divided, exhibited all the way down to the lungs an injected surface with whitish irregular spots, having nearly the same appearance as the flat smooth eruption on the face: in parts it was more evidently pointed, and showed, by the aid of the microscope, a pustular appearance. In the lungs, the inner surface was

still darker. The root of the tongue was covered with large and rather hard papillæ, with open summits. The œsophagus was smooth and white. The stomach near the cardia injected, and of a brownish-red in spots: the remaining portion white, presenting no diseased appearance. The spleen was very large and covered with copious miliary points. The omentum, to appearance gangrened, was dark, and altered in texture. The peritoneum, especially in the pelvis, was injected and inflamed, being of a semi-opaque dark colour. The uterus, small and firm, contained some bloody mucus in its cavity.

III. Joseph Foster, white, aged 22 years, unprotected, became sick on Monday evening 8th of March. The eruption began to show itself on Wednesday morning, 10th.

12th. Admitted and visited. Face covered with a red, dry, tubercular eruption, with some few yellow pustules. Same on arms, but no pustular appearance; partly tuberculous, partly vesicular. More sparse and scattered on breast and legs: none on feet. Slight cough. Tongue white, clammy, and loaded in middle—red at borders. Pulse rather frequent.

14th. Face covered with a pustulo-vesicular eruption, with whitish summits, red and inflamed bases. Skin between, of same colour. Eruption dry and hard; very red, copious on limbs; less so on trunk. Tongue moist and less loaded. Pulse regular. [Pg 40]

15th. No fever. Face of a deep red colour; eruption rising from it rather flat, irregular in figure and white at summits. Eyes inflamed. On limbs the eruption is red at base, vesicular in body and summit: on trunk in clusters. Tongue yellowish and rather furred. No complaint made; rests easy; sleeps well.

16th. No fever: tongue moist and a little loaded. Pustules nearly white. Some yellow, and beginning to dry on summits. Skin between still of a deep red. Eruption filling on limbs and trunk.

17th. Pulse strong and frequent; skin hot; tongue moist and loaded. Pustules scabbing on face. Not yet entirely filled on limbs, where they are in clusters with inflamed bases.

18th. Pustules full and matured on limbs. Running into each other in places. Tongue dry, brown, and furred in centre, yellow and loaded at sides. Pulse quick and frequent. Lies easy.

19th. Blebs formed on arms; pustules running into each other, beginning to shrink; matter oozing out. Tongue covered with a dark crust. Pulse quick and frequent. Erysipelas of eyelids and ophthalmia. Throat sore.

20th. Blebs larger and more numerous on hands and arms; purulent matter oozing out from some of the pustules. Face nearly scabbed over. Some small white pustules formed on the eyelids. Pulse frequent and vibrating. Tongue as yesterday. Gums tender.

21st. Pulse weaker. Desquamation going on; pustules shrunk and drying on limbs. Tongue as yesterday.

22nd. Matter much absorbed on limbs, leaving a shrunk cuticle. Face covered with a brown and yellow scab and scurf. Tongue black and furred; clear at apex.

23d. Some erysipelatous inflammation of the skin; pustules all nearly disappeared from arms, trunk and thighs; some few, white and soft remain scattered over breast. Pulse frequent. Tongue black and incrusted.

24th. Was brought into town from Bush Hill.

30th. Desquamation nearly complete. Low frequent pulse. Respiration slow and laboured. Tongue incrusted.

April 2nd. Dead at 10, A. M.

Calomel had been freely given to this man in the earlier stage of his disease: and during the last week, spts. terebinth. and nutritive farinaceous food. [Pg 41]

Examination.—The pericardium, of a greenish colour and its capillaries finely injected, was full of yellow serum. The lining membrane of the larynx and trachea was of a greenish-yellow colour throughout, and in the spaces between the cartilages ulcerated and disorganized in several spots. Beneath the membrane was a venous injection. About the bifurcation it was injected; and in the ramifications of the trachea were seen several inflamed, and in places abraded and disorganized spots. A chocolate coloured liquor with a sediment filled the bronchiæ and the larger tracheal subdivisions.

The œsophagus was sound. The stomach showed clusters of bright red and brownish-red spots, in stellated and other regular figures extending along the smaller curvature. The duodenum, at its commencement and in its course, presented similar clusters. The rest of the intestine was healthy. The brain was to appearance in a natural state.

IV. Peter Johnson, black man, aged 38 years, unprotected, was taken sick on Monday, 29th March, in Sandy Hook. Eruption of small-pox appeared April 3d, Saturday morning. Admitted same day.

4th. Eruption copious on face; papular and of irregular figure. Eyes suffused and red. On arms, same appearance as on face, but less tuberculous. On breast and body, eruption small and pointed; beginning to show on legs. Throat sore. Tongue yellow and loaded at sides; red in

centre. Pulse full, equal, and rather frequent. Cough.

5th. Much anxiety and moaning. Eruption rough and tuberculous on face. On arms, it is in parts papillary and pointed, and in parts flat with indented centres. Pulse slow and equal.

6th. Eruption hard and tuberculous on face and arms; small and pointed on breast. Pulse slow; throat less sore; mind wandering. Is sitting up in bed, dressed. Tongue moist and yellow.

7th. Delirious through the preceding night; is now dozing. Eruption same as yesterday. Not so thick on legs, but hard and tuberculous.

8th. Tongue black and incrusted. Throat very sore. Eruption hard and flat. Pulse active. [Pg 42]

9th. In a comatose state. Pulse slow. Skin cool.

10th. In the same condition. Drawn down in the bed, the thighs flexed on the abdomen, and lies on his side.

11th. Dead at six A. M.

Examination.—The upper surface of the tongue of a brownish yellow, full of holes and rough. At the posterior part, in place of the larger papillæ, were ulcers and cavities. The posterior nares and pharynx were covered with holes, formed by ulceration, and of a brownish hue, adjoining injected and apparent pustular parts. Tonsils ulcerated, and their investing membrane mostly destroyed. The œsophagus immediately below the glottis, smooth and sound. Yellowish matter flowing from the glottis. On opening the larynx, it was found half filled with a viscid light olive-coloured fluid; on removing which, the whole lining membrane, down to the bifurcation of the trachea, was found covered with clusters of ulcerated pustules of a yellow colour, with the intervening spaces of a brownish-red, highly injected, and destitute of its natural smooth, shining appearance. The internal surface of the glottis and epiglottis was in a similar but less marked state as the larynx and trachea. The pustular surface extends to the minute ramifications of the bronchiæ, and their cells beyond were highly injected.

On opening the abdomen, the omentum was found dark and shrunk. Stomach contracted. Intestines distended, shining, and very vascular, with capillary injection when viewed externally. The peritoneal covering of the stomach showed a similarly injected appearance.

The stomach being opened, displayed at its upper curvature, spaces studded with spots of a deep red or purple; apparently effusions surrounded by a vascular net-work. Same appearance towards the pyloric orifice, and in places on the duodenum, which, together with the jejunum, particularly the latter, is of a dark leaden colour, and injected.

The diaphragm on its upper surface, highly injected, as was also the pleura lining the thorax. The pericardium healthy.

The brain was not, unfortunately, examined.

V. Jacob Fry, black man, aged 30 years, unprotected, was taken sick on Sunday, 11th April, 1824. Eruption appeared on Thursday, April 15th. [Pg 43]

16th. Admitted and visited. Eruption copious and papular on face; smooth and flat, with dark centres, on trunk and arms. Tongue loaded. Cough. Tenderness of epigastrium on pressure. Throat sore. Pulse small and threaded. Eyes muddy.

18th. Eruption flat and rough; diffused over face. On breast red and flat; on limbs in clusters, shrunk, and hollow in centre. Pulse small.

19th. Tongue moist. Pulse small and frequent. Throat much swelled. Restless, and somewhat delirious.

20th. In a comatose state; but is roused to attention by calling him.

21st. Dead at five P. M.

Examination. April 22nd.—On opening the thorax, the lungs were seen to appearance healthy. Both adhered to the pleura costalis. The pleura lining the diaphragm, and also the pericardium, were finely injected. Fauces inflamed, injected, and ulcerated. From the tonsils oozed out pus.

The larynx contains a light olive coloured fluid, muco-serous, which likewise covered the trachea and bronchiæ. The lining membrane throughout was rough, and exhibited a net-work of a brownish-red colour, finely injected.

The œsophagus about half way down, has its lining membrane removed for one-third its length, showing miliary points on its muscular coat. The stomach on its outer surface, and near its upper end, showed a black spot, like effusion of black blood, under the peritoneal coat. On examining the œsophagus near the cardia, it was found of a dark colour in lines. From the cardia, half over the inner surface of the stomach, radiates inflamed membrane of a deep red colour, and corroded at the place corresponding to the dark spot above mentioned. Red spots near the pyloric orifice. Intestines not diseased. Liver adherent by its right lobe to the ribs; this lobe was of a greenish leaden colour. No alteration of its structure. Brain injected in its arachnoid coat. Ventricles contained some serum. Tela choroides dark and gorged.

VI. William Lawrence, aged 18 years, unprotected, became sick on Saturday, April 17th. On

Sunday taken to the Alms House, and on Wednesday, 21st was transferred to the Hospital.

21st. Eruption fine and papillary on face; red and scarcely raised on arms. None on legs. Has cough since yesterday. Pulse slow and regular. Tongue brown, and incrusted in centre. Moist on sides. [Pg 44]

22nd. Eruption confluent and red. Papulo-vesicular on face and arms. Flat, dry, and copious all over the trunk. Scattered and small on legs and feet. Pulse small and regular. Tongue loaded and brown in middle. Eyes sparkling. Is delirious and very restless.

23rd. Eruption very copious all over the body, rising vesicular from red margin. Pulse small and slow. Tongue loaded, furred, and yellow. Head and back easier. Has slept well. Face deeply suffused with red.

24th. Cough. Eruption flat, indented centres, dark in places. It is now coming out on legs. Pulse small and firm. Skin cool. Much uneasiness and hurried breathing.

25th. Dead at seven A. M.

This man had been bled twice before his admission, and once again on the 22nd. Cold affusions had been freely used.

Examination, on the 26th April.—Pericardium sound, but contained much sanguinolent serum. Pleura sound. Lining membrane of pharynx partly destroyed. No ulceration. Tonsils give out pus on pressure.

Œsophagus of a dark red, and partly lost its inner membrane. Larynx and trachea injected; but the membrane lining them is entire, without pustules or ulceration. Some frothy effusion in bronchiæ.

Liver healthy. Spleen large. Omentum sound, and of a natural white colour, traversed by some large veins. Stomach externally of a brown-red colour; and when opened, presents, spread out from the cardiac orifice, dark brown-red streaks; and towards the pyloric orifice and upper side, an extensive surface shaded over with vermillion and darker spots. Near the duodenum, the surface is white. Intestines slightly injected. Bladder dotted all over with bright red spots on its inner surface, which is covered with a fine capillary reticulated structure.

VII. An infant, white, unprotected, aged three weeks, child of Clarissa Clarke, who had been inoculated twenty-one years ago. Taken sick on Sunday, 2nd May. Eruption appeared Thursday, 6th. Admitted 9th. [Pg 45]

10th. Eruption copious, and in confluent patches, with red bases, and flat vesicular summits. Has also aphthæ.

13th. Eruption confluent, in large white patches on face. Throat very sore.

15th. Dead at eight A. M.

Examination.—The stomach of a light colour, perfectly healthy. Folds and plaits of mucous membrane strongly marked. Mucous surface of trachea nearly healthy.

VIII. Infant, female, of a woman who died in the Alms House of varioloid disease, shortly after giving birth to this child. It is three weeks old; was admitted Sunday, 25th April, second day of the eruption. Dead on Thursday, 29th. The skin became livid after death..

Examination.—Pharynx inflamed, and the eruption on it extending all the way down the œsophagus, to near the cardiac orifice; the lining membrane being also in part destroyed. Stomach of a fine clear red, and beautifully injected to the minutest capillaries all over the mucous surface. Intestines, both large and small, red and injected.

The larynx has some eruption on its lining membrane. The trachea and bronchiæ nearly healthy; there being no eruption or secretion on their surface.

Doctor Darrach was present at the majority of the above detailed examinations, and kindly officiated at some of them. This gentleman, well known for his zeal in the study of comparative and morbid anatomy, made many interesting microscopical examinations of the various kinds of variolous pustules, and the corresponding changes in the cutaneous tissue, the results of which, we hope, he will make public.

Having thus freely described what we saw, we wish it were in our power to lay down next, for the benefit of those who come after us, a satisfactory method of treating small-pox. The hospital returns are not of such an encouraging nature as to make our self-love predominate over observation and experience, and lead us to inferences which might seem to sanction the utility of this or that medicine, or curative plan. We had to deal, it is true, with the worst portion of the community; persons of constitutions exhausted or perverted by excess of sensual indulgences, or by poverty, or both conjoined. In private and even dispensary practice, where the subjects were [Pg 46] of a better physical and moral nature, we often saw the disease subside, and health return, after less attention to administer medical aid, or to supply other wants, than was exhibited at the hospital. We are, notwithstanding, sanguine enough to anticipate useful results from our attentive study of the symptoms of the disease, in connexion with that of the post mortem examinations, and to consider ourselves as in possession of lights to guide us with more certainty than before. Let us see how far a cautious analysis will tend to dispel old errors, and establish

useful truths.

The gastric distress, and the associated uneasiness and pain in the head, back, and limbs, with evening exacerbations of fever, for the three days preceding the eruption, evince conclusively a disease to which the skin is a stranger, except by its usual sympathies of heat and coldness, moisture and dryness. The appearance of the tongue, the loss of appetite, thirst, nausea, and occasionally vomiting, are testimonies to the impeded function of the stomach in this first period, or that of precursory fever: and if to this we add the soreness of the fauces and pharynx, producing impeded deglutition, we cannot refuse our assent to the belief that the mucous surface, on which the *preparatory process* of digestion takes place, is mainly affected. The next leading symptom is the appearance of the eruption on the skin. The character of the disease is now fixed, and the physician feels himself compelled to respect the cutaneous inflammation, throughout its entire course, naturally enough regarding it as the disease itself, rather than the last link in the chain of morbid actions. To support the circulatory system at such a degree as shall enable the skin to secrete this new matter of small-pox, is nearly as much as he proposes to himself. But here arises a question of great practical moment. To what extent, if any, is the eruption a natural or necessary sequence of the previous symptoms or condition of the system. Perhaps in the existing state of medical science, we hardly dare reply positively to this question. This much we know, that there is no correspondence in general between the intensity of the precursory fever, and the copiousness of the after eruption. We are, moreover, well apprized of the fact of very many, who had been protected in earlier life by inoculation or vaccination, being seized with all the symptoms of the precursory fever of the small-pox, and remaining seriously [Pg 47] indisposed for a few days, yet with very little eruption in some cases, and without any in others.

Next we may inquire, what control, salutary or otherwise, we can exercise over the skin in reference to its eruption, by adopting certain methods in medicine and hygeine, during the period of invasion or of precursory fever. To foster the germ of the poison, as yet only affecting the inner surfaces, into efflorescence on the outer or cutaneous one, by hot air, warm and heavy clothes, and cordial drinks, is a practice, which, though at one time advocated on what was thought very sufficient theory, is now abandoned as at war with experience. Of these means, clothing acts primarily on the skin, and we will suppose heat to do the same: the cordial drinks must however affect this organ by stimulating and irritating the gastric and intestinal surface. Against all stimulation of this surface we are then bound, from knowledge and theory, to object.

The cooling regimen as it is called, was substituted for the alexipharmic, in so far as regards light clothing and cool air. Can emetics and purgatives be viewed as a part of this regimen, and exert as such a salutary influence over the second period of the disease, or that when the eruptive effort takes place? Admitting they are but local stimulants, can they as such be with advantage applied to a surface, as that of the stomach and intestines, already highly irritable, and which, as the disease advances, becomes inflamed? If our object be in this first period to diminish the violence of the second or eruptive one, we doubt whether our expectations will be at all met by any kind of stimulant to parts, which so promptly transfer their irritation to the cetaceous surface. Whatever may be thought of these suggestions; whether they are to be regarded as well-founded, or merely speculative, must be a subject of future investigation; since we are as yet compelled to deny that experience can be adduced in favour of the practice of vomiting and purging to the first period of variolous disease.

On the same line with the remedies just mentioned, have been placed bleeding, general and local, though as we apprehend, very erroneously. There is not in bleeding as in purging, conflicting and alternating effects of debility from evacuation, and irritation, primary and sympathetic, from local [Pg 48] stimulation; but a direct diminution of morbid action, more tranquil movements of the heart and capillary system, that is of the circulatory apparatus, and of the membranes, mucous, serous and cutaneous, &c. Bleeding, unlike most other remedial agents, produces a direct calmness and ease in the animal economy: it does not like them substitute one disturbance for another, or make the great appear the lesser evil. The experienced physician well knows the value of this remedy, in the first period or invasion of the phlegmasiæ, and of some fevers called general. He is fully aware, that if he cannot produce by it a decided impression on the malady in the commencement, he is but too often afterwards a prey to doubts and anxieties, wishing to relieve, but unknowing what to attempt. Conceding, however, the power of venesection, in the forming stage of the disease, now under review, so that we by this remedy may control the series of morbid actions in the second period, and diminish the extent of the eruption; it may yet be seriously asked, whether we can with safety and propriety prevent or destroy the succession of changes to which the skin is subjected, from the first papulæ on to desiccation. On this point, we believe, has turned the practice of the profession at all times, whether in the ages of humoralism, or in the reign of solidism. In addition to the reasons already assigned, which would lead us to doubt the necessity of the eruption being left uncontrolled, or even suffered to run its course, we may appeal to the practice of inoculation, which as effectually saturated the system, and indisposed to subsequent attacks, as if the skin had formed a continuous pustular surface; and yet this benefit was often gained by the trifling tax of a few days' fever, and half a dozen of pustules. Where the fever runs high and the respiration is much affected, in the first period of measles, and before there is the slightest appearance of eruption, we conceive it often so be our duty to bleed freely, without reference to the subsequent disease of the skin, or any nicety of calculation about this latter going through its regular stages. Indeed, we have usually reason to congratulate ourselves for having, by this means, rendered the subsequent disease milder and more tractable. That affection of the urethra termed gonorrhœa, the product of contagion, will, if left to itself, go through its several stages; and, if rest and regimen be enjoined, will often leave the subject [Pg 49]

healthy as before. But we can, notwithstanding, cut it short with perfect impunity, by suitable remedies, and thereby prevent numerous unpleasant symptoms and effects, which are often present when the disease is left to nature. Syphilis has its several stages, each marked by characteristic symptoms; but the skilful treatment of the first stage prevents, how beneficially we all know, the appearance of the others. We must then in small-pox, as well as in other diseases, beware how we confound a common and even natural, with a necessary and unavoidable succession of symptoms and periods.

The precursory fever in small-pox is seldom marked by the same common inflammatory symptoms as that in measles; and does not seem, by its actual violence, to urge the physician to deplete with freedom, if he only have regard to the existing condition, rather than to the impending danger and complication. The diversity in the two diseases consists not so much in the greater intensity of the latter, as in the more decided gastro-enteritic derangement in the former. Experience has not yet sanctioned the benefit of copious bleeding from the arm, in incipient disease, or irritation verging to inflammation of the intestinal surface, as in small-pox; while its efficacy is admitted in measles. But conceding its doubtful character, local bleeding, as by cupping, and leeching on the abdomen, might be serviceably employed in the form of disease now under consideration; as we know it to have been in other febrile affections, where the same parts were diseased. Topical depletion does unquestionably exercise the best effect on membranous inflammation. In addition to cool air, we may with some confidence have applied at this time to the skin, cool, if not cold, affusions; while cold or cool drinks, and these of mucilaginous kind, would constitute the principal ingestæ and medicines. Our own experience was little favourable to the efficacy of cold water, applied to the surface during the eruptive stage; and we apprehend, that, if decided benefit can grow out of its use, it must be during the first or precursory fever, before the formation of vesicles has commenced, when every thing is to be attempted to sooth irritation, and prevent febrile reaction.

The first period over, the eruption on the skin now appears, and constitutes a leading and exceedingly important symptom of the disease. This eruption, like many others the product of gastric derangement, acts for a time as a counter-irritant, and as such affords temporary relief to [Pg 50] the internal organs; but when continued, as in the farther progress of the disease, it, in common with all irritants on the skin, returns with interest to the digestive tube, the irritation which it first received from this latter.

We must not lose sight of the state of the lining membrane of the lungs during this time. It cannot be said so much to sympathize with the skin, as to be affected by continuous disease; since the eruption on the mucous membrane of the larynx, trachea, and its ramifications, undergoes nearly the same changes, in the same time with that on the cutaneous surface. The danger and violence of a disease in which the three surfaces, cutaneous, pulmonary, and gastric, are all organically affected at the same time, must be very apparent. Even though there be no eruption on the internal coat of the stomach, its appearance after death, of high vascularity and sanguineous injection, corresponding precisely in appearance with the circles found in the lungs, of which the pustules were the centres, justifies this belief of its being organically affected. Each of the three above mentioned surfaces is in degree ancillary to the others, and each may, on occasions, partially supply their functions; but in this period of variolous disease, our hopes of such vicarious action must be very faint indeed, and hence the hazard attending any application to any one of them.

Are we from these appearances to pronounce the eruption a phlegmasia of the skin and lungs, associated with a previous one of the stomach, and recommend the free use of venesection? Life may occasionally be prolonged, or at times saved by this means; but the disease will not be thereby materially arrested in its course, or modified in its appearance. We shall find that the inflammation of the membranes, consisting as most of them do of cellular tissue and minute capillary vessels, is often not susceptible of being checked by general depletion, carried even so far as to almost empty the larger arteries, and arrest the heart's motion.

Still more will this inflammation persist, if it have gone to the extent of forming new parts, whether phlegmons or pustules. The intensity of the inflammation may be somewhat moderated, but it cannot be conquered now as at the commencement, or during the first period, or that of invasion. We cannot, from our own experience, speak favourably of the remedy in the second, or [Pg 51] eruptive stage. It did not answer our expectations, though employed in subjects apparently the best constituted to derive the good effects proposed from it. We must at the same time grant, that it was complicated with other remedies. Of topical bleeding, we are unable to speak, not having seen it tried. In this period of the disease, it must be of very difficult execution. Still less reason have we to boast of the good effects of purging. Though the skin may for a while be relieved by the watery secretions from the intestinal canal; yet the irritation of the latter, consequent on purging, is soon communicated to the cutaneous surface with the effect of aggravating the eruption. To the class of stimuli or stimulating diaphoretics, the same objections apply with increased force. As on the one hand, in cases of high fever, seeming to call for great depletion, the surfaces are often not relieved by general bleeding, but retain their own vitality; so on the other, in cases of apparent prostration, and feebleness of circulation, they often retain all their morbid activity, and will of course be materially injured by stimulation, either of hot air to the skin, or heating drinks to the gastric and intestinal surface. Of the various diaphoretics employed, we had reason to be least dissatisfied with the combination of opium and ipecacuanha in small doses. In some few cases, tartrate of antimony and cream of tartar, dissolved in rice or barley water, and the solution used as a drink, seemed to be beneficial. Several grains of the

former were thus taken in the 24 hours, without its producing vomiting or purging. But in very many other instances of the disease, this medicine had no ameliorating effects. Calomel alone, or in combination with opium, was given, and in a few cases caused *ptyalism*. We did not lose persons thus affected, but we cannot speak with any confidence of the propriety of the treatment.

The application of cold water to the skin, was tried by us on the strength of its alleged good effects in this disease, but in no case had we reason to be satisfied with it. The state of the cutaneous surface, during the vesicular and pustular stages, is such as to prevent its transmitting the usual impressions to the interior. Cold may deaden it, and hasten the disorganization of its tissue, but cannot arrest and suspend morbid capillary action here, as in ordinary fevers, or diseases with great local determination, as to the head, &c. If useful at all, it will, we apprehend, [Pg 52] be in the forming stage of the disease, before the skin is altered by the eruptive effort. The same objections do not hold against the internal use of cool or cold liquids. We have in this instance to be regulated by the usual precautions, as in all febrile disease where the gastric system is the greatest sufferer. More benefit will follow the sustained use of cool, than the occasional administration of very cold draughts; since in the former case the morbid action of the mucous surface may be restrained in due bounds, without the risk and danger of reaction, and increase of heat and thirst, which are apt to ensue from the latter. The same principle will guide us in the temperature of the air to be inhaled by the lungs.

The secondary diseases, erysipelas, catarrh, and pneumonia, occurring on the decline or subsidence of the variolous disease, would, we may now presume from the phenomena in life, and the autopsic examinations, bear and require a treatment, nearly similar to that used in these diseases arising under other circumstances. Perhaps leeching and cupping ought to be substituted, in such emergencies, for bleeding from the arm.

The extension unavoidably given to this first branch of our subject, requires that we should defer the history of the modified small-pox, or varioloid disease, to the next quarter, when it shall appear in the corresponding number of this Journal.

EXPLANATION OF THE PLATE.

Figures 1, 2, 3, represent various appearances of the lining membrane of the stomach.

Fig. 4, is a portion of the œsophagus; but the red bands ought to run vertically, and not horizontally, as in the plate.

Fig. 13, is another appearance of the stomach.

Fig. 12, indicates the eruption having gone on to ulceration in the pharynx.

Fig. 6, displays the appearance of the lining membrane of the trachea, on the 6th day of the eruption, as in the case of Ann Collins.

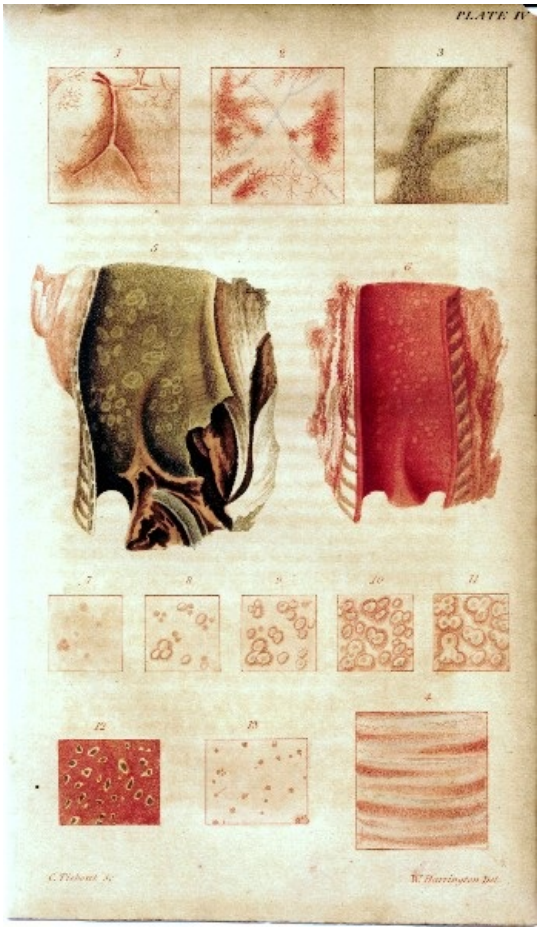
Fig. 5, is intended to represent the same part in an advanced stage of the disease, as in the case of Joseph Foster.

Resembling this is the case of Peter Johnson, as far as regards the ulceration and dark colour of [Pg 53] the intermediate surface; but differing in the disorganization of the membrane being less.

Figs. 7, 8, 9, 10, and 11, represent the progress of the eruption, in a female, from its incipient to its maturated state. The same section of skin is represented from the 1st to the 5th day of the eruptive stage, on which day the patient died. On the 2nd day, (fig. 8,) the vesicles began to exhibit a central lividness, which was augmented on the subsequent days. The patient had been some years before successfully vaccinated. She was delivered of a child on the 1st day of the eruptive stage. The minutes of this case have been mislaid; but the post mortem appearances were indicative of high action, if not inflammation, of the uterus and its appendages. The infant of this woman, forming Case VIII. died of small-pox three weeks afterwards, on the sixth day of the eruption.

This plate, together with some others yet unpublished, are from the accurate pencil of Mr. now Dr. HARRINGTON, of this city.

(TO BE CONTINUED.)



FOOTNOTES:

[11] This was first at Bush Hill, and subsequently at the Sugar House, near the Alms House.

[12] The largest proportion of these deaths was in the six months from the 1st of November, 1823, to 1st of May, 1824, being in that period about four hundred.

[13] Kept by Reuben Haines, at Germantown, seven miles from the city. The thermometrical mean is that from daily observations made by this gentleman at sunrise and at 2 P. M.

[14] Of these 165 were by yellow fever.

[15] The deaths from inflammation of the different viscera, were as reported in this year, 290, and from infantile flux and cholera morbus, 177.

[16] Same proportion of inflammations as last year, viz. 339.

[17] Should it be hereafter necessary, we can illustrate other varieties of the disease by drawings which were taken at the same time with those, of which coloured engravings are now furnished.

ARTICLE IV.—*Remarks on the Pathology and Treatment of Yellow Fever.* Arranged from the Notes of Dr. J. A. MONGES, of Philadelphia.

I arrived at St. Domingo in the year 1785, and from that period to the time of my departure from thence, I had very ample opportunities of observing and treating the diseases of that island, both in the country and at the Cape. During the whole time of my residence there, the ordinary febrile diseases of hot climates were of very frequent occurrence, especially among the new comers, and those not acclimated; but the real yellow fever, or vomito negro, never prevailed. So that when I reached this city in 1793, I never had had an opportunity of observing this disease.

As introductory to the subject more particularly before us, I shall offer a few remarks on the nature and treatment of the fever, which prevailed in that island. It was usually of the remittent type, of a bilious nature, and rather violent in its character; presenting very often symptoms of a typhoid, or malignant condition of the system. In almost every case, it was attended with great [Pg 54] gastric irritability and pain; and, in very many instances, accompanied with vomiting of dark green, and even of black bilious matter,—determination to the brain producing delirium, coma, &c. &c. In general, this fever differed but little from the bilious fevers of this country; except, perhaps, in its greater severity, and in a larger quantity of bile commonly evacuated. The treatment of this disease, at the time of my arrival, was generally attended with some difficulty,

owing to the great prejudice prevailing against the use of the lancet; not only among the mass of the population, but even among the old physicians of the island. Experience, however, having taught me, that venesection was essentially necessary in fevers of the same sort, which I had noticed in other places, I resorted to it, notwithstanding the existing opinion; and am now convinced, that by its means I saved many patients. Nor was I the only one to adopt this mode of practice; as it was commonly resorted to by all *new* physicians, who were soon found to be more successful than the older practitioners. To arrest the violent vomiting, already alluded to, it was of the highest utility, and, in many instances, the only remedy that could be depended upon. Emetics were very commonly used, and sometimes with great benefit; but, in many instances, they were contraindicated by the pain and irritation of the stomach.

Cooling and saline purgatives were advantageously employed, as well as the saline mixture, and nitre and camphor in small and repeated doses, a very favourite practice in the place. In a more advanced period, and when the fever assumed a typhoid type, blisters, bark, and serpentaria were resorted to.

I arrived in Philadelphia on the 20th of August, 1793, and on the 22nd of the same month, began to see patients. The epidemic was then at its height, and such was the demand for physicians, and the prevalence of the idea, that, as I came from the West Indies, I must be familiar with the yellow fever, that I soon became very extensively employed. Such, indeed, was soon the extent of my engagements, that I was compelled for a time to refuse my attendance on many patients, and to limit my visits from Race to Dock streets, and from the water to Third street.

From the first time I had an opportunity of seeing the yellow fever, I perceived that there existed but a very distant, if any, analogy between it and the fevers I had been in the habit of treating in [Pg 55] the West Indies. And this opinion I have ever since entertained, in opposition to the statement of many respectable authorities; but in conjunction with some highly respectable physicians and friends, who, like myself, had had an opportunity of treating both diseases. The points of difference between these fevers will be noticed in a subsequent part of these observations. But although entertaining this sentiment, I very early came to the conclusion, that the yellow fever was the effect of a gastro-duodenic inflammation, somewhat modified by some unknown cause,—requiring the usual remedies for such a complaint, proportioned only to the strength of the patient, and the force of reaction in the system; and all my subsequent experience has only served to confirm me in this belief. Differing from many physicians respecting its bilious character, I have been led to believe, that the liver is very seldom implicated in the disease;—the secretion of bile, in the majority of cases, being very little, if at all altered. This may very readily be discovered by an attentive examination of the symptoms of the disease, as well as by the appearances noticed on dissection; the lining membrane of the stomach and duodenum presenting in almost every case, marks of inflammation, and giving passage to a large quantity of black matter, which I have always been led to regard as altered blood, mixed with mucus. The liver, on the contrary, so rarely showed marks of disease, that when it did, it was natural to regard its alteration as secondary.

Such being my opinion respecting the pathology of yellow fever, I cannot view otherwise than as secondary to the gastric affection, all the morbid conditions of other organs, indicated during life by their peculiar symptoms, and revealed on dissection by the ordinary marks of inflammation; such as affections of the lungs, kidneys, &c. This view of the subject will cease to be regarded as merely hypothetical, when it is recollected, that these symptoms and morbid appearances are occasionally not found; whilst the symptoms referrible to the gastric and duodenic irritation, being the true characteristics of the disease, are always present. Indeed, what would authorize us to regard any subject as affected with yellow fever, who would not present the pain in the stomach, the redness of the tip of the tongue, the thirst, irritability of the stomach, and vomiting either of simple mucus, or black matter? And, on the other hand, how many have died with these [Pg 56] symptoms, who were not affected with all the others we have noticed, and, on dissection, have shown no mark of disease, except in the digestive apparatus? Finally, can pain in the head, affections of the kidneys, vomiting of bile, &c. constitute yellow fever, without the concurrence of some of the gastric symptoms we have enumerated?

With respect to the characteristic features of yellow fever, and the different signs, by which it may be distinguished from bilious fever, I must be very brief; as a great deal having been written on the subject, any long details in this place would occasion undue repetition of what is already known to the profession. A few words, however, may not be improper. Every one who has had frequent opportunities of seeing the yellow fever, must have noticed, among its most habitual signs, a peculiar inflamed glassy appearance of the eye, easily recognised, but difficult to describe. It is one, however, on which I should be willing to place considerable reliance, in establishing my diagnosis of this disease; as I do not recollect to have noticed it in any other form of febrile affection. Together with this, there is, in the majority of cases, an intense supra-orbitar pain, apparently unconnected with great disordered action of the brain, as the intellectual functions are generally unimpaired. These two signs, together with pain in the loins, and, in more advanced periods, the peculiar appearance of the skin, the vomiting of the coffee grounds matter, the intermission on the 4th day, the retention of muscular strength, and suppression of urine, are the only signs by which the yellow fever, so far as I am prepared to say, may be recognised. In regard to the supposed identity of this fever with the bilious, a great deal has been written; but I must confess, that I feel inclined to doubt the correctness of this opinion, for the following reasons:

1st. Bilious fever is almost always a remittent fever, presenting regular exacerbations, and,

unless arrested by medical aid or some effort of nature, running its course, in a progressive manner, either to a happy or fatal termination; whereas the yellow fever is almost invariably a continued fever, presenting obscure and irregular, or even *no* remissions. On the fourth day, it generally presents so perfect a remission, as to cause the patient, in many cases, to imagine himself perfectly free from disease, and induce him to get up, and even sometimes to walk out. [Pg 57] This remission, which sometimes amounts to an intermission, so far as an experience of upwards of forty years can authorize me to decide, is never found to attend in bilious fever, in which, if there be any remission, and recurrence of the unpleasant symptoms, the former is always a real convalescence, and the latter an accidental relapse.

2nd. The red colour of the eye, to which I have alluded above as occurring in the early stage of the yellow fever, and its peculiar yellow tinge in the after part of the disease, are different from the redness and yellowness of the same organ in bilious fever; in the first stage of which the eye presents a more fiery redness, and in the subsequent period, a more saffron yellowness.

3d. The colour of the skin in the two diseases presents also some difference, being more constantly noticed in yellow fever, and disappearing much more rapidly than in bilious fever. In yellow fever, moreover, it assumes, most commonly, a yellowish-brown or even mahogany tinge; whereas in bilious fever, when it occurs, it does not differ from the ordinary jaundice colour, of a lighter or deeper shade.

4th. These fevers may likewise be distinguished by an attention to the state of the intellectual faculties, and of the muscular strength; these remaining often unimpaired to the last in yellow fever, whereas, in a very large majority of cases of bilious fever, the mind becomes soon involved in the disorder of the system, and the greatest muscular debility prevails, even from the very onset of the attack.

5th. The matter vomited might of itself serve to distinguish the two diseases. Independently of the difference we shall notice when speaking of the black vomit, we may mention that patients complain, even sometimes from the commencement of the attack, of the acidity of the vomited matter; whereas in bilious fever, the mouth is bitter, and the matter ejected of the same taste.

6th. As a further mark of difference, we may state, that, in yellow fever, the tongue, except at the tip, the skin, and the pulse are sometimes little altered; whereas in bilious fever they are usually pretty much so.

7th. In respect to the duration of the two diseases, we may state as a general rule, that yellow fever runs its course to death or convalescence, in a much shorter time than bilious fever. Nor is [Pg 58] the promptness of recovery from yellow fever less different from the slowness of convalescence, noticed in most cases of bilious fever.

8th. The suppression of urine is a frequent attendant on the last stage of yellow fever, and is seldom noticed in bilious fever.

9th. I have never witnessed a second attack of yellow fever in the same individual; whilst on the contrary, so far as I have seen, there is no limitation to the number of times a person may be affected with the other form of fever.

Prognosis.—As regards the prognosis in yellow fever, I shall merely state, that I generally found, an early evacuation from the alimentary canal, and a disposition to diaphoresis during the first twenty-four or thirty-six hours, and its continuance during the course of the disease, to be favourable omens. When the disease continued beyond the 7th, 9th, or 11th day, greater hopes might be entertained. It was likewise found, that the mortality was much smaller among patients, who remained free from apprehensions as to the nature and termination of the disease. To this cause, more than any other, do I refer my greater success among Quakers; who, being generally surrounded and comforted by their friends, retained more than any other class of people, the necessary tranquillity of mind.

Among the unfavourable signs may be mentioned, a discoloration of the skin before the fourth day. This symptom was, indeed, almost always a fatal one. Obstinate vomiting and costiveness, hæmorrhages from different parts of the body, unattended with an abatement of the symptoms, and vomiting of black matter, were very unfavourable; whilst a suppression of urine, agreeably to my experience, was always a fatal sign.

Black Vomit.—In a preceding part of these observations, in alluding to the black vomit, I took occasion to express my views respecting its nature,—stating that I regard it as consisting of mucous flakes, mixed with a large proportion of altered blood. That such is the true nature of this substance, on which so much has been said and written, I have had sufficient reason to be convinced. The opinion that it consists of altered bile, I deem totally untenable, for the following reasons: The matter is occasionally voided in large quantities, in cases in which the liver is not at all affected, and in which, after death, the gall bladder is discovered to be more or less filled with [Pg 59] *natural* bile. Independently, of this, it may be stated, that the appearance of the two substances is very dissimilar;—the black bile vomited in bilious fever being of a homogeneous nature, and of a black or deep green colour; whilst the matter of the black vomit is, in a large majority of cases, a compound of a mucous, flaky substance, and a sanguineous matter, bearing some resemblance to the grounds of coffee, and, for the most part, of a brown tinge. When mixed with water, the two substances produce very different effects,—the bile mixing with and imparting a greenish tinge to it without difficulty, whilst the grounds of the other, float on the surface of the water, without mixing with and colouring it, in the same manner as bran, deprived of all its mucilage, or rather

like mahogany saw-dust. This I consider as one of the best modes of distinguishing these two substances,—serving at the same time to establish a difference between the fevers, I was in the habit of observing in the West Indies, and the yellow fever of this country. Nor are these the only reasons for rejecting the supposition of the black vomit of yellow fever being of a bilious nature; for I have known this substance (and I suppose other practitioners have observed the same fact) occasionally to exude from surfaces, from which, in all probability, bile is excluded. I allude particularly to the skin and verous membranes. Thus it has often happened, that the application of a blister, especially in the advanced stage of the disease, has been followed by a copious exudation of a fluid, resembling, in all respects, the matter ejected from the stomach; an occurrence which was strikingly exemplified in a case, which fell under my immediate observation during the last visitation of the disease in this city, in 1820. During the same epidemic, I had occasion to attend a Mrs. H. about 70 years of age, who presented a curious example of the exudation of a similar substance from the peritoneum. She had not been exposed to the causes of the yellow fever, and indeed presented none of its ordinary pathognomonic signs. She was attacked very early in the morning with violent colic, attended with fever, great tenderness of the abdomen, and high colour of the face. She was bled at 10 o'clock; at 11 vomited a large quantity of coffee ground matter, and died in about 12 or 15 hours from the commencement of the attack. The next morning her body was examined in the presence of several highly respectable and experienced physicians, who all coincided in the opinion, that the [Pg 60] matter vomited and which continued to be discharged from the nose, was identical with that discharged in yellow fever. The stomach as well as the intestines were found to contain a large quantity of a similar substance. The cavity of the peritoneum being likewise found filled with a large portion of it, we at first suspected the existence of an opening in the intestines, by which an effusion had taken place. After a careful and minute examination, however, no such opening was discovered. Our attention was now directed to the condition of the peritoneum itself, which was highly inflamed. It was, moreover, found, that the substance in question exuded from its surface, —the membrane, in many places, especially the portion of it which covers the liver, being coated so thickly with the grounds, that they could readily be scraped off with the back of a scalpel.

These cases show conclusively, that the matter of the black vomit, occurring in yellow fever, should not be regarded as altered bile; and that the supposition of its consisting of a secretion of the mucous membrane of the stomach, does not rest on a much more solid foundation. For bile can hardly be admitted to exude from the skin and serous membranes, and we cannot suppose, that fluids, similar in every respect, can be secreted from two surfaces, so very distinct in their organization, and in the nature of their ordinary products, as those of the mucous and serous membranes.

From these facts I am led to regard the black vomit as a true hæmorrhage, resulting from a state of previous irritation of the surface which furnishes it. That inflammation may be cause of it, we have a sufficient proof in the fact, that a similar fluid is occasionally vomited in cases of puerperal fever, when the irritation progresses from the serous to the mucous membrane of the intestines; as well as in cases of inflammation from blows on the stomach, and the action of poisons. A case of this kind, arising from a kick of a horse, was attended by myself and two respectable physicians in consultation, a few years ago; and another case arising from a large dose of carbonate of potassa, swallowed by mistake, occurred in my practice not long since. But as it would occupy too much time to give them here in detail, I pass them by without further notice. [Pg 61]

That the matter of the black vomit is the product of a hæmorrhage, I have thought may also be inferred from the fact, often noticed by myself and others, of large portions of coagulated blood being found in the intestines; the surface having the appearance of the common black matter, whilst on cutting into them, the centre is found to consist of a red solid coagulum. I have also sometimes noticed, that the duodenum contained the coffee ground matter, and the intestines, coagulated blood. In such cases, in order to adopt the opinion of secretion, we must believe, that the same vessels, occupied in the secretory process, afforded, at the same time, passage to a portion of common blood; for we can hardly admit, that the mucous follicles are the organs secreting the black matter. Besides, is this not a mere dispute about words; and is it proved that what are called sanguineous secretions are not the result of the same action, which gives rise to hæmorrhagic exudations? and is there any other difference between the hæmorrhage of yellow fever, and of ordinary cases of hematemesis, than that arising from a difference in the *quality* of the blood?

Nor do I find much difficulty in believing, that the colour of the skin, which is more frequently brown than yellow, as well as the petechiæ, &c. are the effects of the stagnation of blood, altered by the capillaries of the surface, in the same manner as that exuding from the mucous surfaces. I believe that this opinion, suggested by some European writers, is supported by the fact, that this fluid exudes from the orifices made by the bites of leeches and the incisions of scarified cups; as well as from the raw surface occasioned by blisters; and that the vibices contain a serous fluid mixed with blood.

Analogy to Plague.—On comparing the symptoms of the yellow fever of this country with those of plague, as detailed so minutely and, I believe, accurately by authors, and especially by the physicians who accompanied Bonaparte to Egypt, I have been led to regard these diseases as bearing a closer analogy to each other than has hitherto been admitted. I do not pretend to assert that they are the same disease, but only that they are so nearly allied, as on some occasion, to lead even an experienced observer into an error of diagnosis. The great difference between them consists in the frequency of the affection of the lymphatic glands in the plague, and its

[Pg 62]

comparative rareness in yellow fever; and in the greater predominance of gastric symptoms in the latter. Nevertheless, I have had, on many occasions, during our different epidemics, opportunities of noticing buboes, situated in the same parts as those mentioned by writers on the plague, running the same course, and curable by the same means. Carbuncles are frequently seen in both diseases, though not so frequently in yellow fever as in the plague. Both diseases present what are called the walking cases. Patients in both, though more frequently in yellow fever, retain their muscular strength as well as their intellectual faculties. So far as we are informed, the mortality in both is pretty nearly the same, and the treatment similar.

Contagion of Yellow Fever.—The question of the contagion or non-contagion of yellow fever has so long occupied the attention of the profession and been discussed so extensively, that I deem it unnecessary to devote much space to it here. Nevertheless, as I have had frequent opportunities of noticing the disease under all circumstances; in all parts of the city, and in the country; among the wealthy and the poor, I may without much impropriety offer, in a few words, the result of my observations and reflections on this head. I must unhesitatingly declare, that, establishing my opinion on what I have seen, I am led to the conviction, that the yellow fever is not a contagious disease; that it never has been carried hither in the way mentioned by contagionists; and that it has invariably proved an infectious disease, using this word to express a malady arising from a local source of contamination, other than a living body. It is plain, that this view of the subject does not exclude the possibility of a vessel carrying the disease to this or any other port; but, in that case, the vessel itself or its cargo, must be the source of infection, and not the individuals on board. And this may take place, when the port from whence the vessel sailed is free from the disease. That such has been the case, there cannot be any doubt; and that the idea, predicated on it, of the contagiousness of the fever is erroneous, I have not the least hesitation in believing.

How else than on the principle of infection, and not of contagion, can we explain the attack of individuals frequenting those parts of the city, where the disease had originated, and which (all the inhabitants having been removed to some distant situation) had been barricaded? How could we, in any other way, account for the exemption from the fever of individuals, who, out of the [Pg 63] infected district, nursed, touched, and even slept with their diseased relatives and friends; and not always in clean and well ventilated apartments and parts of the city; but, in very many instances, in the filthiest hovels, and alleys, and among the lowest classes of society. Striking and unanswerable facts of the sort have frequently presented themselves to my observation, during our various epidemics. Children have sucked their parents, affected with the fever, and, in one case which fell under my notice, the child continued attached to the breast after its mother's death; and in all such instances with impunity. I have constantly reprobated the practice of burning the clothes and bedding of the dead, and have never found any bad results to occur to those who followed my advice. From a consideration of all these facts, I must once more express it as my decided opinion, that the yellow fever, so far as I have had an opportunity of observing it, is not a contagious disease.

Treatment.—Whatever opinion we may entertain respecting the specific nature of yellow fever, I was early convinced that this disease was not to be treated by specific remedies, and that our curative indications should be formed on an attentive consideration of the condition of the system in general, and of particular organs, as pointed out by the symptoms during life and the morbid lesions after death.

In a former part of these remarks, I suggested the opinion, that the yellow fever is a gastro-duodenic inflammation, (perhaps of a specific kind,) and that it required a mode of treatment appropriate to this morbid state; but proportioned to the strength of the patient, to the violence of the attack, and to the power of re-action. In general, however, I have not found active depletion by the lancet, as easily borne in this, as in bilious and other fevers;—the disease assuming more rapidly, under this plan, a state of prostration or adynamia. Nor can this appear surprising, since the same circumstance of a disease being of an inflammatory nature, but, under a peculiar condition of the system, contraindicating ample depletion, is a subject of frequent notice during certain epidemics; for example, of scarlatina, pneumonia, &c. With the exception of those cases, therefore, occurring in very robust and plethoric constitutions, and accompanied with much pain in the head, high febrile excitement, and hard pulse, either large or small, I have [Pg 64] seldom resorted freely to the lancet. When, however, these symptoms presented themselves, especially the hardness of the pulse, I have not been sparing of blood-letting, and have sometimes repeated it several times with the most decided success. But even under these circumstances, I have seldom found that *large* bleedings were as beneficial as small and repeated ones;—the system not reacting always as energetically as could have been desired, and symptoms of prostration occurring with much more rapidity. I do not recollect to have bled with advantage, patients presenting a large, full, but *compressible* pulse, owing to the want of reaction; although the other symptoms might seem to indicate the propriety of the practice. The effect of bleeding on the vomiting was very different in this, from what I mentioned it to have been in the bilious fevers of the West Indies; owing probably to the circumstance, that, when, in yellow fever, the irritation of the stomach became sufficiently violent to give rise to this symptom, the state of the system was very often such as to contraindicate the use of the lancet.

The application of scarified and dry cups to the epigastrium and head, when there existed pain in these regions, was often resorted to, and afforded much relief. And I very much regret, that, during our epidemics, it was out of my power to make use of leeches to the former part, as so warmly recommended, at the present day, by the French and Spanish physicians; as I am inclined to the opinion, from the view I have adopted respecting the pathology of the disease, that, used

early and in large numbers, they would prove very serviceable.

In conjunction with general and local bleeding, fomentations were had recourse to in almost every case, and applied to the epigastrium in the form of poultices, or flannels wrung out of warm emollient decoctions. In order to excite perspiration and to determine action to the surface, a tepid bath was occasionally prescribed, and in some cases afforded considerable relief; but as it was an inconvenient remedy, pediluvia, and hot bricks on which water, or water mixed with vinegar was poured, were substituted. In cases, however, in which much arterial action existed, these last means were not prescribed, until the pulse had been brought down by the lancet, and [Pg 65] other remedies presently to be mentioned.

On the subject of emetics, I shall not enlarge; as I can safely assert, that I very seldom saw a patient recover from yellow fever, to whom tartarized antimony, or any other active remedy of the same class, had been administered. Of the impropriety and danger of this practice in the present disease, I was early convinced from a careful analysis of the symptoms, indicating an acute irritation of the stomach and upper portion of the small intestines, and from the circumstance, that, of the first family in which I was called to prescribe, five members, to whom emetics had been administered, had already fallen victims to the fever, under the care of a very respectable physician, and that three succeeding ones, who were treated agreeably to my view of the pathology of the disease, recovered. From these facts and reflections, I was induced to watch the effects of these remedies in subsequent cases, in my own practice, and in the practice of other physicians, and was soon led, from this extended experience, to abandon totally the use of tartar emetic in the treatment of this malady. Ipecacuanha in emetic doses was also tried by me; but although, thus administered, it did not occasion the bad effects resulting from the exhibition of the preceding article, yet it was often productive of harm, and never of benefit. These remarks, however, apply more particularly to the use of tartar emetic during the state of excitement of the fever, and not to that of collapse which sometimes precede it, and in which it is recommended by some physicians of the southern states. In this condition of the system, I have never resorted to it, and, I must confess, could not easily be persuaded to do so; suspecting that even in such cases, the digestive organs are already too far implicated, to justify the use of so powerful and acrid a remedy.

It would seem that the bad effects of emetics, and more particularly of tartarized antimony, resulted, not only from their irritating qualities, but also from the efforts of vomiting, during which the stomach is compressed by the abdominal muscles, and made to contract very forcibly. To this opinion I am naturally led from the circumstance, that purgatives, whose action is certainly primarily irritating, are very advantageously employed in yellow fever. It is not my [Pg 66] intention to attempt here an explanation of this seeming contradiction. Leaving to others the accomplishment of this difficult task, I shall content myself with stating, that during the whole course of my long practice, I have seldom seen a patient die of this disease, whose bowels had been well evacuated, and in whom perspiration had been excited within the first twenty-four hours after the attack. I exhibited purgatives in almost every instance *every day*, until copious evacuations had been procured, and I generally found, that the mild purges were of greater service than those of a severe and irritating nature. Senna, acidulated with lemon juice or tamarinds, answered sometimes remarkably well, when the stomach could retain it. Castor oil, manna, salts, magnesia, were frequently employed by me with advantage; and although I did not make an extensive use of calomel in this disease, yet I prescribed it to children, and to adults, who, owing to great irritability of the stomach, could not retain other purgative medicines. When I resorted to it, I generally did so in doses sufficient to ensure a purgative effect, and never with a view of exciting ptyalism. In doing this, I was not guided, however, by any fear of the effects of a salivation, since I was well aware that a ptyalism occurring in malignant diseases is often a favourable crisis; but by a knowledge of the great difficulty experienced in producing it, and from the observation, that in cases in which it was obtained, much valuable time had been lost, and the patient might have recovered without.

To promote the operation of the above remedies, purgative enemata were resorted to, in the early stage of the fever; and were followed by the frequent use of injections, composed of emollient decoctions, from which the patient derived considerable relief and comfort.

As counter-irritants, blisters and sinapisms were used, and often with great advantage. They were found of much value when applied to the epigastric region, for the purpose of arresting the vomiting. Sinapisms were in general preferred to blisters, as being more prompt in their effects and more easily renewed. Blisters were sometimes applied to the extremities in the different stages of the disease; but so far as I can judge, from my experience, not with much real benefit. [Pg 67]

I seldom derived much advantage from the use of tonics and stimuli in yellow fever; except when the powers of life seemed to fail, and petechiæ, vibices, hæmorrhages, and other signs of malignancy had occurred. In general, under such circumstances, the Peruvian bark, either alone or combined with serpentaria, was administered in preference to any other remedy of the same class. In cases, however, unattended with reaction, tonics and diffusible stimuli internally, and revulsives of all sorts externally, were had recourse to from the commencement of the attack, and sometimes with the desired effect of arousing the powers of the system. *Opium* was never found beneficial, on account of its tendency to aggravate or produce coma, as well as from its effect in suppressing intestinal evacuations.

Whilst making use of the above remedies, the plentiful exhibition of diluent drinks was not neglected,—care being taken, however, not to load unduly the stomach, and to select such drinks

as would suit the taste of the patient. In almost every case, acids did not answer so well as the bland mucilaginous infusions. The drinks were almost universally allowed cold, except when there existed a tendency to perspiration; under which circumstances they were administered slightly warm and a little aromatic.

During the course of the yellow fever, some of the symptoms demanded particular attention. Influenced by the idea of prostration and dissolution, many practitioners, and myself for some time among the rest, resorted to the bark and other tonics for the purpose of arresting the black vomit, and of correcting that condition of the organs, which gave rise to this effusion; but after many unsuccessful trials, I was led to abandon this practice and to resort to other means. Of all the remedies employed to attain this effect, calcined magnesia mixed in a thick solution of gum arabic seemed to me to answer best; for whilst it succeeded, in many cases, in arresting the vomiting, it tended to keep the bowels open. Together with this, revulsive remedies were applied to the skin, and sometimes succeeded very well,—a sufficient proof, I think, that this hæmorrhage is the effect of an increased action of the mucous membrane of the digestive tube, and not of a passive condition of the capillaries of the parts. For the purpose of controlling the great irritability of the stomach, and arresting the vomiting occurring in the early stage of the disease, besides the usual remedies used in such cases, I found advantage in the use of small and [Pg 68] frequently repeated injections with a solution of salts, an infusion of senna, or the like substances. Such a practice, however, did not seem to succeed so well in the latter stage of the disease.

With the intention of promoting the secretion of urine, in cases in which it was suppressed, all the diuretics, as well as every external stimuli, were in vain employed;—this symptom, as I have already mentioned, being, in all instances which fell under my immediate observation, the forerunner of death.

Article V.—*Remarks on the Prophylactic Treatment of Cholera Infantum.* By Joseph Parrish, M. D., one of the Surgeons to the Pennsylvania Hospital.

The great mortality of cholera infantum renders it one of the most interesting diseases, which come under the notice of the physician. Its ravages among the infant population of our large cities, are too well known, and too strongly felt, to require any comment. No disease contributes so largely to swell our bills of mortality during its prevalence; and were it not restricted to the summer season, it would prove a greater scourge to the community than consumption itself.

This mortality is owing less to our ignorance of the nature of the complaint, and the proper mode of treatment, than to the continued operation of the causes by which it is produced. I have often compared our endeavours to cure cholera infantum, while these causes remain, to an attempt to relieve inflammation in a part, while a thorn is sticking in the flesh. We may resort to bleeding and leeching; we may restrict our patient to the lowest diet, and the most perfect rest; we may employ all those remedies, which are ordinarily best calculated to reduce inflammation: but so long as the thorn continues in the wound, our efforts will be fruitless. Thus it is with cholera. We may obviate the more violent symptoms; we may procure temporary relief; we may even flatter ourselves that a cure has been effected: but the original causes have not lost their power; an increased susceptibility to their operation remains; relapse upon relapse is experienced; and at [Pg 69] last the little sufferer, worn out by the successive attacks, sinks beyond the reach of medicine, and expires. Unhappily, the nature of the causes is such, that, in very many instances, their removal is exceedingly difficult, if not altogether impossible; and, under such circumstances, the patient who has once been severely affected, seldom recovers in the end. Hence it becomes of the greatest importance to prevent the occurrence of the disease; and attention to the prophylactic treatment is no less essential than the adoption of curative measures. It is with the view of calling the attention of the profession to this subject, that I have been induced to offer the following observations.

It is obvious, that, in the preventive treatment, two objects demand attention; first, to remove, as far as possible, the causes of the disease; and secondly, where their entire removal is not attainable, to fortify the system against their influence. On each of these, I shall offer a few observations.

I. Excessive and continued heat is, perhaps, the most fruitful source of cholera. Thus we find, that the disease makes its first appearance in the commencement of the hot weather, increases and becomes more fatal with the rise of the thermometer, and declines with the return of cool weather in autumn. During its continuance, it may be observed to vary with every permanent change of temperature. A few very hot days in succession, in the 6th month, are sufficient to call it into action; and during the height of its prevalence, a spell of cold weather will diminish, if not suppress it. In the summer of 1806, which was remarkably cool and pleasant, there was very little of the disease; and generally in moderate summers, it is much less prevalent than in those of a contrary character.

I believe that it is by a direct operation on the system, and not by the generation of miasmata, that heat proves so deleterious to the infant. In the country, where miasmata are most abundant,

there is comparatively little cholera; for the heat of the sun is there moderated by the free circulation of the air; and the debilitating operation of the high temperature of the day is counteracted by the refreshing coolness of the morning and evening. It is in the close air of cities, that the complaint flourishes with greatest vigour; and the most confined situations are the most favourable to its production. Let any one take a walk, in a summer's morning, through the thickly [Pg 70] built lanes and alleys of Philadelphia. He will be struck with the appearance of the children, reclining their heads, as if exhausted, upon the breast of their mothers, with a pale and languid countenance, a cool and clammy skin, a shrunk neck, and other signs of debility, arising from their confinement, during the night, to close and hot apartments. It will readily be believed, that such places are the very hot beds of cholera.

Heat, therefore, connected with confined air, being among the most frequent causes of the complaint, it is necessary, as far as possible, to counteract them. Should a strong predisposition to cholera be suspected, the best plan will be to send the child into the country during the summer. Both as a preventive and a remedy, country air is decidedly the most effectual, to which we can resort. But in most instances, it would be exceedingly inconvenient, sometimes impossible for mothers to leave their homes and occupations in the city; and, under such circumstances, it becomes necessary to substitute measures, which may produce, as nearly as possible, the same effects. To keep the child cool, and expose him to the fresh air, are the ends to be obtained. For this purpose, he should be carried frequently into the open squares, or beyond the suburbs of the city. I am in the habit of recommending to parents, whose circumstances will not allow of a removal from the city during the summer season, to make frequent excursions across the Delaware, and into the neighbouring woods of New Jersey. The refreshing effects of the air on the river are truly surprising. The brightened eye and animated countenance of the infant, give speedy proof of their favourable influence; and when labouring under the disease, even in its lowest stage, the little patient will often exhibit immediate signs of amendment.

In the prevention of cholera, much may also be expected from a proper attention to the lodging of children. Many parents have a great dread of the night air; and exclude it from their chambers, as sedulously as if it were infected with poison. But, in guarding their children from taking cold, they expose them to a much greater danger. Observe their mode of treatment. The doors and windows are carefully closed; the child is placed in a feather bed, with his parents on each side, [Pg 71] and almost smothered with the bed-clothes. Perhaps other children are lodged in the same apartment; and thus the delicate system of the infant is exposed to the debilitating influence of great heat and stagnant air, combined with the effluvia, which, in such a situation, must be abundantly generated. Simply to enter such a room in the morning, is almost sufficient to sicken a healthy individual; how much more injurious must be its effects upon the lodgers themselves. Examine in the morning a child, who has passed the night thus confined. You will find him limber as a rag, exhausted by perspiration, wholly destitute of animation, without appetite, and on the very verge of cholera. I should recommend an entirely different plan of management. Instead of a feather bed, the child should be placed on a hard mattress, or on blankets folded and laid upon the floor. The covering should be light, but comfortable. The doors and windows should be open; so that fresh air, that *pabulum vitæ*, without which health cannot be sustained, may be freely admitted. Thus treated, instead of the feeble and sickly appearance before mentioned, he will present a lively countenance, with all that activity of motion, and enjoyment of existence, which are natural to his age, and afford the surest criterion of vigorous health. Experience has fully convinced me of the great importance of attention to the lodging of children, as a prophylactic measure; and this renders me desirous of impressing upon the profession generally, the truth of my own convictions on the subject.

With the same design of obviating the injurious effects of a high temperature upon the infantile system, I advise frequent ablutions with cool water, and its free employment as a beverage. Infants, unable to make their wants known, often suffer exceedingly from the inability of their attendants to understand them. During the heat of summer, the increased evaporation from their surface is necessarily productive of increased thirst, which, if unsatisfied, renders them uneasy and restless. To quiet them, the breast or bottle is offered. Aliment is thus given, where drink only was required; and the stomach, overloaded and oppressed, is apt to become irritable, and is thus brought into a condition most favourable to the occurrence of cholera. By attention to the peculiar language of infants, expressed not by words, but by signs, I have often been able to [Pg 72] detect their wants; and, in many instances, have afforded the most decided relief, by simply giving them a little cool water for drink. From the dread which some individuals have for cool air and cold water, it would seem that they were considered rather as destructive poisons than as absolute necessaries. I have no fear of either, when judiciously employed; and as prophylactics in cholera, I do not think their place can be supplied.

But heat is not the only cause of this complaint. Dentition is well known both to predispose the system to its attack, and, after it has occurred, to increase its violence, and diminish the chances of recovery. In the employment, therefore, of preventive measures, it is highly necessary to attend to the state of the gums, and to remove or counteract this source of irritation. If at all swelled or painful, they should be lanced freely, and the operation should be repeated as often as their inflammatory condition may demand. In severe cases, much good may be expected from the application of blisters behind the ears. The irritation thus receives an external direction, and the stomach and bowels are in less danger of an attack. I was led to this practice, by observing that the eruption, which, during dentition, is apt to make its appearance behind the ears, often proves a most salutary effort of nature; and that, while it continues, the infant generally enjoys an exemption from those dangerous disorders, incident to this critical period of life. To imitate

nature as closely as possible, the discharge from the blistered surface should be maintained for some time by stimulating dressings. I have witnessed the most beneficial effects from the practice, and can strongly recommend it to the attention of the profession.

II. At the same time that we endeavour to remove or diminish the causes of cholera, we should not neglect to put the system of the child in such a condition, as may enable it most effectually to resist their operation. As cholera is a disease of irritation, originating generally in a debilitated state of the alimentary canal, I believe this end may be most easily attained, by preserving the natural tone of the digestive organs. For this purpose, all flatulent and indigestible food should be carefully avoided. During the first year, the mother's milk is, in general, the most appropriate nutriment. When the stomach of the infant is very delicate, the diet of the mother should be [Pg 73] strictly regulated; and, in all cases, it would be adviseable for her to avoid articles of a flatulent nature. While the child is still at the breast, if a predisposition to cholera be suspected, I would recommend the occasional use of nutritious animal juices. The sucking of small pieces of salt meat, as ham or dried beef for example, will sometimes be found productive of advantage. After weaning, animal food should always enter into the diet of the child. Many parents, fearing to render their children gross and unhealthy, restrict them altogether to vegetable aliments; and thus, by weakening the powers of digestion, prepare the way for that very result which they are most anxious to avoid.

With the same view of giving tone to the stomach, aromatics should be used habitually during the summer, in those cases, in which there is strong reason to apprehend the occurrence of cholera. While they produce a cordial impression on the stomach, and invigorate generally the digestive powers, they are liable to none of those objections which may be urged against the employment of the narcotic stimulants. Indeed, nature herself seems to have pointed them out as prophylactics against the diseases of hot weather. Our most powerful and valuable spices are the products of warm countries. Cinnamon, ginger, pepper, the clove, the nutmeg, are to be found only in tropical climates. In this arrangement, we see the hand of a beneficent Creator, who has provided, that, by the same high temperature, which renders the equatorial regions so fruitful of cholera, and other disorders of the bowels, the growth of those plants should be promoted, which are best calculated to invigorate the alimentary canal, and to fortify it against the inroads of disease. Facts are not wanting to prove the efficacy of spices in preventing intestinal complaints. We are informed by Dewar, in his treatise on the Diarrhœa and Dysentery, by which the British army in Egypt was attacked, that among the Mamalukes of that country, it was a universal practice, when they apprehended the approach of these disorders, to make use of cinnamon or ginger, with the almost uniform effect of averting them; and where the same practice was followed by the British soldiers, equal advantages were experienced. In the French army, so highly was the prophylactic power of the aromatics estimated, that every soldier was provided [Pg 74] with a box of spices, which he was directed to use freely with his diet of fruit and melons.

When attending surgeon of the Alms-house hospital in this city, I had occasion frequently to prescribe in a syphilitic ward, which being situated directly under the roof, in a large garret, was liable, in the summer season, to become very much heated. As the patients were numerous, and the windows insufficient to admit of proper ventilation, the air became much contaminated; and the consequence was, that bowel complaints were very frequent and troublesome. I have often entered the ward on a summer's morning, and found almost every patient affected more or less with diarrhœa or cholera. It occurred to me, that the free use of some of the aromatics might be found serviceable in preventing the occurrence of these complaints. I accordingly directed, that every individual in the ward should drink a portion of strong ginger tea daily. I also ordered, that salt meat should be used twice in the week. By the steady pursuit of this plan, a very considerable change for the better was effected.

The employment of aromatics as prophylactics is not less beneficial in children than in adults. I would not, however, advise, that they should be given indiscriminately to all children, during the summer. It is only to those cases, in which a predisposition to cholera infantum exists, that I consider them peculiarly applicable; and here I believe they are capable of producing much good.

Before dismissing the subject of the paper, I will simply remark, in addition to what has been already said, that the occasional use of the cold bath, by the vigour it imparts to the system generally, and through it to the digestive organs, will often be found an excellent preservative against the summer complaint of children.

In this short account of the preventive treatment of cholera infantum, I have been less anxious to give a dissertation, embracing all that might be said on the subject, than to communicate those particular measures, which, according to my own experience, I have found most effectual. I will conclude the paper by the relation of a case, in which a strong predisposition to the disease was successfully counteracted. It will be proper, however, to premise, that the treatment of this case is by no means held out as an example to be generally followed with every infant, which may [Pg 75] possibly become the subject of cholera. It is applicable in all its details only to those, in which, as in the present instance, there is every reason to apprehend, that the only alternative is between almost certain death, and the most careful prophylactic treatment.

Case.—A gentleman of this city, whose wife had arrived at a period of life, when she could not expect to be the mother of many more children, consulted me respecting an infant daughter, their only surviving child. I was informed, that they had already lost eight children, all of whom, with one exception, had died of cholera. It may readily be imagined, that every feeling of parental anxiety was awakened for their babe; and that no degree of attention on their part was

considered too great, which might contribute to its preservation. It was placed under my care, not to be cured, but that I might, if possible, devise some plan of management which would avert the disease they had so much reason to apprehend. I felt the responsibility of the trust, and endeavoured to find it to the best of my ability. Every opportunity which I could desire was afforded me; for the infant, from its birth was submitted to my direction; and both the disposition and ability existed, on the part of the parents, to carry implicitly into effect every measure which I might recommend.

As the mother was unable to furnish sufficient nourishment, the first step was to provide a healthy wet-nurse, who might be willing to submit to the necessary regulations in respect to diet.

I believed the children of these parents to possess a constitutional weakness in the alimentary canal; and, on inquiry, I was told, that they had been kept upon a vapid diet, under the impression that it would contribute to their health. In the present case, therefore, the principal object was to communicate strength to the stomach and bowels. With this view, the child was accustomed, from an early period of infancy, to a generous diet. When very young, portions of ginger tea were given to it daily; and as soon as it was old enough to suck the juice of meat, it was encouraged to do so. The nurse, during the warm season, was kept upon a nutritious diet, consisting principally of animal food, with the occasional use of ginger tea; and every description of recent fruit and fresh vegetable food was forbidden. Under this management, the first summer [Pg 76] was passed without any symptom of the disease; but I looked forward to the second with no little anxiety, when the child would have to struggle with the irritation arising from dentition.

The same plan was continued during the second summer, and still more rigidly enforced. The child was now old enough to take animal food freely in addition to the breast. It was allowed as much salt fish, ham, beef-steak, essence of beef, &c. as it desired; ginger tea was given daily; a little sound old port wine was occasionally directed; and both the child and the nurse were restricted from every species of flatulent and indigestible aliment. So anxious, indeed, were the parents, and so careful to carry my directions into full effect, that they allowed no forbidden article of food to enter the house, and denied themselves their wonted comforts, lest possibly their child might be injured.

The gums were carefully attended to, and lanced whenever the operation appeared to be requisite. All those measures, which I have before mentioned as serviceable in obviating the effects of great heat, so far as they were applicable to the case, were adopted. The second summer was spent wholly in the country.

Very little medicine was required, and none was administered, except of the mildest description. Frequently, when summoned to visit the babe, I have found the mother trembling with fear, and anxious that something might be done; and often, under such circumstances, have I begged it off from a dose of physic, having determined to avoid a resort to every thing of the kind, unless real necessity should demand it.

By a strict adherence to the plan above detailed, the period of dentition was passed in safety; and it is with heartfelt pleasure I can say, that no symptom of cholera afterwards made its appearance.

ARTICLE VI.—*Case of Neuralgia cured by Acupuncturation.* [Pg 77]
Communicated by J. HUNTER EWING, M. D.

The attention of the medical public having been of late much excited on the subject of acupuncturation, I am induced to communicate the following case.

For eighteen months, Miss —— had been afflicted, at intervals, with a severely painful affection of the nerves of the right cheek, immediately below the orbit of the eye, and extending to the angle of the lower jaw. On the 14th of January 1826, she was attacked more violently than usual, and the remedies, which had previously afforded some relief, now failed. Stimulating cataplasms, warm embrocations, laudanum, internally and externally, heat applied externally to the cheek by means of very hot flannels, produced not the slightest mitigation of the pain; and she continued to suffer excessively until the afternoon of the 15th; when acupuncturation being proposed, she consented to the operation with this remark,—"any thing to relieve me from this agony."

The needles were immediately procured, and three inserted about an inch from each other. Two in a line parallel with the inferior edge of the orbit of the eye, and half an inch below it; and a third below, and equidistant from the others. The first two were introduced to the depth of three-fourths of an inch; the last, a full inch. They were inserted very gradually and with a rotary motion.

The second needle was scarcely introduced, before the patient exclaimed, "the pain has entirely left me." When the third was introduced, she experienced a stiffness in the muscles of the cheek, and a creeping sensation, as if a spider's web had been drawn across the face; but no painful sensation whatever.

Such was the exhausted state of her system from the excessive pain she had suffered, that when thus relieved, she requested a pillow to rest her head on, and fell into a gentle slumber.

About two hours after the insertion of the needles, I again visited my patient, and found her still perfectly free from pain, and seated at a table reading. She thanked me for the relief I had been the means of affording her, and requested me not to withdraw the needles, lest the pain might return. Upon being apprised of the risk that might attend their being allowed to remain, she [Pg 78] observed, that she would rather have a servant to watch her whilst she slept. The propriety of their removal being further urged, she at last consented. There was no return of pain.

The next morning, the patient remarked, that the stiffness of the cheek, and a numbness of the whole right side, continued through the night; and though she did not sleep very soundly, she was free from pain and rested well.

By the third day, the stiffness and numbness had passed away, and there was no return of pain. Several weeks have now passed, and she has had no relapse; although often since exposed to causes, which, heretofore, had always excited violent attacks. Previous to the operation, she seldom passed as many days without severe suffering.

Although I have performed this operation many times, and been present when others have performed it, I have never seen a case, in which its efficacy was so decided, or in which the relief afforded was more unquestionably attributable to the action of the needles.

ANALYTICAL REVIEWS. [Pg 79]

ARTICLE VII.—*Researches into the Nature and Treatment of Dropsy in the Brain, Chest, Abdomen, Ovarium, and Skin, in which a more correct and consistent Pathology of these Diseases is attempted to be established, and a new and more successful method of treating them, recommended and explained.* By JOSEPH AYRE, M. D. &. London, 1825.

We have read the present work with the liveliest pleasure, and we dare hope with considerable benefit, and hasten to lay a review of its contents before our readers. Dr. AYRE is already advantageously known in this country, where his Essay on Marasmus has had an extensive circulation; but we are disposed to think, that, however he might be esteemed for the talent he displayed in his former composition, he is entitled to much more credit for his able researches into the nature and treatment of dropsy. We confess that we enter upon our editorial duties on the present occasion, with the two-fold intention of offering to our readers what we regard, on the whole, as a very correct view of the pathology of dropsy, and of showing to some of our medical friends, who shudder at the mere mention of what they denominate *hunch theories*, that the English physicians, or at least some of the most intelligent among them, so far from considering these theories as dangerous and unphilosophical, are beginning to entertain similar views with their Gallic brethren, in respect to the inflammatory nature of many diseases too long regarded as resulting from a state of debility, and classed by nosologists among the Cachexiæ.

By most writers upon the subject, dropsy has too long been considered as a *disease*,—constituted into a separate class, and divided into many species. Dr. AYRE entertains, however, a very different and, we believe, a much more correct view of the pathology of this complaint; regarding it as only one in a series of effects of a disease, and not always the last of that series. He remarks, [Pg 80] that the true disease is to be sought for in that particular condition of the solids by which the effusion is produced; and that to appreciate justly the nature and treatment of dropsy, it is necessary to understand the nature of that condition, which constitutes the disease, and of which the serous and watery effusion is merely the result.

Of all the hypotheses that have been advanced to account for the nature of the morbid state, which gives rise to general and local dropsy, there are only three which our author regards as entitled to our notice. According to these, all dropsical accumulations arise either, 1st, From a want of tone or energy in the absorbent vessels, giving rise to a deficient absorption. 2nd, From an increased exhalation of the natural fluid, through a similar want of tone in the exhalents; and 3d, From a mechanical obstruction to the free return of blood by the veins, produced by tumours of various kinds, &c., by which a greater portion of it is forced into the exhalents, and a greater effusion of their proper fluids thereby occasioned. With these hypotheses, however, Dr. AYRE is not satisfied, and he endeavours, in the following manner, to show their insufficiency.

> "1st. The opinion of a want of tone in the absorbents, as a cause of dropsy, is contradicted by the fact, that in those cases, in which it is assumed to prevail, it is found, that the adipose matter, or fat of the body, is removed by the absorbents; or, in other words, that emaciation takes place to as great an extent, and as rapidly in this, as in other diseases; and emaciation can only be effected by means of absorption. Besides, in these cases of dropsy, mercury, when rubbed upon the

surface, or received internally, is absorbed as readily, and affects the system as early as under other states of the body. There is also no accumulation of the fluids in the joints, or in the *bursæ mucosæ* in these cases, which, nevertheless would happen, if there was a general debility of the absorbent system; and *ecchymoses* or livid spots, though easily induced in anasarcous limbs, are likewise easily removed from them by the absorbents.

"2nd. The opinion of a want of tone or energy in the exhalants involves in it one of the following conditions: namely, either, 1st, that the fluid of dropsy may escape mechanically from them, and that the fluid thus *mechanically* separated may be identified in its sensible and chemical qualities with another fluid which is confessedly secreted; or 2nd, that if the fluid of dropsy be secreted, then that an *increase* in the quantity of a secretion may continue an indefinite period, under a *decrease* in the energy of its secreting vessels; conclusions to which experience and analogy are alike opposed."

In answer to the third hypothesis, Dr. A. remarks, that such an obstruction as contemplated, has never been shown to exist. [Pg 81]

"In the case of the liver, which is commonly considered, when in a scirrhous or enlarged state, to be the seat of these mechanical obstructions, and thus, to be the cause of abdominal dropsy, we have no satisfactory instance yet shown to us, of any such precise condition of that organ. There are, indeed, numerous instances of abdominal dropsies, in those labouring under a scirrhous or enlarged state of the liver; but there are also, numerous examples of such states of the liver, as well as of the spleen and other organs, without any such effusion; and in many cases, when such effusion has taken place, it has been carried off by the natural passages or by tapping, without any return of the dropsy; and yet, without any visible change in the structural condition of the liver."

Dr. A. further remarks, that if the cause were mechanical and existed in the liver, the effect should be constant; which, however, is not the case. Besides, were this mechanical cause necessary, how could we account for the appearance of abdominal dropsy, where there is no disease of the liver, or in other cavities, where no mechanical cause is asserted to be present, and where the remedies by which the cure is effected, have no relation to such causes? Again, if the discharge depended upon a mechanical cause, the water should in every case be of a uniform fluidity, and the progress of its accumulation likewise uniform; so that the operation of tapping should have no tendency to induce a more rapid refilling of the cavity. Yet, the contrary of all this is a subject of daily observation. In addition to this, Dr. A. calls the attention to the fact, that in experiments, in which obstruction has been artificially made, by tying the vena cava for example, the experimenter has committed an error, in reasoning from the lower animal to man—assuming, that as ascites had arisen in dogs, it would in like manner have occurred in human subjects.

"But there was an effect, here overlooked, which was to be expected to take place in the abdomen of the dog, from the injury done to the surrounding parts by the operation itself, and which would be quite independent of any effect arising out of the experiment. In the human subject, the effect would be the highest form of inflammation, by which coagulable lymph or pus would be poured upon the surface of the peritoneum. There would, therefore, be inflammation excited in the abdomen of the dog; but as the lower animals are less easily acted on than man, the inflammation would in this case be in a lower degree. But every degree of inflammation has its particular product. The highest occasions a discharge of pus, whilst the lowest, when seated in a serous membrane, is a larger portion of its proper serous fluid. This, therefore, might be the product of the inflammation, which was produced incidentally by the experiment in the abdomen of the dog; and it would be just as reasonable to regard the coagulable lymph in the human subject, which would result from such an experiment, as an effect of the mechanical obstruction, as to consider the fluid effusion in the dog to be so." [Pg 82]

In respect to those instances of diseases of the liver, connected with ascites, in which, in addition to its other morbid states, a partial occlusion of the vena portæ, by the effusion of coagulable lymph into it, is said to have existed, our author remarks, that they are very few in number, occurring, perhaps, in one out of several hundred cases of ascites with hepatic disease; and that we are justified, from analogy, to assume, that any obstruction given to the circulation by diseased vessels, would be quickly relieved by the enlargement of the anastomosing branches, and that no effusion of water into the abdomen would result from it. After referring to some cases, related by the late Mr. Wilson, in which the vena cava was completely obliterated, and no effusion took place; and some cases of morbid condition of the heart of an analogous kind, by which the course of the circulation became greatly obstructed, and yet, without being followed by effusion; our author concludes, that from these facts and others, to be presently noticed, it appears evident,

"That the dropsical effusion, in whatever part it may be seated, does not arise from any want of tone in the exhalant or absorbent system, or from a mechanical obstruction in the liver or other viscus; but, that it proceeds from a morbid action in the cellular or serous tissues, and that this action, as we shall now proceed to show, is allied in its nature to inflammation."

In support of this opinion, Dr. Ayre remarks, that all the phenomena belonging to cases of watery effusion, met with under one or other of the forms of inflammation, are common to those of dropsy. Thus the fluid, discharged under the cuticle in erysipelas or in inflammation induced by heat or a blister, or in cases of pemphigus, is a secretion, and resembles in all respects the fluid found in dropsy. In some cases of acknowledged inflammation, the fluid effused is found to vary greatly in its degree of tenuity, so as to be sometimes of quite a viscid nature. The same circumstance is met with in dropsy; the fluid of which varies sometimes in different forms of the disease, and at different periods in the same patient. With regard to the absence of pain, in [Pg 83] ordinary cases of local or general dropsy, which, in the minds of many physicians, might seem to militate against this view of the subject,—since pain accompanies the inflammation of a blister, Dr. A. very justly says, that the difference is referrible to a different degree of sensibility of the parts affected; that, moreover, in pemphigus there is no pain, and that chronic inflammation of the serous membranes is little painful.

That the morbid action producing the effusion is only a modification of inflammation, our author thinks may be further shown by the fact that it obeys the same laws—being translated occasionally, like it, from one part of the body to another. On this subject, Dr. Ayre makes the very pertinent remark, that in these cases, the fluid alone has been thought to be translated; but that the metastasis, is without doubt, exclusively of the action which produces the serous discharge. Analogous also to what occurs in inflammation, especially of the erysipelatous kind, the action occasioning the effusion, as seen in anasarca, commences at a given point, and gradually extends from thence in a continuous course. It ought also to be noticed, that the results of common inflammation vary according to the intensity of the cause; the lowest degree of it, occasioning an increase in the quantity of the proper fluids of the part,—a higher degree, yielding for its product coagulable lymph, and a still higher one producing pus. All these several products of common inflammation, are more or less remedial of their cause; or in other words, are the immediate means of the cessation or abatement of the inflammation which produces them. This same power is likewise a property, though in a much less degree, of the hydropic effusion, when the inflammation which produces it, is idiopathic; or in other words, not created by a visceral or other disease, or some particular excitement of the general system, as is seen in cases of anasarca.

> "And here," continues our author, "it may be proper to remark upon a common error, committed by those, who, mistaking the nature of the action which produces the serous effusion, look in the *post mortem* examination, for some of the common signs of an inflammation having existed; and who conclude, upon not finding such, that the water was derived from some mechanical or other cause foreign to the true one. But in the higher forms of abdominal inflammation, the products are pus or lymph, and these are found upon the surface of the peritoneum, with sometimes a thickening and discoloration or ulceration of its substance; whilst in the lowest [Pg 84] form of that increased action to which the serous membranes are subject, the only product is the serous fluid, and there can be, therefore, no visible alteration produced by it in the structure of the serous tissue."
>
> "By the hydropic or serous inflammation, obeying the same laws which govern the other degrees of common inflammation, it follows, that upon a higher excitement being superinduced upon it, the serous effusion should cease. This, therefore, is found to happen in every case, where such higher excitement is brought on. This increased inflammation is sometimes occasioned by design or accident, and at other times, it occurs in the natural and progressive course of some disease, formed within the cavity, which is the seat of the dropsical effusion."

This is exemplified in the effects of the operation for the radical cure of hydrocele; or in the operation of tapping in some cases of ovarian dropsy; or even in some instances, of ascites from chronic inflammation of the liver, spleen, mesentery, &c. In all these cases, the serous membrane, which directly or indirectly was affected to a sufficient degree to occasion a serous effusion, takes on, from the extension of a visceral disease, or from some other cause, a higher degree of inflammation—lymph is thrown out, and the cavity becomes obliterated.

> "Now from these, and similar examples, which have fallen under my observations, I think it may be assumed, that ascites, when proceeding from some visceral disease, (and the principle applies to hydropic effusions from the pressure of disease in other cavities,) does so by the gradual extension of the chronic inflammation of the internal cellular or serous tissues of the diseased organ, to its outer external coverings; and that, commencing here as from a point, the serous or hydropic inflammation is progressively propagated through the whole of the serous membrane of the cavity. By the disease within the cellular tissue of the diseased viscous increasing, a corresponding increase, in these cases, will ensue of the disease on the surface of the membrane investing it; until at length a susceptibility to take on a higher action is induced, which only requires any slight occasional cause to establish. Under this condition of an increased excitement in the peritoneal or other serous membrane, coagulable lymph is discharged into its cellular tissue, and a thickening of it takes place; until at length the operation of paracentesis, which in the early stage of the disease was attended with only inconsiderable inconvenience, becomes an adequate cause of a still higher inflammation, which terminates perhaps in suppuration; and, in the *post mortem*

examination the serous fluid is found so mixed with coagulable lymph, and purulent matter, as to give a whey or milk-like appearance to the mass. The quantity of serous fluid, in these cases, is generally small, when compared with what was accumulated in the intervals of former tappings; for the vascular excitement which occasions the discharge of coagulable lymph, is destructive of that which pours out the serous fluid." [Pg 85]

Dr. A. remarks, that, besides the particular facts deduced from observations on dropsy as a local disease, and which prove its relation to diseases of local excitement, there is a further support to be given to these views by various proofs that are afforded from observations upon the urine, of serous inflammation producing local dropsy, being frequently connected with one of a general kind. "So that the inflammatory state of the system becomes sometimes a cause of the effusion into a cavity, and at other times an effect of this state." After giving full credit to Drs. Wells and Blackall for their researches into the state of the urine in dropsy, our author remarks, that there are certain conclusions deducible, which appear not to have been contemplated by those gentlemen, but which are strictly accordant with the pathological views he has endeavoured to establish in the present work.

"According to these facts, it appears, that when the disease of dropsy is under a sub-acute form, and of the anasarcous kind, it is usually idiopathic, and, often originating from cold; and in this state, as well as in the symptomatic form, though in a less degree, the urine is found to contain a portion of serum. It is nearly peculiar to this disease, and denotes, according to the quantity of it contained in the urine, the amount of that excitement in the cellular tissue, and of the general vascular system, which may be termed serous inflammation: for it is met with most considerably in those forms of the disease, in which these particular states of the body are most apparent."

Serum is therefore found in greater abundance, when anasarca precedes the local dropsy, which, in Dr. A.'s opinion, denotes the operation of a general cause. This is found to be the case especially in anasarca after scarlet fever. In cases of anasarca, the skin, kidneys, and bowels are very defective in their operation. Serum is also found, though in a smaller quantity, in those cases in which the anasarca has followed the local dropsy; for the disease of the viscus, which is the cause of the inflammation in the serous membrane of the cavity, may produce an adequate degree of the vascular excitement which gives rise to a discharge in the cellular tissue. Our author sums up his observations on this subject, by remarking, that there appear to be four distinct conditions of the system by which the occurrence of serum in the urine is regulated. [Pg 86]

"1. It is in the greatest quantity, where along with a copious and continued effusion, there is a nearly corresponding quickness in the absorption of the serous fluid, and which will occur most commonly when the general excitement precedes, and is cause of the local one.

"2. It is consequently, *cæteris paribus*, in a less quantity where the general hydropic excitement of the system succeeds, and is dependent on the local one.

"3. It is absent, or found only in a minute proportion, in all those cases where the local increased excitement in the serous membrane is only partially extended to the rest of the system, and where the absorption from the part is inconsiderable; as particularly happens in the encysted kinds, or,

"4. Where the effusion of the serous fluid has proved remedial of the inflammation producing it; in which case the disease, as it respects the presence of water in a part, may visibly resemble another example, and yet be essentially different from it, by the serous inflammation, which produced it in both, having ceased, on its occurrence, in one of them."

Dr. A. discovers a further evidence of the relation which dropsy bears to diseases of local excitement, in the effects it produces on the general system. Thus, during the continued effusion of serum in anasarca, there is sometimes a large quantity absorbed and carried out of the body; by which a regular draught is made upon the nutrient principles of the blood, which must naturally create effects like those arising from the continued discharge of pus from a suppurating surface. In both cases the local disease, when extensive and of long duration, will necessarily occasion an exhaustion of the vital powers, by which that condition of the system termed cachexy will be induced.

"The exhausted or cachectical state, therefore, of the system, which has been so variously accounted for, and so frequently assigned as a principal cause of both local and general dropsy, is a direct consequence of the agency of some power diminishing the vital strength at its source; and in the case of a chronic and long continued serous inflammation, it will proceed from the daily abduction from the circulation of a portion of its vital fluid: and whether it be pus or serum that is drawn from the body; or whether it be from any permanent failure in the supplies of nutriment to it, the effect will be the same, as if a certain quantity of blood was daily abstracted from the system."

Dr. A. continues to remark that, under these circumstances, a suppurating surface will readily become gangrenous, from any cause temporarily exciting it, and that, in like manner, a higher [Pg 87]

inflammation may sometimes supervene upon an œdematous limb, as in the former case, and terminate in gangrene.

> "Hence, therefore, the tendency of dropsical parts to fall into gangrene, and which has been urged, as an argument, in proof of debility being the cause of the serous effusion, is only what is common to other forms of local inflammation, under a similar condition of the body."

From the view he has adopted of the nature of dropsy, Dr. Ayre thinks that the excitement of the parts, giving rise to the effusion, may be either 1st. Sub-acute or chronic. 2nd. Symptomatic or idiopathic. In other words, that it may arise from a local disease, or from the common causes of inflammation; and that these causes may be either general or particular. 3d. That the serous inflammation may be either local or general, giving rise to a general or local effusion.

After offering so copious an analysis of Dr. Ayre's sentiments respecting the pathology of dropsy, it is unnecessary to enlarge very fully on the application of his theory to the particular forms of that disease. We shall, however, offer a rapid review, of some of his opinions, and next detail the method of treatment he proposes for the cure of these dangerous maladies. We commence with hydrocephalus, which he remarks has been divided into an acute and chronic form. This division, our author thinks, is correct in a certain sense; for the disease varies much in duration,—running its course, sometimes in a few days; and at other times continuing several weeks. Yet, he continues, the terms acute and chronic must be understood as restricted to that particular form of inflammation producing a serous effusion, and not as denoting the highest and lowest degrees of common inflammation. It is from the want of this distinction that much confusion has arisen in our speculations relative to the pathology of hydrocephalus.

Dr. Ayre calls our attention to the fact, that the forms of hydrocephalus denominated by Dr. Golis hyperacute and acute, do not differ from the sub-acute phrenitis of nosologists, in which pus and coagulable lymph are the proper products, with sometimes a serous effusion into the ventricles as an accidental effect; all of which forms of inflammation, the serous membranes of the brain, and of other cavities are liable to take on; and adds:

> "Now, the true hydrocephalus internus stands distinguished from these, in the nature of the inflammation of which it consists, in the same way, precisely, that the serous inflammation of the pleura, producing simple hydrothorax, is distinct from [Pg 88] that higher degree of vascular excitement, which occasions an effusion of pus or lymph. Relatively to these, therefore, the disease is in a chronic form; and consists, we may repeat, of that lowest degree of inflammation to which serous membranes are subject, and the effect of which is to increase the natural secretion of the part, so as to cause, in regard to the brain, an accumulation of that fluid in its cavities."

Dropsy of the brain is usually divided into three stages. In the first, continues our author, vascular excitement exists, as denoted by pain in the head increasing in acuteness with the increase of the disease; and in infants by a restless movement of the head upon the pillow, moaning, occasional screamings, sickness, retching, impatience of light and noise, contractions of the pupils, delirious terrors, &c. The second stage is indicated by signs of pressure on the brain by effused fluid, and by an absence of pain, excepting upon raising or moving the head, convulsions, permanent dilatation of the pupils, squinting, blindness, slow intermitting pulse, hemiplegia, and a peculiar placid expression of the countenance, &c. The third stage is made up of some of these symptoms, together with other ulterior ones which follow the vascular reaction. On this subject, Dr. A. offers the following remarks:

> "With respect, however, to the division thus formed of this disease, it is, I think, somewhat questionable, whether it be pathologically correct; for strictly speaking, the true disease is comprised between the incipient beginnings of the inflammation, and its termination by the effusion; since the symptoms which follow, and compose what are called the second and third stages, are little more than the consequences of the disease, and arise from the mechanical pressure of the water upon the brain. The progress, therefore, of what may be strictly considered the disease, should perhaps be considered as terminating with the occurrence of the effusion, which is often remedial of the excitement causing it; and the whole disorder, to be thus made up of two distinct states, the first consisting of symptoms, which commencing with the excitement, terminate with the serous discharge; whilst the second is composed of those of a secondary kind, and which are wholly dependent for their origin and continuance, on a mechanical pressure from the effused fluid."

Hydrocephalus may occur, either as an idiopathic or symptomatic affection. As the first, it may arise, where there exists a predisposition in the brain, from various injuries inflicted on the head by slight blows;—from all the general causes of inflammation—from the sudden drying up of long established discharges—the sudden repulsion of cutaneous eruptions, or the imperfect evolution [Pg 89] of that or other sanative actions of the system, at the close of some febrile diseases, usually denominated defect of crisis. When, on the other hand, the disease is symptomatic, it may arise from a particular cause seated within the head, or in some distant part of the body. The former variety is not common among children, and when it does occur, it is the result of some chronic disease, as a tumour or a thickened state of the arachnoid or other membranes of the brain, resulting from a former inflammation. "Sometimes, adult patients wholly recover from chronic or sub-acute inflammation, which induced the structural disease, and this last becomes, at some

future period, the occasional cause of the hydropic one." At other times, the chronic inflammation continues, and finally extends to the serous membrane, giving rise to the effusion.

> "The most usual cause of the disease, however, particularly in children, is an irritation which is sympathetically communicated to the brain, from a disturbance in the chylopoietic organs; and particularly from a functional disorder of the liver. The cerebral disorder, to which a derangement in the digestive functions thus gives rise, is only one of those numerous effects which arise out of sympathies, subsisting between these organs and different parts of the system. In many cases, the same sympathetic irritation is successively and variously directed to different parts of the system. It will thus leave one organ or part, and suddenly move to another; and through the operation of causes, which are not always obvious, but which have a relation to some particular predisposition, inherent or acquired. In this way, an irritation may occasion an eruption upon the skin, and thence be translated to the bronchial lining, producing a cough; and next perhaps, to the serous tissue of the brain, exciting there a turgescent or congestive state of the cerebral vessels, by which symptoms are produced, through the pressure of the congestive vessels, that simulate those of hydrocephalus; or the true disease is brought on by an arterial re-action, ensuing upon the congestion, which is resolved by a serous effusion."

Dr. GOLIS, from observing the marked connexion "between the turgescent state of the brain from chylopoietic disturbance, and its serous inflammation, has concluded, that it essentially pertains to it;" consequently, that "whenever it occurs, it is a part of it;" that it should be considered as forming the first stage of the disease, and that in all instances, it precedes the excitement. He has, for the same reason, constituted all the symptoms of the chylopoietic disease into the first stage of hydrocephalus. Dr. AYRE shows, however, that this state of turgescence, is not essential [Pg 90] to the disease, and is only a sympathetic effect, which in the majority of instances, requires no treatment, (at least a very subordinate one,) other than that of the primary affection. He concludes his remarks on hydrocephalus, with the following words.

> "The cerebral turgescence and disturbance, therefore, in whatever degree they may exist, are only, when sympathetically produced, to be considered as morbid causes, whose presence, where the predisposition prevails, may lead to a serous inflammation of the tissues of the brain, but which do not form, in any sense, parts of the disease itself; since, under every degree of them, they are so frequently remediable, by means which are alone available, for the removal of their distant and sympathetic cause."

Of *Hydrothorax*, Dr. AYRE very justly remarks, that, as its name imports and as defined by Nosologists, it consists of symptoms, which strictly speaking, pertain only remotely to the true disease—arising, as they do, from a certain disturbance given to the lungs, by the pressure of water upon them. They are only the symptoms, therefore, of the effusion, and as the excitement sometimes terminates with the occurrence of the serous discharge, its existence, in many cases, is discoverable only by its effects—there existing no signs, which clearly point out the presence of that state, previous to the appearance of the effusion; and what are usually called, by writers on the subject, premonitory symptoms, being only those of an inferior degree of the effusion which has already commenced.

Like hydrocephalus, hydrothorax may be idiopathic or symptomatic; and proceed from a local or general cause—the nature of the inflammation being the same in both cases. It may likewise be divided into an acute and chronic form. When the disease is symptomatic, and arises from a local cause, it is generally chronic. When it arises secondarily from a disease of the lungs, our author thinks, that

> "The mode by which this state is induced in the serous membranes, is by the chronic inflammation that exists in the diseased organ extending to them; and not by the same form of inflammation being set up in them, by a certain sympathy or consent of parts, which, from a loose analogy, has been thought to subsist between similar structures."

All diseases of the thoracic organs, are not equally prone to occasion effusion; some of these also, are only dangerous to life, in proportion to their disposition in occasioning such an effusion; [Pg 91] whilst in other cases, if it occurs at all, the effusion is only the sequel of a disease essentially fatal.

> "To distinguish between these two conditions, is a desideratum pathology. Modern writers on pathological anatomy have prosecuted with considerable zeal and ability, their researches into the nature of the diseases of the organs within the chest, but they have done but little towards elucidating the true relation, which subsists between the diseases of the several viscera, and the serous effusions which take place into their cavities; for, by limiting their views to the disease which the *post mortem* examination exhibited, they have overlooked those intermediate actions or states of excitement which connect the organic disease with such effusions."

Whenever the excitement, producing hydrothorax, is idiopathic and independent of an organic disease of the lungs, heart, &c. its remote causes may be either of a general or local kind; and

are the same which produce, when applied in a higher degree, or under different states of the system, the other forms of inflammation. The effusion may take place in those cases in which, the individual being predisposed, the inflammation, owing to some peculiarity in the cause, does not reach beyond its lowest grade; or in those in which the inflammation being high, and treated too late, or by insufficient means, a chronic form succeeds to the acute one, which may produce a watery effusion; or some structural disease remains and eventually becomes a cause of the effusion. The occurrence of this effect, in those latter cases, is sometimes attributed to a debility, resulting from the large depletion required in consequence of the severity of the previous inflammation.

> "That such opinions, however, are founded in error, may be shown from this, that the effusion, thus imputed to debility, does not occur sometimes, until some weeks or months after the period when the bleeding was employed; and although the debility is confessedly of a general kind, yet the effusion is local, and is precisely in the very cavity where the disease existed, which required the unjustly condemned evacuations. The truth of the matter is, that in such cases, either the depletory means have been employed in an insufficient degree, or too late." "The imperfect recovery of such patients from their first attack, and, which is attributed to the depletion, arises from the disease which is left by it, and to the injudicious means, perhaps, that are employed by the too anxious attendants, with the view of restoring the strength."

Among the ordinary predisposing and exciting causes of the inflammation which produces hydrothorax, Dr. A. mentions a certain congestive or plethoric state of the circulation, which is brought on in some persons of particular habits, by indulging in the pleasures of the table, and [Pg 92] taking little exercise. These cases are analogous to those occurring in the brain, and giving rise, by rupture, to a sanguineous apoplexy, or, by arterial reaction, inducing an effusion of serum.

Dr. A. next proceeds to the subject of *ascites*, the symptoms of which he remarks are at first so obscure, that the disease is sometimes with difficulty detected. The remote causes of ascites may be either symptomatic or idiopathic, and either local or general. When symptomatic, it may be seated in some diseased viscus, as the liver, spleen, or in the mesenteric glands, &c.

> "To produce, however, a dropsical effusion into the abdomen from this cause, it is necessary that the disease of this viscus should be making progress; for, in its indolent state, or, in other words, if inflammation be not present in it, it is incapable from its mere bulk, as is commonly but erroneously supposed, of producing this effect." "Nor does the serous discharge always take place into the abdomen, in every case where these organs are morbidly affected, but only where their peritoneal covering participates in the disease; for the chronic inflammation in those cases, where it occasions ascites, does so by extending from the cellular tissue of the internal structure of the organ, to the serous tissue investing in it." "When ascites is an idiopathic affection, it may proceed from all the common causes of inflammation. The most frequent cause is cold, and which may act either locally or generally. When in the latter mode, the ascites is usually combined with anasarca, and the disorder generally comes on suddenly, and has a rapid progress. The vascular system is excited, and there is more than usual thirst; the blood when drawn exhibits the buffy appearance; and the urine, when subjected to heat, is found to coagulate strongly, from the large quantity of serum contained in it. In some of the severer cases, the effusion into the abdomen takes place very suddenly, and yet, by a copious bleeding the disease may be at once arrested, and the water be afterwards absorbed."

Unlike what occurs in hydrothorax and hydrocephalus, the effusion in the present form of dropsy is of inconsiderable importance, compared to the visceral disease which is its remote cause. When, however, the accumulation becomes very considerable, the pressure of the fluid may affect the organs, and more particularly the peritoneal lining, which from the irritation induced in it, may take on a higher grade of inflammation, terminating in effusion of coagulable lymph or pus, and in death. The necessity which arises of tapping, where the effusion is very considerable, proves sometimes a farther cause, perhaps, of aggravating the disease of the affected viscus, and [Pg 93] either of renewing or extending the hydropic excitement, or of converting it into a higher or more destructive form of inflammation.

By most writers on dropsy, anasarca has been maintained to originate, in all instances, in debility, and to be curable only by a tonic and invigorating plan. It is true that some writers, especially among the ancients, (for we can hardly class Portal among the moderns,) have spoken of the disease as arising occasionally from a plethoric state of the circulation, and enforced the necessity, under these circumstances, of venesection. This view of the pathology of anasarca, although leading in many instances to a successful practice, was, however, vague and often unsatisfactory. To the late Dr. Rush, and to Dr. Parry, much credit is certainly due for their labours on this subject; but so far as we are informed, it was not until within a few years, that the subject was cleared of part of the obscurity in which is was involved, and that the disease, at least the active sort, has been referred to an irritation of the cellular tissue. Following up this opinion, and generalizing still more than the French pathologists, our author asserts that anasarca invariably consists in an inflammation of the cellular membrane of the body, with a serous effusion as its result. The accumulation, he continues, may be either idiopathic or symptomatic, and either general or local; occurring only under two forms, the one being of

greater intensity that the other. In general, the disease derives all its importance from the nature of the remote cause.

> "When it is idiopathic and proceeding from cold, it is usually unimportant, for though the progress of the swelling be rapid, and the appearance of the disease formidable, yet it readily subsides under proper treatment, as the effusion proves in these cases, either partially or fully corrective of its cause; and little more, under such circumstances, is required in its treatment, than to promote the absorption of the water. In some cases of general anasarca, however, the disease is more severe; for sometimes the action of the heart and arteries is increased, the urine becomes loaded with serum, and there is thirst and other indications of general vascular excitement, similar to the state which was noticed, as producing effusion into the brain, or the other cavities of the body."

In some cases, the serous effusion appears to be translated from one part to another. Our author very justly adds, however, that this translation is not of the serous fluid, but only of the serous [Pg 94] inflammation giving rise to the effusion. It usually takes place from one portion of the cellular membrane to another; but sometimes from this membrane to the serous tissue of the brain, chest, or abdomen.

Œdema of the feet and ankles is often symptomatic of chylopoietic disturbance, and particularly in young women, in whom the menstrual function is obstructed. In these cases, as well as in the œdema following gout or rheumatism, the swelling usually commences with considerable pain and stiffness of the parts, and hardness of the swelling.

> "But the most common form of anasarca is that which is symptomatic of some visceral disease; and which, as it ordinarily appears, arises from a state of the system that answers to the hydropic diathesis of systematic authors."

This form of the disease begins in the lower extremities, and is rarely attended with strong signs of local excitement so obvious in anasarca of the idiopathic kind. Its occurrence has been referred to various causes. When combined with ascites, it is supposed to arise from pressure of the iliac veins by the fluid accumulated in the abdomen,—an opinion which our author combats by repeating, in great measure, the arguments we have already noticed.

> "But here let me observe, that the denial of ascites producing an anasarcous state of the legs, from the water compressing the iliac veins, must not be understood as implying, that a mechanical compression of a vein will not in other cases produce an effect of this kind. A pressure made on the brachial vein and its branches by scirrhous glands in the axilla, is a common cause of this state. The remote cause is here, indeed, of a mechanical kind, but not so the proximate cause of the effusion. By the resistance given, in this case, to the blood's return by the principal veins of the limb, a reaction is occasioned in the extremities of the arteries leading into the corresponding extreme branches of the veins, and which reaction is in this, as in a multitude of other occasions of congestive fulness in these vessels, a sanative effort of nature to overcome the primary obstruction."

The disease has often been referred, when occurring under these circumstances, to a local and general debility; and this opinion is thought to be supported by the facts that the swelling is increased by a depending position of the limb, and diminished by a horizontal one—by the occurrence of an inflammatory state of the parts being incompatible with such a degree of debility, and lastly by the absence of preternatural heat on the surface of an œdematous part. To [Pg 95] these pretended arguments, Dr. A. opposes, that the effusion cannot be attributed purely to debility; because the effects are in no correspondence with the assigned cause,—the debility being, in some instances of chronic and acute disease, very considerable, and the effusion small, and vice versa;—because anasarcous limbs will occur in the strongest individuals when the limbs have remained a long time in an erect posture,—because there is in certain fatal chronic diseases, a tendency in the lower limbs to take on an inflammatory action, often of an erysipelatous kind,—and because the fact of œdema increasing by an erect posture and diminishing in the horizontal one is readily explained by the greater congestion of the vessels induced in the limb by such a position, as it occurs in the higher grades of inflammation.

> "And with respect to the temperature of the surface of œdematous parts not being preternaturally raised, the objection, if of any force, must apply to all, for all have this peculiarity, and yet some cases of œdema confessedly arise from inflammation; differing not, in this respect, from several other morbid states, as those for instance, of chronic rheumatism, and which are indubitably, as indicated by the nature of their causes and remedies, of a truly inflammatory kind."

Dr. Ayre, therefore, regards all these cases as secondary to a serous inflammation seated in a cavity; and lastly as arising from some disturbance in the digestive functions, by which this and other distant irritations are produced through the operation of that law of the animal economy, denominated sympathy.

Having thus offered, in the preceding pages, an analysis of Dr. Ayre's views of the pathology of the principal forms of dropsy, we must be allowed, before proceeding to the treatment of the disease, to make a few remarks. It appears to us that Dr. A. has treated the subject in a very able manner, and contributed greatly to remove many objections, that could be adduced against the

opinion of the inflammatory nature of some of the more obscure cases of dropsy. We cannot help thinking, however, that he is too exclusive in his theories, and that he has rejected too positively the idea of a passive dropsy; in other words, of a dropsy independent of inflammation. Some cases of the disease which follow extensive losses of blood, (profuse uterine hemorrhages, for example) and which are cured by tonics and an invigorating diet, without the aid of diuretics, cannot always, though they may sometimes, be accounted for by admitting the existence of [Pg 96] inflammation. Such instances have fallen under our own observations, and could not be explained by supposing that the effusion had relieved the inflammation; since there had not existed, at least as far as we could ascertain, any local inflammation. In one case it followed abortion, attended with profuse hemorrhage, and produced, not by disease, but by an accident.

In the second and fifth volumes of the *Archives Générales de Médecine*, Dr. Bouillaud has related many cases of partial and general dropsy, which undoubtedly originated in obstruction to the venous circulation, from adhesion of the parietes of the principal veins. It is true that Dr. A. is compelled to admit this among the causes of dropsy; but faithful to his theory, he supposed the supervention of an arterial reaction resulting in an effusion of serum. It does not appear to us, however, that this arterial reaction is admissible in all cases of the sort, and we prefer on the whole the explanation of the mechanism of the effusion, originally given, by Donald Monro, and lately by Drs. Bouillaud and Broussais, who refer it to an obstruction in the venous circulation and to a consequent deficient venous absorption. By admitting this explanation, it is readily perceived, that we admit a passive dropsy, and we think the view well exemplified by a case which occurred last summer. The individual had recently recovered from a violent attack of disease, and was left much debilitated. Induced by this circumstance to travel to the north, he had occasion to notice that when seated long in a stage with his feet depending on the veins compressed, œdema invariably came on, and that it as invariably went off the next day if he did not ride. This occurred so often as to lead us to think there could not always be an arterial reaction occasioning the effusion, and that this effect arose from the mere obstruction to the venous circulation.

In making these remarks we are not actuated by the desire of detracting from the merits of Dr. A.'s views of the pathology of dropsy; convinced as we are, that the great majority of cases of the disease, which are thought by many physicians to arise from debility, do not owe their origin to this condition of the system, but to an increased excitement of the membranes or cellular tissue. Were it otherwise, how could we account for the fact, that dropsy is generally *local*, whilst the [Pg 97] *debility* to which it is in most instances referred, is general?

But whilst maintaining the correctness of many of Dr. A.'s views, we are inclined to the opinion, that he may do some injury to the doctrine he is advocating, by invariably making use of the word *inflammation*, to express that condition of the vessels, giving rise to an excessive secretion of serous fluid. We are ready to admit, and we dare hope, that few will refuse to do so, that *inflammation*, strictly speaking, will occasion such an effect; yet, it often happens, that effusion will occur in cases, where no inflammation can be detected. In such instances, the vessels are evidently in a state of increased excitement; or in other words, in a state of irritation, but not of inflammation, which always implies congestion. This latter morbid condition, may supervene on the irritation, and occasion a suppression of the serous effusion, and the formation of coagulable lymph or pus. It is true, it may be said, that both these states (irritation and inflammation) being an increase of the life of the part, and requiring the same treatment, may be designated by the same name. Nevertheless, to prevent confusion, and the quibbling of some of the opponents of the theory of inflammation in dropsy, we are inclined to believe, that it is better to substitute the word irritation, whenever there is merely an increased secretion, and reserve the word inflammation, to designate those cases, in which there are decided marks of local excitement and congestion, attended or not with general fever.

Dr. Ayre, adopting the opinion of Dr. Parry, regards some cases of local dropsy as an effect of a general hydropic diathesis, or of a general inflammatory action of the vascular system, occasioning a local excitement, ending in dropsy. This is a natural consequence of the views, entertained by many physicians in Europe and this country, that fever produces local inflammation. We must confess, however, that all Dr. A. has said on the subject, is not calculated to carry conviction to our minds. Thus, one of his reasons for regarding some cases, as arising from this general vascular excitement is, that they are produced by what he considers as a general cause,—as cold, for example. But cold produces local diseases, occasioning, and not preceded by, a febrile excitement; and if it can, and does occasion anasarca, who will pretend to assert, from its being a *general* cause, that this anasarca is a general disease? Does not cold [Pg 98] occasion also ascites, which, in many cases, is regarded by every one as a local disease, sometimes terminating in anasarca? If so, why shall we regard anasarca, ending in ascites, as a general disease? The cases are analogous, and the action in both should not be explained differently. If the action of such a cause were really general, and extended to all parts of the body, then the effects should also be general, and the dropsy should be universal, which is very far from being always the case.

2nd. It is also said in support of this opinion, that where anasarca is idiopathic, it is attended with fever, but that this latter does not exist, when the disease follows ascites. This difference appears to us to be very readily explained by the fact, that the disease in the former case, is more acute, and that the heart sympathises more actively with the irritated cellular tissue, than in the second case, when the disease is milder, or more gradual in its progress.

3d. It is also maintained, that when anasarca is idiopathic, there exists a large quantity of serum

in the urine; and this is brought forward in order to distinguish these cases from local dropsies. But it is also admitted, that serum is found in the urine in cases of anasarca following ascites. Consequently, if there be none in cases of simple ascites, and if it only appears when anasarca supervenes, the only conclusion that may be drawn from these facts, is, that anasarca is the only form of dropsy, in which serum is absorbed, and passed off by the kidneys; and if there be a greater quantity discharged when anasarca is primary, it is only because the disease is more violent, and generally more extensive. But, surely all this is far from proving, that primary anasarca is a general disease, and owes its origin to a primary arterial excitement of the whole system. When fever exists first, and terminates in dropsy, who has proved, that there existed no local irritation producing the fever, and that the hydropic irritation has not supervened by metastasis. This takes place in scarlatina and other eruptive diseases, which Dr. A. would surely not be justified in calling general diseases. Dropsy follows the suppression of cutaneous diseases, unattended with fever; consequently, when there happens to be a febrile excitement, we are at a loss to know, why we should call this latter to our aid, in our explanation of the dropsical effusion, and not account for it on the same principle, as we did in the former cases; namely, by metastasis. If febrile symptoms are sufficient to make us regard a disease as general, then there is no local disease, except when apyretic. [Pg 99]

We now proceed to notice the mode of treatment, recommended by our author, for the different forms of dropsy. From what we have seen, it is natural to conclude, that as Dr. Ayre regards the proximate cause of the several forms of the effusion, or in other words, the *disease*, to be the same under all its conditions, he will be of opinion, that "the same general principles of treatment, are alike applicable to all—subject only to such modifications, as arise from differences in the nature and intensity of the remote cause, and those general or local relations of the parts implicated in the serous effusion, with the diseases of the organs, which incidentally produce it." Founding upon these views the indications of cure, he states them to be; 1st. To remove the visceral, or such other disease or state, which, when present, proves a remote cause of the effusion; 2nd. To remove the morbidly increased action in the serous membrane or tissue, which is its proximate cause. 3d. To promote the absorption of the effused fluid.

Agreeably to Dr. A. the treatment of hydrocephalus internus, is divisible into three general heads:

> "The first, consisting of means to correct, with its causes, that turgescent state of the brain, which may produce the arterial re-action and effusion; the second, of those which shall subdue the excitement, when formed; the third, to correct or relieve, as far as it is practicable, the effects of the effusion, and procure, if possible, its absorption."

With respect to the general causes, tending to produce that congestive state of the brain, precursory to its inflammation, he remarks, that they are of three kinds; 1st. Those acting through the general system, and consisting of an irritation, from some obstructed or required evacuation; 2nd. A local disease, seated in the head, or a local injury inflicted on it; 3d. Chylopoietic disturbance, acting sympathetically upon the brain. When the first of these causes appears to have been instrumental, in occasioning this condition of the brain, it is plain that it must be removed, and the obstructed emunctory corrected,—the suppressed evacuation promoted, or a new and artificial one substituted. When there exists any structural disease within the head, or a relic of a former state of excitement, a serous inflammation may be reasonably apprehended, and to avert it, the most rigid and undeviating attention must be paid to regimen, whilst cupping and leeching must be employed, and a seton fixed in the neck. [Pg 100]

> "For the object of the treatment, in these cases, is not to remove, but to avert the inflammation, and which, from the strong disposition to it, conferred by the organic disease, can only be effected by avoiding, not merely the causes of inflammation, but likewise, all those agents, which are calculated, in any way, to increase the momentum of the circulation." "Beyond those, the common precautions against morbid irritations, little else can be done."

When the turgescent state of the brain, arises from a disturbance in the digestive organs, it will be remedied, by means directed to this cause. Our author locates the primary seat of this disturbance, in most cases, in the liver; though he admits, it may occasionally be in the stomach and intestines. He places great reliance for correcting and increasing the secretion of bile, on small doses of calomel,—purging off the contents of the intestines by aperient medicines; and recommends, at the same time, the application of cups and leeches to the temples, as a measure of precaution. He very properly lays considerable stress on the necessity of combating this secondary affection of the head;

> "For though the means applied, to correct the disorder in the digestive organs, may be sufficient to remove the turgescent state of the brain, which arose from it, yet, those means will have little or no control over the excitement, which that turgescent state has created; and still less can they avail in subduing an excitement, that may even survive its remote cause, and continue independently of it. By overlooking these facts, much distrust and disappointment have arisen with many, who confided in the opinion, delivered by some writers, of the uniform prevalency of chylopoietic disturbance, as a cause of this disease, and of the sufficiency of calomel to remove it."

When the inflammation exists, and is a sequel of some pre-existing structural disease in the brain or membranes, all that can be reasonably expected, is to *palliate* it by the antiphlogistic plan; but

when it is idiopathic it may readily be cured, by the same remedies, graduated to the age and strength of the patient and to the violence of the attack. Dr. A. seems to rely principally on cups and leeches;—not excluding, in some cases, bleeding from the arm. Blisters to the summit of the head and afterwards a cold evaporating lotion to the temples, are also recommended. As soon as, by these means, an impression is made on the disease, mild diaphoretic medicines, assisted by the tepid bath, or the pediluvium, maybe prescribed;—the bowels are to be kept open by small [Pg 101] doses of calomel, followed after two hours by a draught of some aperient medicine,—the antiphlogistic regimen should be rigidly enforced, and light and noise carefully excluded.

> "Many practitioners give the mild preparations of mercury, and particularly calomel, freely in this disease, under a notion of its having some specific power in subduing it; but it never should be so used, excepting in cases where the disease is symptomatic of some functional disturbance in the liver and other chylopoietic organs, where it is calculated, in conjunction with the local bleeding, &c. to afford the most important service."

With a view of pointing out some characteristic sign, by which to distinguish those cases in which the affection of the bowels is primary from those in which it is secondary, he remarks—

> "The condition of the stools at the period when a child is labouring under the disease, will afford to such persons but an imperfect notion of its true nature; for the disturbance of the brain will often create a disorder in the secretions, both of the liver and the other chylopoietic organs, producing green looking stools; and there is often a congestive state of the brain for a short time preceding the full development of the idiopathic excitement, which may, in like manner, by reacting upon the liver, create a disorder there. In cases, however, which are symptomatic of this cause, the chylopoietic disturbance will be found to have existed several days or even weeks; and the origin of the disorder, in like manner, may be commonly traced to some irregularity of diet, or other obvious causes, and frequently in infants to those which are connected with premature weaning; and sometimes even the cerebral disorder itself will have been only the last of a series of effects in the system, to which such disturbance had given rise."

Agreeably to Dr. A., it is not proper to discontinue those means, immediately upon the occurrence of what appears to be symptoms of effusion, since, frequently, these symptoms, as it respects the effusion, will immediately manifest their fictitious character, and disappear under a treatment no wise adapted to such a state, and with a rapidity, too, which equally betrays their true nature. He notices, though we believe not in its proper place, a modification of the disease in which the effusion takes place in the cellular membrane of the substance of the brain, and thinks this species more likely to be recovered from than when the water accumulates in the ventricles. He concludes this section by remarking, that

> "Of the means to be employed to promote the absorption of the water, under these or other circumstances of its accumulation in the brain, little satisfactory can be said. The treatment must be founded on the use of such means as shall avert the [Pg 102] risk of renewing an inflammation in the organ. To this end, occasional blistering the head will be proper; the diet must be spare, and the several secretions, particularly those of the kidneys, must be cautiously promoted."

We next turn to the treatment of hydrothorax and ascites. As the existence of hydrothorax in its early stage is difficult to ascertain, and as what have been called premonitory symptoms are only those proper to the mildest forms of the disease, and not of that condition of the parts which gives rise to the effusion, the treatment is somewhat difficult, and, in too many instances, our remedies are directed, not to the disease itself, but to one of its effects. Faithful to his view of the pathology of dropsy, Dr. A. remarks, that the plan of treatment to be pursued at an early stage of symptomatic hydrothorax, must consist in the use of those means which shall subdue the chronic excitement of the serous membrane, as well as the chronic inflammation of the diseased organ. To attain this end, the antiphlogistic and revulsive plans, graduated to the age and strength of the patient, and to the violence of the disease are recommended. In general the frequent application of leeches are held by Dr. A. as preferable to venesection, unless the patient be plethoric, and the disease arise from a local congestion within the chest, which, according to him, is often a cause of serous inflammation of the thoracic tissue, independently of any previous disease. Dr. Ayre calls attention to the fact, that topical bleeding is particularly adapted to correct that chronic inflammation of the serous membranes, which causes an effusion from them, and which is neither the result of any inflammatory excitement of the general system, nor of a nature to produce it; and that when properly conducted, it has the advantage of acting only slightly on the general system, and therefore only slightly on the general strength, and very considerably on the local disease. Together with leeches, blisters are to be used, and after the chronic action existing in the serous membrane is subdued by these means, a seton fixed in the integuments of the chest will be found of great utility.

The same treatment will be found equally serviceable, not only to correct the chronic excitement existing in the peritoneal membrane and giving rise to ascites, but very commonly to cure or palliate the visceral disease producing it. In respect to the very common practice of resorting to [Pg 103] mercury in this complaint, our author makes the following judicious remarks.

> "With too many practitioners, it is the practice to employ mercury freely in every case of abdominal dropsy, under the vague notion of there existing some

> mechanical obstruction in the liver or other viscus, as a cause of it; and under the equally vague notion, that mercury so employed will remove it. The practice, however, to speak of it in the mildest terms, is founded on erroneous views of the pathology of these diseases; and employed, therefore, as it is by some, on all the occasions in which they meet with them, must be frequently very injurious. For, independently of the injury to be inflicted by it, when given freely in some of the forms of liver disease, there is an effect produced by it on the urine, when given to a person in health, resembling that which arises from the specific excitement of dropsy. Under a salivation, the urine becomes charged with serum. Any condition of the system, therefore, approaching even to a state of salivation, must be injurious, by the tendency it must have to increase that morbid state of the body, which is nearest allied to the hydropic one. Hence the mercurial salivation has been numbered amongst the remote causes of dropsy; and the resemblance between the dropsical and mercurial excitement, thus established by the common resemblance of the urine in these states, goes far to prove this connexion; and it is not improbable, that the mercurial inflammation, when considerable, may survive its specific cause, and degenerate at length into the purely hydropic state. When, however, mercury is given in minute doses, so that these its specific morbid effects are not produced, it is capable of becoming highly useful, as we shall presently have occasion to notice."

In conjunction with bleeding and other means just noticed, drastic purges have an important influence in subduing the disease; not merely by removing the water, but likewise by contributing to subdue the chronic excitement which occasions its effusion. This latter effect Dr. A. very justly refers to the counteraction and irritation these medicines excite on the mucous membrane of the bowels, by which the excitement of the serous tissue or of the diseased viscus is removed. He remarks that drastic purgatives are sometimes inadmissible in ascites, when an affection of the liver or mesentery is its remote cause, and there is a tendency to a spontaneous diarrhœa, which even the mildest purgatives would increase. "In the case of the mesentery, such a mode of treating dropsy would speedily destroy the patient." Dr. A. ought, perhaps, to have explained the real cause of the danger attending the practice, and not referred it merely to the tendency to diarrhœa, which itself can only be an effect of a morbid condition of the bowels. The fact is, that [Pg 104] most cases of hepatitis, and all cases of mesenteric disease, are attended, whether as cause or effect we care not, with inflammation of the stomach or bowels, which purgatives can only tend to aggravate. In general, the practice of administering drastic purgatives is more serviceable in hydrothorax, and especially in anasarca, or in *idiopathic* serous inflammation of the peritoneum. Dr. A. prefers the gamboge to all other medicines of the same class, and gives it to the amount of four or five grains in a single dose, with the same quantity of some aromatic powder, and triturated with a few crystals of the supertartrate of potassa; or in urgent cases of hydrothorax, he prescribes ten or twelve grains, divided into four doses, one of which is to be given every three hours. When the strength admits of it, the purgative may be given every four or five days.

Dr. A. next notices diuretics.

> "The sensible operation of these medicines," he says, "as is well known, is to promote the secretion of the kidneys. There appears to me, however, to be farther effects produced by them upon the system, or particular parts of the system, which is not referrible to the mere evacuation of a certain quantity of fluid from the body; and these effects, it is probable, consist in promoting the natural discharges by this and, perhaps, the other emunctories, whose partial suppression may either produce this disease, or serve materially to continue it; and likewise in occasioning a derivation of blood to the kidneys, and therefore to a part distant from the morbid one; and that thus, whilst they are contributing materially to the removal of the fluid, they are serving like the purgative, an important end, in assisting to subdue the cause of it. The medicines which I am accustomed almost entirely to rely on in this disease, are the powder of dried squill and digitalis, given in combination in the form of pills, and in doses, which, from their smallness, will probably excite no little surprise in the minds of some of my readers. The dose of the squill is something less than a grain, and of the digitalis only a sixth part of a grain, given uninterruptedly every third or fourth hour."

To render these medicines more effectual, a third or half a grain of calomel may be given nightly, and an infusion of dandelion, or some other popular diuretic, may be taken *ad libitum*. Our author speaks in terms of merited disapprobation of the practice pursued by some physicians, of allowing their patients daily, potions of gin punch, with the view of aiding the operation of the diuretic medicine, and supporting their strength. He shows, that, although by these means the water may be promptly evacuated, the disease is not cured, and the effusion is soon renewed [Pg 105] with redoubled violence and danger to the patient.

In the idiopathic form of hydropic inflammation, attacking the serous membranes of the chest and abdomen, and which, agreeably to our author, may be strictly local, or consist in a general specific excitement of the system, leading to a general watery effusion, the lancet is particularly advantageous, and should be had recourse to. The pulse is generally hard, the blood exhibits a buffy appearance, and the urine coagulates when subjected to heat. Leeches, in pretty large numbers, must also be used, as well as all the remedies already enumerated. But as in these cases, which according to Dr. Ayre are more common among females than males, and among the

younger than those of middle and advanced age, the disease is of a more acute nature, a greater reliance is to be placed on an active antiphlogistic plan; and if this be steadfastly persevered in, comparatively little difficulty will be experienced in effecting a discharge of the water.

When hydrothorax occurs after scarlatina, and is combined with anasarca, its course is generally rapid, and the cure difficult; partaking, as it often does, of the two-fold state of debility and excitement. When detected early, the lancet must be promptly used. Cups and leaches, followed by the warm bath, blisters, and cathartics, must also be resorted to.

> "Diuretics, which are so beneficial in the less acute forms of dropsy, are commonly too inert and slow in this, unless given in doses to act immediately upon the vascular system, when the infusion of digitalis, as given by many practitioners in all the other states of the disease, may be resorted to; since the treatment here is not so much to remove the water, as to prevent, if possible, its farther effusion; for when a discharge suddenly takes place into the chest after scarlet fever, it will generally prove fatal, even though the quantity collected be inconsiderable, and only such as would occasion, if gradually effused, a moderate degree of inconvenience to the lungs."

In respect to tapping, our author remarks, that the circumstances calling for this operation are, where, from the very considerable accumulation of water, and the consequent distension it occasions, a permanent and morbid stimulus is given to the peritoneal membrane, by which its serous inflammation is perpetuated or increased; or where so much pain and irritation are produced, as to risk inducing a similar disease in the chest, and of bringing on likewise an ulcerative form of inflammation in the peritoneal lining of the abdomen. [Pg 106]

> "Whilst the objections to its employment consist in the danger which is incurred, where there is much visceral disease, of its causing a destructive form of inflammation in the peritoneum; and the probability of its occasioning, under the most favourable condition of the disease, a more rapid renewal of the serous accumulation."

Our limits not allowing us to enter on the treatment of ovarian dropsy, we proceed to offer a few remarks on the means recommended by Dr. A. for the cure of anasarca. As in the treatment of every other form of dropsy, it is necessary, in attempting the cure of anasarca, to advert to the nature and causes of the disease.

> "If it be idiopathic, and unconnected with any dropsy of a circumscribed cavity, and the pulse at the same time be soft, and the urine free from serum, it may be treated solely with the view of procuring the absorption of the effused fluid, as in such cases, the watery discharge in all probability will have removed, in a considerable degree, the excitement which caused it."

It is in such cases that recoveries take place under almost any plan of treatment, and that bark and other tonics have been found beneficial. Their utility, however, in these cases is very limited, consisting only in aiding the removal of the effects of the disease, and keeping up the strength of the system, whilst the absorbents perform their function, and remove the fluid. Dr. A. recommends, in these cases, puncturing and bandages; but he very justly adds, that they must not be employed, whenever there remains any inflammation in the parts, as they would then tend to aggravate it.

> "To œdematous swellings, in which the serous local inflammation, whether symptomatic or idiopathic, still subsists, I am accustomed to direct the application of leeches and cold evaporating lotions, observing not to commence the use of the latter, until twelve hours after the leeches have been used, that inflammation may not be produced in the wound." "When anasarca arises from a general excited state of the system, as denoted by the pulse, and by the serous quality of the urine, venesection becomes necessary, combined with the use of leeches, applied to the extremities, or to those parts of the body, in which the serous tissues are most affected, along with the active use of the general means already alluded to."

In anasarca, an error is sometimes committed, especially by young practitioners, of estimating the degree of danger, and the necessity for active treatment, by the single consideration of the extent of the œdematous swelling. This, however, should be guarded against, as the swelling may be very considerable, and the disease subsided, or of little consequence; whilst, in other instances, the reverse may be the case. In the first instance, where the disease is not seen early, the treatment must sometimes be limited to those means which promote the absorption of the water, and neither venesection nor leeches will be required. In such cases, the practitioner must be guided by the state of the pulse and urine; the presence or absence of vascular excitement; the history given of the case up to the period when visited, and particularly by the progress of the swelling. [Pg 107]

> "When the dropsy of the skin is considerable and long protracted, and symptomatic of some visceral disease, as it most commonly is in these cases, and is attended by a serous state of the urine, and a general failure of the strength, the cachetical state of the system may be considered as established, and the treatment is then beset with difficulties. For the general means, which are useful in the earlier states of the disease, and when the vital strength is entire, become

injurious in this, by the tendency they have, aided by the effects of the visceral disease, to diminish farther the vigour of the system; whilst, at the same time, the treatment, which is suited to support the declining strength, can contribute nothing towards lessening the constitutional and local diseases, but will frequently increase the morbidly excited state of the circulation, which, analogous to what occurs in diabetes, will continue and increase under the most decided marks of general constitutional weakness. Pending the continuance of that inflammatory state of the system, in which the urine is charged with serum, the debility will be mainly derived from that drain of its nutrient parts, which is thus established in the body, assisted by the weakening effects of the organic disease. If blood be drawn, it will be found, in many of these cases, to exhibit the usual signs of inflammation; and the treatment of the tonic kind, when employed to support the strength, will be found to act unfavourably.

"The plan to be pursued must consist in the use of such means as shall assist the powers of digestion and assimilation; so that, by a highly nourishing but plain diet, the drain from the system may be somewhat counteracted; and, at the same time, the cause of the effusion is to be corrected by the use of local depletion and blistering, and by the temperate employment of those general means, which are useful in the less aggravated forms of the disease."

The diet of patients, in the symptomatic forms of dropsy, should be plain and unirritating; and in the idiopathic states, the antiphlogistic regimen should be rigidly enforced; particularly an abstinence from all fermented liquors, until the inflammatory period of the disease be removed. [Pg 108] The clothing should be moderately warm, and selected of that kind, best suited to promote the insensible perspiration of the surface.

Before taking leave of Dr. Ayre, we cannot omit adverting, in a very few words, to a circumstance noticed in his preface, and which we think of some importance. He remarks, that if, in the prosecution of his task, he has had no acknowledgments to make to any individual as his guide and authority, he is nevertheless indebted for many important facts to the writings of the late Dr. Wells, and of Drs. Blackall, Abercrombie, and Duncan, jun. and particularly to the system of pathology of Dr. Parry. He further remarks, that he entertained and taught for many years, the views advocated in this work, and that, after the manuscript had been sent to press, he had seen a copy of an abridged edition of the elaborate Dictionnaire des Sciences Medicales, in which the doctrine of dropsy, maintained in the larger work, is relinquished; whilst others are given in their place, conformable, in the main, with those which it is the object of his treatise to establish. Now it would appear, from these expressions, that Dr. Ayre wishes to inculcate the idea, that the English writers, whom he has cited, were the only ones who had published anything valuable, and conformable to his doctrine; and that prior to 1823, the year of the publication of the Dictionary above mentioned, the French entertained very different views of the pathology of the disease. We think it our duty, however, to rectify our author in this respect, and to show to our readers, that, even allowing full credit to Drs. Wells, Blackall, Abercrombie, &c. for their researches into the nature and treatment of dropsy, the American, French, and Italian pathologists are entitled to a much larger share than is allowed to them in the present work. A few references will be sufficient. Many years ago, our celebrated Rush taught, that general dropsies "depend on a certain morbid excitement of the arteries;" and that hydrocephalus, "in its first stage, is the effect of causes, which produce a less degree of that morbid action in the brain which constitutes phrenitis." In 1812, Dr. Breschet, of Paris, published an excellent dissertation on active dropsies. In the early writings of Broussais, though more particularly in the propositions prefixed to his *Examen*, the opinion is maintained, that all active dropsies depend on irritability, [Pg 109] either primary or secondary, of the serous and cellular tissues,—a theory more closely allied to Dr. A.'s, than all that is contained in the writings of Drs. Wells, Parry, &c. But what, perhaps, is more to our purpose, Dr. Geromini, of Cremona, published a work, in 1816, on the origin and cure of dropsy, in which he compares the dropsical accumulation to that of serum produced by the inflammation of a blister, or by fire; and in which he also maintains, that a slight inflammation occasions a flow of limpid serous fluid, whilst a higher degree gives rise to the formation of pus. From these circumstances, he concludes, that the hydropic fluid, which contains little albumen, is the product of a lower grade of inflammation. In the same work, he finally asserts, that in more than 200 individuals who had died of dropsy, he invariably found marks of inflammation or its effects; views which our readers will readily discover to be nearly allied to those supported by Dr. A. In making these remarks, however, we do not wish to be understood as asserting, that the theory advanced by our author did not originate also with him. We have too favourable an opinion of his honesty, to accuse him of plagiarism. Our sole intention has been to render unto each the degree of praise to which he is entitled, and, by pointing out this coincidence of opinion, to derive a further proof of the correctness of most of the pathological views, so ably defended in the present work.

Article VIII.—*An Essay on Venereal Diseases, and the Uses and Abuses of Mercury in their Treatment.* By Richard Carmichael, M.R.I.A. *With Practical Notes, &c.* by G.

Emerson, M. D. Philadelphia, J. Harding, 1825; pp. 360.

One of the most important improvements in practice, which modern experience has established, is the reformed method of treating venereal diseases.

To the labours of several distinguished military physicians and surgeons of Great Britain, we are chiefly indebted for the facts and researches connected with this interesting subject. And although we may have much to learn in regard to the true nature of these complaints; yet the plan adopted by Mr. Carmichael, of determining their distinct pathological characteristics, and [Pg 110] applying the remedies accordingly, is the only one likely to subvert the empirical routine of prescribing mercury on all occasions, a practice which derives such strong support both from the indolence and prejudices of the profession.

In this country, many eminent practitioners have contributed to restrain the abuse of mercury; and it is believed, that Professor Chapman has for many years, in his lectures, disseminated the most enlightened doctrines on this point. Dr. Harris and other surgeons of the navy have made a fair trial of the non-mercurial treatment, and with the most satisfactory results.

The great object, so desirable of attainment, is to form a correct discrimination between the diseases, which may be cured or benefited by the exhibition of mercury, and those which do not require this medicine, or become aggravated by its use; for it seldom fails to do injury, when its advantages are not very obvious.

Mr. Carmichael has taken the most conspicuous part in this investigation for the last fifteen years, and from the extensive theatre, in which his inquiries were conducted, has had the best opportunities of arriving at the truth. He, therefore, who undertakes the management of these affections, may be justly pronounced culpable, if he neglect to make himself acquainted with the experience of this eminent surgeon.

In this enlarged and improved edition of his work, several subjects have not been treated of so copiously by the author, as was requisite to render it acceptable as a book of reference; but the judicious notes of Dr. Emerson, whose attention has been profitably directed to the investigation of venereal diseases, have well supplied the deficiency.

A brief outline is here presented of the contents.

The author describes the various symptoms in plain and intelligible terms; rejecting such unmeaning appellations as syphiloidal, pseudo-syphilis, &c. as designating no particular phenomena, and therefore of no use in describing a disease.

He thinks there is a plurality of venereal poisons, and has divided the disease into four classes, from their different primary and secondary symptoms; making the eruptions on the skin the most certain criterion of distinguishing them from each other. These classes are:—the papular [Pg 111] venereal disease; the pustular; The phagedenic; and the scaly venereal disease. The latter is the true syphilis.

First, the Papular. This is the most common disease, and the most easily cured. Its primary symptoms are, a simple ulcer without induration, without elevated edges, and without phagedena. Sometimes there is a patchy excoriation of the glans penis, attended with a purulent discharge. This disease and gonorrhœa are caused by the same poison. The constitutional symptoms are:—fever; pain in the head, shoulders, and larger joints, pain in the chest; dyspnœa; a papular eruption on the forehead, chest, and back, sometimes extending in a more scattered way over the extremities. It is often attended with iritis. It never gives rise to nodes. The sore throat is different from that of syphilis; the latter having deep excavated ulcers. If buboes accompany it, they are mostly of an indolent nature. The eruptions do not all appear at once; but follow each other. When on the decline, they are of a pale red or copper colour, not scaly, as in syphilis, but papular; disappearing and recurring repeatedly, and ending in desquamation.

Remedies.—Venesection; cathartics; antiphlogistic regimen; antimonials, combined with decoction of sarsaparilla. Alterative does of calomel and antimonials, when the eruption declines.

The local treatment consists in astringent washes and simple dressings.

Iritis is to be cured by venesection, cathartics, mercury, blisters, and belladonna.

This disease will yield to the powers of the constitution. Mercury is always injurious in the early stage.

Second, Pustular venereal disease.

Primary ulcer of a reddish-brown colour; borders closely on the phagedenic character. The edges raised and well defined; not excavated, but on a level with or above the surrounding skin. In the commencement, a small itchy pustula; distinguished from the ulcer attending the papular disease by its well defined and elevated edges, and by the absence of the smooth fungous surface of the former; from the phagedenic by its well defined margin and its corroded-like surface, and the absence of acute pain; and from chancre by the absence of the callous edges and base. These [Pg 112] ulcers are of a chronic nature, showing little disposition to spread. The ulcers from buboes partake of the same character, the edges being hard and the ulcer disposed to burrow. These edges Mr. C. removes with the knife. The disease is rendered extremely obstinate, where full courses of mercury have been given. The more closely the eruption approaches the papular, the

more mild and manageable will be the disease.

Constitutional symptoms.—The eruption is pustular, and often exhibits simultaneously new pustules; also scabbing ulcers, the crusts of which fall off, and leave discoloured patches of skin after healing. For these ulcers of the skin, the best remedies are, sulphur fumigations, nitro-muriatic acid baths, and ointment of tar and sulphur.

Remedies.—Rest; gentle astringents; mild ointments; antimonials and sarsaparilla:—for the constitutional symptoms; venesection; cathartics; antimonials; sarsaparilla.

Mercury is decidedly injurious, until the disease is on the wane, when alterative doses may accelerate the cure.

Third, Phagedenic venereal disease.

The primary ulcer has a corroded appearance. It exhibits neither granulations nor induration. It spreads sometimes rapidly, sometimes slowly; healing in one part, while ulcerating in another. It is mostly situated on the glans and prepuce, and often attended with hemorrhage. In this disease, buboes most frequently appear.

The sloughing ulcer occurs also in this disease. Mercury is extremely pernicious, always rendering the disease more inveterate and rapid in its progress.

Constitutional symptoms.—High fever precedes the eruption, but abates afterwards. Nocturnal headachs; tenderness of the scalp; slight dyspnœa; tenderness of the sternum on pressure; soreness of the chest; an eruption of tubercles, or pustules, or spots of a pustular tendency, which quickly degenerate into ulcers, with thick crusts, that heal from the centre, while they extend from the circumference, with phagedenic borders. The crusts are often of a conical figure. The ulceration of the throat is of the most formidable nature. It commences in the form of a small white aphthous sore; which usually attacks the velum or posterior part of the pharynx, mostly the latter. It extends rapidly, destroying the parts, and at last attacks the bones. It often attacks the larynx, after which, the patient seldom recovers. The affection of the bones of the nose is never [Pg 113] joined with the papular eruption, nor with the scaly syphilitic lepra; but in every case with the pustular description, and when scales and ulcers were present. At the time of the eruption, pains in the knees, wrists, and ankles occur, attended with swelling and redness. He has never seen nodes in the disease, except in cases where mercury had been given. Full courses of mercury introduce the disease into the deep seated parts; for the bones are seldom or never affected in this disease, unless mercury has been given.

Remedies for the primary symptoms.—Absolute rest; venesection; nauseating doses of antimonials; warm poultices and fomentations; opium; hyosciamus and cicuta in sufficient doses to lessen pain and irritation. For the sloughing ulcer, stimulating applications are often useful; such as Venice turpentine or balsam copaibæ, mixed with olive oil.

For the secondary symptoms:—Venesection; antimonials; sarsaparilla; Dover's powder. Mercury increases the ravages of the disease, except when on the wane, when it may be given in alterative doses, with safety and advantage. For the pain in the head, a blister to the nape of the neck. If the eruption appear scaly, then mercury is likely to be useful. If the throat and skin are affected, muriate of mercury in solution, and decoction of sarsaparilla. If the ulcer in the throat be small, touch it with the oxymel æruginis, or solution of nitrate of silver, grs. v a x to an ounce of water; but if there exist extensive ulcerations, fumigations with red sulphuret of mercury ought to be employed.

Fourth, Scaly Venereal Disease, or Syphilis.—Primary ulcer of a circular form, excavated, without granulations, with matter adhering to the surface, and with a thickened edge and base. The hardening is very circumscribed, not diffusing itself gradually or imperceptibly into the surrounding parts, but terminating rather abruptly. Its progress is slow, sometimes assuming a tawny appearance.

Constitutional symptoms.—Sometimes the skin, at other times the throat, is first affected. There is headach, restlessness, and fever. The scaly eruption appears, but does not relieve the fever, as in the other diseases. This eruption commences with a small hard reddish protuberance; and as it advances, the sides are raised, and centre depressed or flat, and covered with thin white scales. It terminates in ulcerated blotches. This eruption appears on the forehead, breast, back of the [Pg 114] neck, and groin; often in large copper coloured blotches, in parts near the hair. The ulcers of the throat mostly affect the tonsils, and come on without much previous pain or swelling; although there soon appears a considerable excavation of the tonsil, attended with evident loss of substance. The ulcer is foul, with thick white matter adherent to it, which cannot be washed away. The bones then become affected, those nearest the surface being most liable to attack; such as the tibia, sternum, clavicle, and cranium.

The remedies for syphilis are full courses of mercury, for both primary and secondary symptoms; except where a tendency to phthisis, or a delicate constitution forbids them. He thinks syphilis a rare disease now, compared with what it was formerly.

ARTICLE IX.—*Remarks on some Means employed to destroy*

Tænia, and expel them from the Human Body.—By Louis Frank. M. D. Privy Counsellor of her Majesty, Maria Louisa, Duchess of Parma. [Lond. Med. Rep. April 1825.]

The symptoms produced by the presence of tape worm in the human body, are exceedingly distressing, and the sufferings of the patient are increased, by the obstinacy, with which these animals resist the operation of the most disgusting, and even painful and dangerous remedies. Improvements in the mode of attacking and expelling them, therefore, should be gladly received, and widely made known.

The numerous reports which we have received, concerning oil of turpentine as a remedy for tænia solium, have already given to that remedy the highest character; but many cases have been only partially relieved by it. The ol. tereb. seems to be capable of causing the separation and expulsion of portions of the animal; but while the head remains unexpelled, it is supposed to be capable of reproducing the joints, to a degree not yet ascertained. If we may believe medical writers, the tænia has been observed of the enormous length of 700 feet. It is probable that the reproduction, after the loss of large numbers of joints, is often very rapidly effected; as was the [Pg 115] case in a patient treated at the Carey Street Dispensary, mentioned in their report for Aug. 1813, [18] This person always discharged very considerable quantities of joints or fragments, after the use of oil of turpentine; after which he remained free from the complaint for a few months, until the tænia recovered a troublesome magnitude; when it was again easily reduced to less uncomfortable dimensions.

We are not able to state positively, how long the oil of turpentine has been in use as a remedy for tænia. The Carey Street Report for Feb. 1810, informs us, that a mechanic in Durham, having been very successful in the treatment of tænia by means of this article, the circumstance was communicated by Dr. Southey, of that place, to Dr. Laird of London; and it was accordingly prescribed in doses of ʒss. to [Symbol: ounce]ij. at several of the London charities. It had been found, says the report, that ol. tereb. might be thus given, as safely as so much gin, and frequently caused the expulsion in two hours: Dr. Knox says it has been in use in Germany for fifty years for the expulsion of tænia.

The experience of Dr. Knox, concerning tænia, at the Cape of Good Hope, is the most extraordinary that we are acquainted with. Dr. Sparman, the traveller, had observed, that worms were exceedingly common in the northern parts of the colony; but Dr. Knox, who was there in 1819, did not notice any special prevalence of verminous disorders, "previous to Oct. 1819, when the *tape worm became so general among the troops, as to resemble an epidemic*."[19]

Most of these troops had been employed on a short campaign to the east of the great fish river. They had been compelled to live on very bad beef and mutton, driven and starved half to death; and Dr. Knox thinks he has proved, that the tænia in these cases did "arise from the use of unwholesome animal food; from the flesh of animals, which had been diseased." Two out of five of the troops, who had been thus employed and fed, were affected with worms. Of a detachment of 86 vigorous, healthy young men, 36 were found, on inquiry, to have *tape* worm. Those who [Pg 116] remained in the colony did not suffer so much, as those who had been out on the campaign, the ratio being as one to four; whereas of the others, it was two to five. Dr. Knox had ample experience of the utility of turpentine during this singular prevalence of tænia. Concerning the 36 men above mentioned, he says, "the cure of all, who chose to adopt the means, was easily effected by small doses of the spts. of turpentine, after the failure of purgatives and various other remedies."

He considers ol. tereb. as the *most efficacious remedy*. He does not approve of large doses, because of headach, vertigo, and delirium, which have been produced by them in "many patients."

"I have generally found," says he, "that from one to two drachms of ol. tereb., given in a little water, morning and evening, for three successive days, were sufficient to destroy the tænia solium, (even in the most obstinate cases,) and cause it to leave the intestines, without the aid of any purgative medicine." He advises, however, to give a little castor oil each day about noon.

It has been a very common observation in regard to the dose of turpentine, that the patient suffers more cephalic distress when it is given in small quantity, than in a large dose. The writer of this has been obliged to desist from the exhibition of oil turpentine, in doses of ʒij twice a day, in consequence of a vertigo so considerable, as to alarm and distress his patient very much. Perhaps there might have been in this case some peculiar liability to nervous excitation, which in another patient would not have been worthy of much notice. Dr. Knox's opinion is of great weight.

The celebrated remedy of Chabert, Dr. Knox thinks, owes its efficacy to the ol. terebinth. combined with it.

Dr. Frank, whose name stands at the head of this article, was informed by the celebrated helminthologist, Dr. Bremser, at Vienna, in 1814, that he had for ten years preferred the use of Chabert's remedy, and with invariable success.

Chabert was a veterinary surgeon of Alfort, who used the animal oil of Dippel in many diseases of animals, as well as those of men. This oil he often gave for the purpose of removing tænia in his

animals. He often combined it with spt. terebinth. and gave equal parts of these substances, in doses of ℥i.[20] The London Medical Repository states, that Chabert's remedy is prepared from [Pg 117]

Ol. Corn. Cerv. Fœtid. 1 part.
Ol. Terebinth, 3 parts.

These are well mixed, and left at rest four days; they are then distilled in a sand bath, till three-fourths of the liquor has passed over. It must be kept tightly stopped, out of the light.[21]

The great objection to Chabert's remedy is its disgusting flavour; which is the more obnoxious, because the remedy must be continued for a length of time. Dr. Frank cured two persons affected with tænia solium, after considerable perseverance with it: he cured two other persons with a preparation as follows:

Ol. Terebinth.	ʒss
Æther Sulphuric.	℥ij
Pulv. G. Arab.	ʒss
Aq. Flor. Chamam. distil.	ʒxvj *m.*

Two spoonfuls morning and evening.

Four of these mixtures were sufficient to cure the patients, who remained well two years afterwards.

A fifth patient, unable to take the last named medicines, was cured by the boluses subjoined:

Sem. Santonic. pulv.	ʒss
Pulv. Jalap.	
Ferri Sulphat. aa	℥i
Ol. Corn. Cervi,	gtt. viij.
Syrup.	q.s.

Make 20 boluses.

One to be taken morning and evening. These 20 boluses being repeated three times, the patient found himself perfectly well. In the above 5 cases, the tænia was discharged in fragments.

Dr. Frank does not say much concerning the bark of pomegranate root, which has come into vogue lately as a remedy for tænia. He refers to the Med. Chirurg. Transact. Vol. XII. for accounts by some English physicians, and remarks, that Dr. Gomez, the Portuguese physician, had cured 14 cases with this bark.

Dr. Pollock (vide Ed. Med. and Surg. Journal, Oct. 1819) treated a child, aged 14 months, with [Pg 118] the decoction of bark of pomegranate root, so far back as the year 1811. This infant, under the use of the medicine, discharged at several times upwards of 30 feet of tænia solium, and was cured. We learn also from the Med. Repository,[22] that MM. Deslandes, Sourya, and Bourgeoise, have employed pomegranate with great success; that the decoction generally expelled the worm in two hours; that it sometimes occasioned vomiting and griping pains; and that it has been a common remedy for tape worm, in the East Indies, and among the blacks of St. Domingo.

From the same source we are informed, that the French pharmaceutists recommend, before boiling the bark, that it should be allowed to swell (macerate) in cold water. ʒij of bark should be boiled in lbij of water to ʒxii. Of this decoction, [Symbol: ounce]ij may be taken every half hour. The worm is here said to be passed often in twelve hours instead of two. It may be necessary to continue this plan four or five days, taking care to suspend the medicine, in case any vertigo, or intestinal disease supervenes. A dose of castor oil is recommended after the 4th bottle; even though the worm be happily for the patient expelled.

In the Revue Medicale is a case, in which pomegranate succeeded in discharging three ells of tænia; but the patient broke off the worm in attempting to extract it with too much violence. This circumstance recalls us to the consideration of Dr. Frank's communication. He recommends much caution in the extraction of those portions of tænia, which have remained partly in the intestine; and says that Dr. Cagnola proposed touching the extruded portion with prussic acid, in hopes of killing the whole animal by means of this violent poison. Dr. Garleke adopted this plan on an extruded portion of four inches in length, and in one hour afterwards the *whole animal came away dead*. Dr. F. suggests, that the electric shock might weaken the tænia, so as to cause it to let go its hold, and thus be unresistingly extracted. Brera recommended that the worm should be tied with a piece of silk. In this manner, it is retracted into the bowel, but begins to descend [Pg 119] again not long afterwards. He dissuades from any attempt at forcible extraction, which excites the most distressing sensations in the bowels, and causes the risk of bringing on convulsions.

We are informed by Dr. Frank, that a surgeon of St. Petersburg succeeded by passing the worm through a canula, and the canula through the sphincter ani muscle, so as to obviate the resistance caused by its contraction. In this manner, he easily succeeded in withdrawing the tænia *whole*, which is always desirable.

The writer of this article succeeded in removing many pieces of tænia from a female, by means of the tincture of black hellebore, given in doses of a teaspoonful for another object. The patient has

since been affected with the same symptoms, and took to-day, Oct. 19th, in doses of ʒiss, repeated every hour, sixteen ounces of a decoction of the rind of pomegranate fruit, (none of the cort. rad. being procurable); after which she took a dose of castor oil. It is said, we know not on what authority, in a French journal, that this preparation possesses the same powers as the root. It may be so; but this patient had no discharge of the tape worm, after swallowing the whole of this very astringent decoction, and following up the plan by taking [Symbol: ounce]iij of ol. ricini.

Perhaps the tænia had been effectually destroyed before. She has seen none of the joints for 18 months. The accounts, however, of the expulsion of tænia by the bark of the root, are so encouraging, that we have much pleasure in recommending it to the notice of the medical public in this country.

FOOTNOTES:

[18] Ed. Med. and Surg. Jour.

[19] Ed. Med. and Surg. Jour. July, 1821.

[20] Dict. des Sciences Medicales.

[21] There can be no particular benefit derived from the distillation. The simple mixture of the materials, above indicated, is all that is necessary. CHABERT'S remedy is therefore easily prepared.

[22] Lond. Med. Repos. April, 1825.

ARTICLE X.—*Researches Physiological and Pathological, instituted principally with a View to the Improvement of Medical and Surgical Practice.* By JAMES BLUNDELL, M. D., Lecturer on Physiology and Midwifery at the United Hospitals of St. Thomas and Guy. London, 1824, pp. 146, 8vo.

Dr. BLUNDELL is the author of some celebrated experiments on the physiology of generation, and the transfusion of blood. The work at present under consideration consists of physiological observations and experiments, the substance of a paper read before the Medico-Chirurgical Society of London, in the year 1823, and not heretofore published; of experiments on a few controverted points, respecting the physiology of generation; and lastly, of some remarks on the operation of transfusion. [Pg 120]

The first part seems intended to ascertain what degree of lesion, or losses by extirpation, the body may sustain without inducing death; and thus, to open a way for improvements in surgery, by rendering the surgeon not only more bold and fearless, but more frequently successful in his attempts to preserve life, or counteract the inconvenient effects of disease and accidents. We shall make a short analysis of the first paper.

In four experiments, Dr. B. removed the left kidney of the rabbit, by incision on the outer edge. Ligatures were applied to prevent bleeding.

Two died; one in 60 hours, the other in 4-1/2 days: both of inflammation. One recovered, and lived 5 or 6 weeks, and then died. The 4th also recovered, but died in 5 or 6 weeks. On examination, a sac was found (in place of the kidney) filled with a semi-fluid substance, resembling custard, p. 4.

In seven rabbits, removed the spleen. One recovered permanently, and one lived six months. p. 5.

In five rabbits, opened the abdomen, and punctured the fundus of the bladder with a lancet. Three of them recovered entirely. p. 6.

In two rabbits, cut off one-fourth of the bladder with scissors, having applied a ligature first. One died in seven months; the other still lives in good health.

Into the peritoneum of four rabbits, threw ʒi of human urine; then washed it out by injecting tepid water. One died of collapse in less than 24 hours, and two of inflammation, in 60 and 19 hours respectively. The fourth is now (12 months) in good health. p. 7.

In seven, injected ʒxi decoct. quercûs into the peritoneum. Only one recovered.

Dr. B.'s inferences from the foregoing experiments are:

1st. "Large apertures into the peritoneum of the rabbit, do not immediately induce a dangerous prostration, of strength." p. 9.

2ndly. "Large apertures into the peritoneal sac of the rabbit, are not necessary,

nor perhaps generally, productive of fatal inflammation."

3dly. "In the rabbit, the kidney, the spleen, and a large piece of the bladder may be extirpated, without necessarily causing death; though death under the first operation is probable." p. 10. [Pg 121]

4thly. "When the abdomen is laid open, and parts are removed from it in the rabbit, the first danger arises apparently from collapse; the second from general inflammation; and the last from chronic disease." (Vide experiments.)

5thly. "The rabbit's abdomen is very tender, probably no less so than that of man." See exper.

6thly. "Success in abdominal operations on the rabbit, furnishes a presumption in favour of success in similar operations on the human abdomen; and, therefore, from these experiments, we may infer, *presumptively*, that moderate openings into the human peritoneum will not necessarily, nor even generally prove fatal from inflammation or otherwise; and further, that certain viscera or parts of viscera, not essential to the welfare of our structure, may be removed from the belly, without necessarily, or even generally, producing death. The extirpation of the kidney must be highly dangerous; but there is a presumption in favour of the successful removal of the spleen, the ovaries, or even of large pieces of the bladder." p. 11, 12.

Dr. B. having stated the foregoing results and inferences, proceeds by relating instances of severe injury sustained by the *human* body, without being followed by death. These are confirmatory of his inferences from the experiments on rabbits. The instances given are—an os uteri torn off; extensive laceration of the uterus and rectum in labour; four uteri extirpated on account of chronic inversion, (p. 13.) One of these last under his own care. It was removed by a wire, and came off in 11 days, without one bad symptom, (p. 14.) Rupture and laceration of the abdominal coverings, four fingers' breadth, the bowels hanging out, (p. 14.) Two spleens removed; one in a soldier after the battle of Dettingen, who recovered without inconvenience afterwards; the other in a Mexican, whose case is related by Dr. O'Brien, in his Inaugural Essay, Edinb. 1818, (p. 15.) Three cases of rupture of the dropsical ovary. Two cases of opening into the abdomen, for the extirpation of dropsical ovaries, (p. 18.) Five cases of laceration of the uterus by natural efforts. Four of the women died, but in the fifth, Dr. Blundell turned and delivered, after the child had escaped into the peritoneal sac, and the woman recovered, (p. 20.) Cesarian operation, three times by friend of Dr. Haighton; once successfully, (p. 22.) [Pg 122]

Dr. B. says, "From these (facts) few as they are, I feel conscious that no certain inference can yet be drawn; though *presumptive* inferences certainly may, and they seem to me to be the following:

"1st. Small wounds, as tapping, hernia, &c. do not induce fatal peritonitis; and therefore the vulgar opinion that inflammation in a spot of the peritoneum will almost invariably diffuse itself over the greater part of it, is probably unfounded.

"2nd. Extensive divisions of the peritoneum are not necessarily fatal by inflammation or otherwise, and *probably* not generally so.

"3d. That the womb, spleen, and ovaries, may be removed in the mode mentioned, without necessarily, and, *presumptively*, without generally destroying life.

"4th. That the gravid uterus may be torn open; the child may escape into the peritoneal sac; the os uteri may be torn off: not indeed, so far as these cases may be relied on, without great danger, but twice, in seven instances, without death. p. 28.

"5th. The peritoneum and abdominal viscera will bear more injury than the British surgeons seem disposed to admit.

"6th. That the above observations on the human abdomen, are in unison with those drawn from observations on the rabbit; and that observations made on the brute have more correspondence with those on the human being, than is generally believed."

Dr. Blundell next remarks, that the facts related create a suspicion that a bolder abdominal surgery would not be unattended with success, and recommends the following operations to "*consideration* merely, and not to practice, except in otherwise desperate cases."

1st. "When the Cesarian section is performed, divide or remove a small piece of Fallopian tube, so as to prevent the danger of reimpregnation, without destroying the sexual propensity. The need for a second operation might thus be certainly prevented, without scarcely increasing the danger."

2ndly. "Extirpation of healthy ovaries."

3dly. "The extirpation of the ovarian cyst in scirrhus, combined with dropsy, or in simple dropsy." He remarks, "This operation will, I am persuaded, ultimately come into general use; and if the British surgeons will not patronize and perform it, the French and American surgeons will." p. 26.

4thly. "The removal of a large circular piece of the cyst in ovarian dropsy, when the sac itself cannot be extirpated."

5thly. "The removal of the cancerous womb, when the ulceration first makes its appearance. Might not the womb be taken out above the symphysis pubis, or through the outlet of the pelvis?" &c. 27. [Pg 123]

6thly. "Extirpation of the puerperal uterus." He suggests the removal of the whole womb after the Cesarian section, in order that the smaller might take place of the larger and more formidable wound through the uterus—but says expressly, "No operation perhaps can be more unpromising, shall I say more unjustifiable, in the *present state of our knowledge*; but I thought it proper to mention it." &c. p. 28.

7thly. "Should the bladder give way into the peritoneum," he asks, "Why should we not lay open the abdomen, tie up the bladder, discharge the urine, and wash out the peritoneum thoroughly, by the injection of warm water?" p. 28.

8thly. - - - - -

9thly. Injection of astringents into the ovarian cyst or peritoneal sac, unjustifiable.

10thly. "In cases of strongly characterized introsusception," why not make an opening into the peritoneum; and "pass the small intestines, fold by fold, through the fingers." Dr. B. has repeatedly done this in the dog and rabbit, without producing death, or extensive and dangerous inflammation.

11thly. In the rabbit, he has tied an abdominal artery, and carried the end of the ligature with a broad needle out through the back, opposite to the place of the vessel. This ligature can come away, and is a better mode than to leave it hanging out at the abdomen, or entirely among the bowels, where it forms a sac of puriform matter, and to appearance lays the foundation of chronic disease. p. 30.

Dr. Blundell closes this paper by saying, that since the substance of it was read before the Medico-Chirurgical Society in 1823, Dr. Ritzius, a Swedish physician, had informed him in London, "that the complete removal of the cancerous womb had been, to his personal knowledge, performed on the Continent five times. All the patients recovered from the operation," &c. "The womb was removed through the outlet of the pelvis." p. 36.

Since we read Dr. Blundell's recommendations to the new operations, we have been astonished to notice in the Ed. Med. and Surg. Journal, July, 1825, that a German surgeon had actually treated a case of ileus in the manner recommended by Dr. B. It is from Hufeland's Journal of Feb. 1825. After it was ascertained that an immoveable introsusception existed—

"The patient was placed on a convenient table. We examined accurately the situation of the hardening, (*which marked the diseased part*), and determined on opening the abdomen at the outer edge of the right rectus muscle, about two inches above the navel. After dividing the integuments with a common scalpel, and making a small opening in the peritoneum, I introduced my finger, and with a blunt pointed scalpel divided the peritoneum, so as to make it correspond with the external opening, which was between two and three inches. I then besmeared my hand with oil, and carried it into the abdomen, in order to feel for the indurated part. Scarcely had I introduced my hand, than an attack of the pain came on, and a portion of the intestines was protruded through the wound, which was immediately replaced by my assistant. On continuing the examination, I discovered in a transverse portion of the ileum, a foreign substance, just where the hardened intestine was to be felt. I drew the intestine out, in order to examine it more minutely. The intestine was neither inflamed nor expanded, but it contained in its cavity a soft coherent and compact mass, which at its upper part was somewhat compressed, and thus felt harder than the rest. So far as I could follow this part of the intestine, this contained matter was to be felt: I also here immediately detected an intus-susception, but in spite of all my efforts I could not reach the commencement of it, so as to bring it out. Two modes of proceeding were open to me, in order to remove the intus-susception; either to make a transverse incision in the integuments, from the right to the left side, or to open the intestine itself. The last mode seemed to me the most adviseable, both because the patient was already very much exhausted, and because the operation would be sooner completed. The intestine was opened at the end of the discovered intus-susceptio, and immediately a part of the strictured intestine came into view. I introduced my finger into the opening in the intestine, which was made about two inches in length, and gradually pushed the intus-suscepted part back from the right to the left side, whilst I gently drew that part of the intestine which contained the intus-susceptio towards me. By this means I fortunately succeeded in unfolding the tangled intestine, which amounted to two feet in length. There was not the slightest trace of inflammation, nor any thing unnatural to be discovered in the part; there was merely a round worm, which was situated in the upper part of the intus-susceptio. The intestine was brought together by means of six spiral stitches, after the manner of the glover's suture, and the end of the silk was allowed to hang out of the external wound in the abdomen." [Pg 124]

The sutures were removed on the 8th day. On the 14th day, the man was cured, and continues well up to the date of the account.

ARTICLE XI.—*An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs.* By WILLIAM PROUT, M. D., F. R. S. *From the second London Edition, published in 1825; with Notes and Additions*, by S. COLHOUN, M.D. Philadelphia, Towar & Hogan, 1826; pp. 308.

[Pg 125]

A very acceptable service has been done to the medical profession in this country, by the present republication of Dr. PROUT'S work on affections of the urinary organs. The American physician will now have it in his power, at a reasonable cost, to possess one of the best treatises on this interesting subject. From the known accuracy of Dr. PROUT as a chemist, and his reputation as an accurate observer of nature, much new light was naturally expected as the result of his observations. Nor indeed have these high expectations been disappointed. After a careful perusal of his work, we have formed the highest opinion of his powers, both as an original thinker, and experimental inquirer.

Dr. PROUT begins his treatise with some introductory remarks on the composition of the urine, and on urinary derangements generally. After giving a comparative tabular view of the composition of the blood, and healthy and diseased urine, he proceeds to notice in succession, their principal constituents. As albuminous urine is of frequent occurrence in dropsical complaints, and its presence regulates in some degree the practice proper to be pursued, the following characters, given to it by Dr. PROUT, should be well understood.

> "Albuminous urine, on being exposed to a temperature of about 150° becomes opaque, and deposites this principle in a coagulated state. The precipitate varies considerably in its appearance in different instances. Sometimes it is of a firmer character, and similar to that formed by the serum of the blood, from which, in this case, it may be supposed to be derived; at other times it is very delicate and fragile in its texture, and somewhat resembles curd, when it may be supposed to be of chylous origin. In some instances, the effects of heat upon albuminous urine are increased by the addition of nitric acid. But the most delicate test of albuminous matter in general is dilute acetic acid, and the prussiate of potash." p. 6.

Dr. PROUT combats very successfully the opinion, generally entertained by chemists, that the power of healthy urine to redden litmus depends on the presence of free lithic acid.[23] That this power cannot depend upon lithic acid uncombined, is made evident to Dr. P. by its sparing solubility; it requiring, according to our author, 10,000 times its weight of water to dissolve it, or six times as much as is stated by Dr. HENRY. The reddening power of the urine is attributed by Dr. PROUT to the presence of lithate of ammonia, and superphosphate of ammonia: the former of which, contrary to what might be expected, is found capable of reddening litmus, and of remaining in solution with the latter, without decomposition.

[Pg 126]

The following interesting remarks are made by Dr. PROUT on the effects of muriatic acid, in precipitating lithic acid gravel:

> "The muriatic acid, in combination with soda and potash, occurs both in the blood and in the urine; thus appearing to pass through the kidneys unchanged. This acid and its compounds formerly appeared to be of less importance in a pathological point of view than any other similar principles existing in the urine: but since the unexpected fact has been ascertained, that muriatic acid in a free state exists abundantly in the stomachs of animals during the process of digestion, I have attended a little more closely to the appearance of this principle in the urine, and am disposed to believe, in consequence, that it is the cause of the precipitation of lithic acid gravel from the urine more frequently than any other acid. I do not mean to say, that it is the *immediate* cause of the precipitation of this acid; for in most instances, it acts like all powerful acids do under similar circumstances, namely, by liberating the weaker acids, which are thus enabled to act in their turn, and separate those having still weaker affinities than themselves. Thus, in the present instance, the muriatic acid may be supposed to separate the lactic, while the latter precipitates the lithic, &c. If this opinion be well founded, as I believe is the case, the muriatic acid may be considered of very great importance, not only in a pathological, but a physiological point of view; for if the muriatic acid, found in the urine in such instances, be supposed to have its origin in the digestive organs, we see at once the reason why the deposition of gravel is so liable to be influenced by the derangements in general, and more especially by the acidity, of the stomach."
>
> "The muriatic acid may be shown to exist in the urine by the white curdy

precipitate insoluble in nitric acid, which is formed, when the nitrate of silver is added to it, after the sulphuric and phosphoric acids have been removed by the nitrate of barytes or lead." pp. 20 and 21.

After finishing these introductory subjects, Dr. PROUT proceeds to the consideration of the diseases of the urinary organs themselves; which he divides into functional, mechanical, and organic. Under functional diseases, we have *first*, those, in which principles *soluble* in the urine are morbidly deranged in quantity or quality, embracing three chapters; and *secondly*, those affections, in which principles *insoluble* in the urine are morbidly deranged in quantity or quality, comprising six additional chapters. Under the first subdivision, the first chapter is on the affections, characterized by albuminous urine; the second, on diseases, in which an excess of urea is the characteristic symptom; and the third, on diabetes. [Pg 127]

The diseased derangement, consisting in an excess of urea in the urine, has not been particularly noticed by any writer before Dr. PROUT, who believes that it has probably been confounded with that form of diabetes, called diabetes *insipidus*. The state of the urine and symptoms in this species of urinary derangement are thus described by our author:

"The average specific gravity of the urine seems to be a little above 1.020, and occasionally to vary from 1.015 to 1.030. Most generally it is pale, but occasionally it is high coloured, and exhibits somewhat the appearance of porter, more or less diluted with water; and this variety in appearance not unfrequently takes place in the urine of the same person. When first voided, it reddens litmus paper. For the most part, it is entirely free from sediment, except the mucous cloud of healthy urine; and the only remarkable property which it appears to possess, is that of containing abundance of urea; so that on the addition of nitric acid, crystallization speedily takes place. From the quantity of urea present, it is very prone to decomposition, and soon becomes alkaline, especially in warm weather.

"There is almost constantly in these diseases, a frequent and urgent desire of passing water both by night and day. This desire is for the most part evidently excited by actual *diuresis*, or the increased quantity of urine; but frequently it cannot be ascribed to this cause, as the quantity voided at one time is often by no means considerable; though in almost every instance that has fallen under my observation, the total quantity voided during any given time has appeared to be greater than natural. The quantity appears also to be particularly liable to be increased by cold weather, and by all causes producing mental agitation. There is sometimes a sense of weight or dull pain in the back, but this is by no means a constant symptom. There is also occasional irritation about the neck of the bladder, which sometimes extends along the urethra. The functions of the skin appear to be natural; at least in every case which has come under my own observation, perspiration has been rather easily induced. The pulse is not affected. [Pg 128] There is no remarkable thirst, nor craving for food, except in extreme cases; nor are the functions of the stomach and bowels much deranged. Hence for the most part the tongue is clean, and the dejections regular and apparently natural.

"In most of the cases of this disease, which have hitherto fallen under my own immediate observation, the subjects have been middle-aged men, of thin and spare habit, with a sort of hollow-eyed anxiety of expression in their countenance, free from gout and constitutional disease in general, and, as far as could be ascertained, from any organic defect in the urinary organs. In every instance they had been induced to apply for medical advice, not so much from the pain, as from the inconvenience of the disease, and the dread of its ending in something worse; and, what may be worth remarking, in several instances confessed, that they had been addicted to masturbation from very early youth," p. 41, et seq.

The remedy for this morbid derangement in the urinary secretion, most successful in the hands of Dr. PROUT, was opium, either administered alone, or in conjunction with alkaline medicines. It is rather a rare affection. When not arrested, it is liable, according to Dr. PROUT, to pass into diabetes.

In his chapter on diabetes, our author makes many interesting remarks; but the space we are enabled to devote to this analysis, will permit us only to make an extract, which seems to prove a close connexion between the disease characterized by an excess of urea, and diabetes.

"It has been mentioned in the preceding pages, that an excess of urea frequently precedes the appearance of saccharine matter in the urine. Now it is a remarkable fact, that in diabetes, in proportion as the saccharine matter diminishes, that of urea generally increases; and in such instances, the presence of the former principle can not only be no longer distinguished by the sensible properties of the urine, but scarcely be demonstrated by the utmost skill of the most experienced chemist, though the specific gravity of the urine may at the same time be nearly 1.040. I have recently been favoured by Dr. ELLIOTSON with the most complete and remarkable change of this description that has yet occurred to me. The patient, besides being diabetic, was in the last stage of phthisis, of which he died shortly afterwards. The quantity of urine passed daily, when I first examined it, was six or eight pints; its specific gravity was 1.038, and it contained a large proportion of very white sugar and very little urea. Dr. ELLIOTSON under these circumstances gave

opium, beginning with gr. i, and increasing the dose to gr. iii, thrice a day. The opium produced stupor, and was obliged to be discontinued; but the effects produced upon the urine by its means were most remarkable. *In about 60 hours, the quantity of urine diminished to two pints, its specific gravity was reduced to 1.0174, the saccharine matter had apparently disappeared, and was superseded by urea, the quantity of which had become excessive.* This alternation of a principle containing nearly half its weight of azote, with another containing no azote at all, is perhaps, one of the most singular facts occurring in physiology." p. 74. [Pg 129]

The second subdivision of functional urinary diseases comprises six chapters: *first*, on urinary gravel and calculi; *second*, on the data, showing the comparative prevalency of different forms of urinary deposite, and the order of their succession; *third*, on the lithic acid diathesis in general; *fourth*, on the mulberry or oxalate of lime diathesis; *fifth*, on the cystic oxide diathesis, and *sixth*, on the phosphatic, or earthy diathesis.

Under the first chapter, we have an account of I. Pulverulent or amorphous sediments; II. Crystallized sediments, or gravel; and III. Solid concretions, or urinary calculi. Of the latter, our author enumerates thirteen species.

1. The lithic acid calculus.

2. The lithate of ammonia calculus.

3. The oxalate of lime, or mulberry calculus.

4. The cystic oxide calculus.

5. The bone earth, or phosphate of lime calculus.

6. The triple phosphate of magnesia-and-ammonia calculus.

7. The calculus, composed of a mixture of the phosphate of lime, and triple phosphate of magnesia-and-ammonia, or fusible calculus.

8. The alternating calculus.

9. The mixed calculus.

10. The carbonate of lime calculus.

11. The xanthic oxide calculus.

12. The fibrinous calculus.

13. The prostate calculus.

Of these, the 2nd, 4th, 5th, 9th, 10th, 11th, 12th, and 13th species are more or less rare, and consequently of less interest. The remaining 5 are of much more frequent occurrence, and are thus described by our author:

"*The lithic acid calculus* is generally of a brownish-red, or fawn colour; but occasionally of a colour approaching to that of mahogany. Its surface is commonly smooth, but sometimes finely tuberculated; and upon being cu t through, it is usually found to consist of concentric laminæ. Its fracture generally exhibits an imperfectly crystallized texture, sometimes an amorphous or earthy one, in which case, it usually contains a mixture of other substances. This is one of the most common species of calculi.—*Chemical characters.* Before the blow-pipe, this calculus blackens, emits a smoke having a peculiar odour, and is gradually consumed, leaving a minute quantity of white ash, which is generally alkaline. It is completely soluble in caustic potash, and precipitable again by any acid in the form of a white granular powder. Lastly, if to a small particle, a drop of nitric acid be added, and heat applied, the lithic acid is dissolved; and if the solution be evaporated to dryness, the residue assumes a beautiful pink or carmine colour." [Pg 130]

"*The oxalate of lime, or mulberry calculus*, is generally of a very dark brown colour, approaching to black. Its surface is very rough and tuberculated (hence the epithet of *mulberry*.) It is usually hard, and when cut through exhibits an imperfectly laminated texture. This species of calculus seldom surpasses the medium size, and is rather common. There is a variety of it remarkably smooth, and pale coloured. These are always of small size; and from their colour and general appearance, have been termed the *hempseed* calculus.—*Chemical characters.* Before the blow-pipe, this species of calculus expands into a kind of white efflorescence, which, when moistened and brought into contact with turmeric paper, stains it red. This white alkaline substance is the caustic lime deprived of its oxalic acid."

"*The triple phosphate of magnesia-and-ammonia calculus* is always nearly white; its surface is commonly uneven, and covered with minute shining crystals. Its texture is not laminated, and it is easily broken and reduced to powder. In some rare instances, however, it is hard and compact, and when broken exhibits a crystallized texture, and is more or less transparent. Calculi composed entirely of the triple phosphate of magnesia-and-ammonia are rare; but specimens, in which

this salt constitutes the predominant ingredient, are by no means uncommon.—*Chemical characters.* Before the heat of the blow-pipe, this calculus gives off the odour of ammonia, and at length melts with difficulty. It also gives off ammonia, when treated with caustic potash. It is much more soluble than the preceding species in dilute acids, from which it is again readily precipitated by ammonia in its original crystallized form.

"*The calculus composed of a mixture of the phosphate of lime and triple phosphate of magnesia-and-ammonia, or the fusible calculus*, is commonly whiter and more friable than any other species, resembling sometimes a mass of chalk, and leaving a white dust on the fingers. This species is generally not laminated. Occasionally, however, it separates readily into laminæ, the interstices of which are often studded with sparkling crystals of the triple phosphate. The variety of this species which is not laminated often acquires a very large size, and assumes the form of a spongy friable whitish mass, evidently moulded to the contracted cavity of the bladder in which it has been formed. This species of calculus occurs very frequently.—*Chemical characters.* It may be readily distinguished by the ease with which it melts before the blow-pipe. It also dissolves readily in acids, and particularly in dilute muriatic acid; and if to the solution, oxalate of ammonia be added, the lime is precipitated alone, and the magnesium may be afterwards separated by the addition of pure ammonia. [Pg 131]

"*The alternating calculus*, as the name imports, may consist of different layers of any of the preceding species. Hence its general appearance, texture, &c. will depend entirely on the composition, and may be very varied. Most commonly it is composed of a lithic acid or mulberry nucleus, and an external crust of the fusible calculus. In some rare instances, it is composed of laminæ of all three of these substances, and sometimes of even more—the mixed phosphates still continuing to constitute the external crust. This species of calculus often acquires a very large size and is very common.—*Chemical characters.* The chemical characters must of course vary with the composition; and as the different substances of which it is composed must almost certainly be some of the preceding, the nature of the different laminæ can be readily ascertained by what has been already stated," p. 79, et seq.

In the chapter on the comparative prevalency of different forms of urinary deposite; and the order of their succession, we have a number of important facts and observations. Dr. Prout calculates, from the data collected by him, that about one-third of the urinary calculi which occur, are of the lithic acid species, and that another third are formed on a nucleus of this acid. Hence, "we may assert," says he, "that at least *two-thirds* of the whole number of calculi originate from lithic acid; that is to say, if a lithic acid nucleus had not been formed and detained in the bladder, two persons at least out of three, who suffer from calculus, would have never been troubled with that affection. This is a most important fact, and deserves to be constantly borne in mind."

The relative prevalency of the oxalate of lime calculus is very various. The average proportion, as determined by Dr. Prout is about one in seven. Of the calculi, examined by Mr. Brande, 1 in 25 was of the mulberry species; while in the Norwich and Guy's Hospital collections, the proportion is about 1 in 4. In the Bristol collection, one-sixth of the whole, was composed of oxalate of lime, nearly pure; while, including all the concretions containing more or less of the oxalate, the proportion was nearly *one-half*! This great disparity in the proportional frequency of this calculus in different districts of England, clearly shows the great influence of local causes, in determining the character of urinary concretions. [Pg 132]

From a careful observation of the order of deposition of different species of calculous matter, Dr. Prout has been enabled to deduce the following general law; "*that, in urinary calculi, a decided deposition of the mixed phosphates is not followed by other depositions*." So that it would appear, that a redundancy in the earthy phosphates is the last link in the chain of diseased alterations, to which the urinary secretion is liable.

In the third chapter, under the second subdivision of functional urinary diseases, Dr. Prout describes the lithic acid diathesis, and communicates several important original observations. After remarking that the dyspeptic are particularly predisposed to lithic acid deposites, he enumerates, as exciting causes of this species of gravel, 1st. *Errors in diet*; 2nd. *Unusual or unnatural exercise of the body or mind, particularly after eating, and the want of proper exercise at all other times*; and 3d. *Debilitating causes*. Under errors of diet, an unusually heavy meal, especially of animal food, and the use of heavy, unfermented bread, or compact, hard-boiled, fat dumplings or puddings, salted and dried meats, acescent fruits, malt liquors, and acescent wines, are enumerated as particularly hurtful in the lithic acid diathesis.

The above remarks refer to the amorphous lithic deposites, consisting of lithate of ammonia. In regard to crystallized sediments, or, more properly speaking, gravel, our author makes the following remarks:

"Crystallized sediments, or red gravel, consist of lithic acid, nearly pure. Lithic acid, as has been before stated, exists in a state of combination in healthy urine; and in such a proportion, as to be held in a state of solution at all ordinary temperatures. Sometimes, however, a free acid is generated by the kidneys, which

precipitates the lithic acid in the pure crystallized state we see it—a phenomenon easily imitated artificially, as is well known, by the addition of a few drops of any acid to healthy urine. The precipitation of crystallized lithic acid does not, therefore, necessarily indicate an excess of lithic acid in the urine, but the presence only of some free acid in that fluid; though such an excess does, for the most part, exist in this form of disease, as will be shown hereafter. With respect to the nature of the precipitating acid, it is probably not always the same. Most generally it appears to be the *muriatic*, sometimes the *phosphoric* or *sulphuric*, and occasionally other acids. In general, however, it is to be understood, as [Pg 133] noticed elsewhere, that when the mineral acids are present in excess, these are the *immediate* cause of the preternatural acidity in the urine, and consequently of the precipitation of the lithic acid. The stronger acids act by decomposing saline compounds, into which destructible acids, such as the lactic acid, &c. enter, and setting them free. Hence the *immediate* cause of the deposition of lithic acid gravel is generally a destructible acid of very weak powers: even, perhaps, in some instances, the carbonic acid. When the urine contains a free acid, it is commonly more transparent than usual, and of a bright copper colour." p. 112.

The treatment recommended by Dr. PROUT in this species of gravel is as follows: First, a strict attention to diet, avoiding the hurtful articles already enumerated. Secondly, the use of *alkaline* remedies; but those must not be depended upon, without the aid of other means, more especially of alteratives and purgatives. Accordingly we are informed that

"The pil. submur. hydrarg. comp., or a pill composed of the pil. hydrarg. and pulv. antimonialis, may be taken twice or thrice a week at bed time, and followed up the next morning by an active dose of the sub-sulphate of magnesia, or a mixture of Rochelle salts and magnesia, or carbonate of soda. A little of either of these compounds may be also taken twice or thrice in the day, so as to keep the urine constantly neutral or alkaline, and the bowels freely open; or gr. x to xx of magnesia may be taken for the same purpose in a glass of soda water, as often as it may be found necessary."

In the chapter on the mulberry, or oxalate of lime diathesis, Dr. PROUT gives a number of cases, from which he draws the following conclusions:

"1st. That this form of disease occurs in both sexes; that it may exist before puberty, and at all ages between that and 40 or 50, at which time it seems to occur most frequently; but that no case occurs beyond the age of sixty. Hence that it is probably not a disease of old age.

"2nd. That it is not incompatible with gout, but seems occasionally to be associated with it. I have also seen it connected, as lithic acid frequently is, with a tendency to cutaneous disease.

"3d. That this variety of calculous affection occurs in individuals of sound constitutions, and who ordinarily enjoy good health; and that it rarely occurs a second time, except at long intervals, during which the intermediate health is good; which latter facts, it may be proper to observe, are confirmed by other observers, and particularly by Mr. BRANDE and Dr. MARCET.

"4th. That the urine is acid, and apparently but slightly deranged in this form of calculus, and remarkably free from all sorts of sediment and gravel. [Pg 134]

"5th. That as renal calculi of the oxalate of lime often subsequently acquire considerable magnitude in the bladder, it may be inferred, that the formation of this compound is connected with a distinct diathesis, excluding the existence of other diatheses, and that is not an accidental occurrence, happening in common with many others to the urine.

"6th. That from the dissection of calculi, formerly mentioned, it appears that the oxalate of lime diathesis is preceded and followed by the lithic acid diathesis; a circumstance which seems to be peculiar to these two forms of deposite, and which, when taken in conjunction with the other circumstances, already related, appears to show, that they are of the same general nature; or in other words, that the oxalic acid merely takes place as it were of the lithic acid, and by combining with the lime naturally existing in the urine, forms the concretion in question.

"7th. That the diathesis being of a similar nature, the principles of treatment adapted for counteracting the original tendency to it must be also similar, that is to say, of an antiphlogistic character; great attention being at the same time paid to the digestive and assimilative functions." p. 137, et seq.

The diagnostic signs of the oxalate of lime diathesis are very obscure, as will appear from the following extract:

"With respect to the means of determining when this diathesis is going on in the system, I am sorry that I can give but little positive information. The absence of urinary sediment, &c. are of a negative character, and lead to no inference, where other circumstances are wanting, as is most generally the case. But if there be

pain in the region of the kidney, and other symptoms of gravel, without any appearance of sediment; and if the urine be acid, and of the yellow tint above alluded to, the stomach deranged, and an inflammatory diathesis, either general or local (i.e. about the urinary organs), be present; and if all these are associated with suppressed gout, or tendency to cutaneous disease,—the existence of this form of the disease may be suspected, and means immediately taken to counteract it." p. 138.

We omit any analysis of the next chapter on the cystic oxide diathesis, on account of the rare occurrence of this state of the system.

The next chapter of our author is on the phosphatic, or earthy diathesis.

The phosphatic deposites are of two kinds; the *crystallized*, consisting almost invariably of the triple phosphate of magnesia-and-ammonia, and exhibiting the appearance of white, shining crystals; and the *amorphous*, consisting always of a mixture of the phosphate of lime, and the [Pg 135] triple phosphate of magnesia-and-ammonia.

The causes apt to produce a deposition of the triple phosphate of magnesia-and-ammonia, are thus enumerated by Dr. Prout:

"Any thing acting generally, and producing *a nervous state of the system*, such as the distressing passions, and particularly *mental anxiety* or *fear*, will frequently produce in many people an excess of this salt in the urine. The same is also true of many articles of food or medicine that produce a hurried secretion of the urine, and act as diuretics; as the neutral salts in some cases, and particularly the Rochelle salts and other saline compounds, in which the acid is of vegetable origin. So also, a long continued use of alkaline remedies, or of mercury, in irritable habits more especially, will likewise produce a tendency to an excess of this salt, as well as of the phosphates in general, and even lead to an actual deposition of them from the urine. The same sediment also frequently abounds, or is easily induced, in the urine of those who have long been in bad health, and in whom the constitution may be considered as giving way, or, to use a common expression, breaking up. In general, it is to be understood, that the slighter causes affect only the predisposed, and those in particular who are subject to other diseases of the urinary organs or urine. It may be also remarked, that children are more subject to this form of deposition than adults; a circumstance, perhaps, to be referred to the irritability of the system at this age, and the great derangement of the digestive organs, to which they are subject." p. 151.

The above mentioned causes are stated to be equally productive of amorphous phosphatic sediments.

Our author next enumerates the very distressing symptoms, by which the deposition of the earthy phosphates is attended. They consist in great irritability; derangement of the chylopoietic viscera, evinced by flatulency, nausea, obstinate costiveness, or peculiarly debilitating diarrhœa; extremely unnatural stools, nearly black, or clay-coloured, and sometimes resembling yest; pain, uneasiness, or weakness in the back or loins; sallow, haggard expression of countenance; and finally, if the disease be not arrested, great languor and depression of spirits, coldness of the legs, and complete anaphrodisia, as occur in diabetes.

A curious and important fact has been stated in regard to the remote causes, producing the phosphatic state of the urine. It has been observed by Dr. Prout, that a large proportion of cases [Pg 136] of this complaint may be traced *to some injury of the back* from mechanical violence, such as a fall from a horse, &c.

The remedies for this diseased state of the urine, found most successful by Dr. Prout, are,—opium, in from one to five grain doses, repeated two or three times a day, until the unnatural irritability of the system is relieved,—the same remedy in more moderate doses, in conjunction with the mineral acids, cinchona, uva ursi, and the different preparations of iron,—a large pitch, soap, or galbanum plaster to the loins,—and setons or issues in the back, when the disease manifestly arises from local injury. With respect to the bowels, Dr. Prout remarks, that they are very difficult to regulate. He has occasionally seen serious consequences to arise from the exhibition of a small dose of calomel, such as diarrhœa and debility, much aggravating the disease, and endangering the life of the patient. For the regulation of the bowels, small doses of castor oil, and laxative injections are most to be relied on; while saline purgatives, more especially Rochelle salt and Seidlitz powders, as containing vegetable and therefore destructible acid, must be avoided.[24] Mercury, in all its forms, is also inadmissible.

"Alkaline remedies of every description, must be most carefully avoided, their use in every point of view being most mischievous when the phosphates are concerned. Indeed all remedies that act as diuretics should, in general, be shunned, and the patient should be prohibited from drinking too much. With respect to drinks, in general, they should be of a soothing, demulcent character, and prepared with distilled or the softest water that can be procured; as hard waters are literally poison in this form of disease."

The second division of the work under review treats of the mechanical and organic diseases of

the urinary organs. This portion of the subject is handled with the same ability as the first. We regret, however, that our space will not permit a further development of the author's views. We trust, nevertheless, that we have imparted to our readers adequate notions of the scope of the work, to render them sensible of its value as a manual of urinary diseases. It is illustrated by a good coloured plate, representing the principal varieties of urinary calculi.

The additions of Dr. COLHOUN consist of foot notes, and paragraphs inserted in the text of the original work. We would not, however, wish to be considered as approving of the course, for the most part pursued by Dr. C., of inserting his amplifications in the text of the author, merely distinguished by brackets. Besides the absence of sufficient distinction between the matter of the author and commentator, the text of the former is thus injuriously disjointed, and dependent sentences sometimes widely separated. [Pg 137]

In regard to the execution of the present edition, we regret to say that it is wanting in typographical accuracy.

FOOTNOTES:

[23] The reader will bear in mind, that this acid is the same as the uric, the name by which it is generally known.

[24] The reason of this exclusion of salts, containing a vegetable acid is, that they become real alkalies in the course of assimilation by the destruction of their acid, and therefore add alkaline properties to the urine, already too alkaline.

MEDICAL LITERATURE. [Pg 138]

ARTICLE XII.—RETROSPECTIVE REVIEW.—*Tractatus de Ventriculo et Intestinis, cui præmittitur alius, de Partibus continentibus in Genere, et in Specie de iis Abdominis. Authore* FRANCISCO GLISSONIO, &c. &c. Lond. 1677, 4to.

As it is not our intention to confine our remarks to the work above mentioned, we shall deem no apology necessary for the somewhat excursive nature of this article, which would not answer our present purpose, if we were obliged to follow the costive details of the venerable FRANCIS GLISSON, whose villanous bad style, and execrable latin, are only to be excused or overlooked in consideration of the great importance of the topics which he handles, and the profound reflections which he makes on them. GLISSON is recognised as author of the physiological term *Irritability*, and as the assertor of the inherent activity of matter. HALLER says of him in his XIth book. "FRANCISCUS GLISSON, qui universis elementis corporum, vim motricem tribuit, etiam nostram vim, Irritabilitatem vocavit," &c.

He was a native of Dorsetshire, and was appointed professor of physic at Oxford in 1627. This post he occupied during forty years, and is much distinguished by his treatise de vita naturæ, and by the work which forms our caption. As he is the first who used the physiological term irritability, we have thought that some researches on this subject in general, and more particularly on his peculiar sentiments, might profitably occupy our retrospective department; for it is very evident that this subject is in general but vaguely discussed, both in medical writings and conversation.

The ancient philosophers did not agree among themselves as to the nature and origin of matter; some of them considering it as eternal in its essence, and others as mutable and changeable in form. The theory of atoms, published by DEMOCRITUS, and subsequently carried out so elaborately by EPICURUS and his disciples, seems to have reached even to our own times, with an increasing reputation and acceptance. According to this theory, the kinds of matter, or elements, must he regarded as infinitely various. HERACLITUS, who taught philosophy about 550 years before Christ, considered all things as derived from an elemental heat or fire;[25] a philosophy which seems to us to have formed the basis of the Hippocratic doctrines of life. Like HERACLITUS, HIPPOCRATES tells us, that the calidum was the first principle of things, and that by an expansion or extension of itself, it constitutes all the objects of the material world. He expresses himself in the following manner. That which we call warmth, or heat, seems to me to be something immortal; something which comprehends all things, which sees and knows all things, as well present as future. Thus assuming as a basis, that the calidum is an almighty, all-wise being, or in other words, a God, all in all, the cosmogony was developed as follows: Chaos he regarded as that condition of the calidum, which preceded any exertion of the Almighty faculties. In emerging from the chaotic state, the greatest part of the heat having assumed the uppermost place, formed the æther; another part having gained the lowermost place, constituted earth; a third portion, midway between earth and æther, became air; and a fourth part, establishing itself between the two [Pg 139]

latter, became water. So that by means of the extension of this all-wise, elemental calidum, we have the four elements, earth, air, fire, and water, out of which are ultimately composed all the aggregates of the material world.[26] Now, to apply this general principle to the formation of the living being man, who seems to be a sort of microcosm in himself, we are told, that that portion of heat which remained with earth, being expanded and spread abroad in divers places, in some more, in others less, the earth became dry, and something like membrane or pellicle was formed; the matters contained in which, being heated as by a sort of putrefaction, some parts became bone, some nerve, some veins and their contents, and some formed the cavities and their [Pg 140] contents, as the urinary bladder, for example.[27]

The full exposition of the opinions of Hippocrates was left for Galen, and we prefer to make reference to him on this theory, which by his genius and talent was so much embellished, that it became the glory of science, exercising an almost undisputed authority during a long lapse of ages. Indeed the gigantic intellect of this great man, still continues to shed its vast illumination over the world of science, particularly that of medicine; which, if it owes its birth to the divine old man of Cos, is not less indebted for its nurture and growth to the celebrated native of Pergamus. Galen is the facile princeps of physicians. His astonishing industry, perseverance, and acquirements, his ingenious arguments, and persuasive eloquence, give him an unquestionable claim to the title of princeps, so long accorded to him; and those who even in the present enlightened period, will study his works, shall find themselves almost irresistibly led away by the charm of his suasion.

Galien est le seul des anciens qui ait donné un corps complet de medecine: Quoique formé des débris de toutes les doctrines précédentes, son systeme offre cependant, malgré les contradictions ou il tombe assez souvent, une unité remarquable dans toutes ses parties; un ensemble séduisant, qu'un genie de l'ordre le plus élevé pouvoit seul imprimer à un pareil édifice. [Pg 141] Ramenant tout à un petit nombre de principes généraux, qui s'ils ne peuvent satisfaire la raison, fournissent du moins une réponse facile a tout, ce systême dut être adopté avec empressement, et sa fortune ne peut étonner.—*Biographie Medicale, Tom. IV.*

Galen may perhaps be justly regarded as an eclectic; but it is manifest, that he mainly walked after the steps of his great predecessor, and recognised model. The following passage seems to contain ideas not much differing from those of Hippocrates which we have presented above: "Who is there, says he, that judging from the origin and constitution of animated beings, doth not immediately infer the existence of a mind, possessed of wonderful energies, extending to, and pervading every portion of the universe! We every where perceive animals procreated, which are possessed of the most admirable structure, and yet what portion of the universe can be more ignoble than this earth of ours? Yet a grand intelligence is seen to have reached even it from the celestial bodies, which for their beauty are so astonishing, and which, as they are for purity far more excellent than our earth, so they are the seats of intelligences, far more pure and perfect than those which inhabit these lower regions." He proceeds to remark, that animals, worthy of the greatest admiration, are produced out of the slime and mud of ponds and ditches, and even in putrefying vegetables, which, as they indicate the miraculous properties of their author, also show us in what estimation we should hold the higher orders of being. "We may even perceive a rational nature in men, if we refer to such examples as Plato, Aristotle, Hipparchus, Archimedes, and many others. If, therefore, in such a colluvies as the human body, (for by what better name can we characterize a mixture of blood, bile, and phlegm,) a mind is formed of such great and excellent faculties, what must we think of the excellence of that which exists in the superior bodies?"

It may be said that Galen expresses, in these passages, the Platonic dogma of an *anima mundi*. But they certainly agree with the sentiments of Hippocrates; and whether he derived them from the former or the latter, matters not, as both of them have invested matter with certain qualities, which render it active, whether it be so essentially or by the act of the Creator. Galen may be also [Pg 142] regarded as partially an Epicurean; for he insists that there are several sorts of matter, or as we should say, several elements; but he differs from that sect again in affirming for it a passible quality. To show that there must be more than one element, or kind of matter, he says, that if there was only one element, or a unit, it would be impassible; it could undergo no change whatever. For there would be nothing by which it could be made to suffer any alteration, or into which it could be altered. Whatever is changed, is changed into something else, and whatever suffers, suffers from something extrinsic: therefore he affirms, that of necessity there must be several sorts of matter, or elements. He says, "there are only two theories on this subject deserving our attention; one of which affirms that sentient bodies are composed of elements possessing the faculty, (cum patiendi tum sentiendi,) both of suffering and perceiving an alteration;" while the other affirms that such bodies are formed (ex patibilibus, sed sensu expertibus) out of passible, but not sentient elements. Neither of these doctrines does he consider tenable, so long as only one element is affirmed, as earth, air, or fire alone, which could never become capable of that great variety of actions we witness in living bodies: but, admit several elements, and we suppose that the mutual interchange of powers would yield a compound body, capable of all the vital phenomena. Such, therefore, says he, as consider the human body to be composed of fire, air, earth, and water, mutually transmuted, alternated, and reduced to a given temperament, and thereby vested with a sentient faculty, speak reasonably; and it is evident that there must be more than one element, and that these elements are passible bodies.

Plato had taught, that, though all bodies are formed of matter, yet matter itself is not a body; and the same idea is conveyed by Aristotle, in the Lib. de partibus animal. & earum causis, II c.i.

"Prima statui potest ea quæ ex primordiis conficitur, iis quæ nonnulli elementa appellant terram dico, aquam aërem & ignem: sed melius fortasse dici potest ex virtutibus confici elementorum, iisque non omnibus sed ut ante expositum est humiditus enim, & siccitas, & caliditas, and frigiditas, materia sunt corporum compositorum."

GALEN also states, that in fire there exists a perfect heat and dryness, in earth a perfect coldness and dryness, and so on of the rest of the elements. For you cannot expect to find in nature a perfectly simple and isolated element; because they are always mixed two or more together. Hence the real terram, aquam, aërem, and ignem, become rather a metaphysical abstraction, than a real entity. That is to say, matter has no real existence, but is mere quality; for earth is not the mere representation of dry or siccum; it is the representative of siccitas, or dryness: fire is not the eidolon of calidum, but of caliditas; water of humiditas, and air of frigiditas. Yet all these elements are in nature possessed of more than one property. Fire is hot and dry, earth is dry and cold, water is cold and moist, &c. If we refer, however, to his account of the soul, we perceive at once, that these inseparable qualities of the elements are the real active agents of life. He plainly declares, that the soul is the mere result of organization, and perishes with the structure in which it dwells. He thinks, "corporis temperiem censendum est." As to the active powers of the four primary qualities, he says, "At mihi quidem tam venæ, quam reliquarum particularum singulæ, ob certam quandam temperiem quam ex quatuor sunt qualitatibus nactæ, hoc vel illo modo videntur agere."—De nat. fac. I. [Pg 143]

It is plain he thinks, that the elements consist of a materia and qualitas; but they are elemental by the *qualitas* and not by the *materia*.

After establishing that there are four elements, which are the common and simple bases of all things, he goes on to show, that the proper proportion and admixture of these, constitute the healthy state of living bodies. If the calidum, for example, be unduly increased, the body is destroyed; if it be improperly diminished by excess of the frigidum, it will also perish. The business of the physician is to keep the proportions just and harmonious; but, as no pure element exists alone, the physician must employ the qualitas in conjunction with the materia. These (to make a phrase) substantive qualities, are found in medicines or food, which, like all objects of sense, are either cold, hot, dry, or moist, and available of course in the management of a cold, hot, dry, or moist derangement of the living body.

The elements of the human body exist in the four humours, blood, bile, atrabilis and pituita; and these four humours correspond in quality with the elements. Blood, which is the reservoir or continent of them all, is a temperate humour. Bile, being the representative of calidum, is hot and dry. Melancholy represents, in our microcosm, the element earth or siccum, and is dry and cold. But pituita, which is moist and cold, corresponds with the humidum element. Air exists in animals nearly pure, as we learn from the phenomena of the pulse and of respiration. It answers to frigidum. [Pg 144]

He shows us in his lib. de naturalib. facultat. that, out of the humours, all the parts are formed, and these parts are either *similar* or *dissimilar*; i. e. simple or compound. Bone is a similar part, that is, it is a simple part; so is an artery, or vein, or ligament. Each of these is so constituted, as that it has a predominance of one element in its nature; and it is therefore dry, or cold, or moist, &c. But if an adust element be, by accident or disease, accumulated in a part naturally cold, the function of such part is morbidly affected. The natural tendency, however, of similar humours to unite, causes each part to receive its regular supply; a principle which BICHAT has since characterized as, *contractilité organique insensible*.

To show the wonderful simplicity of the Galenical system, which for plainness and easy attainment may be compared with the improved nomenclature of chemistry, we will cite a passage from ARGENTERIUS, who, perhaps, was as learned in this kind of lore as any man of his time. In his Tractatio de calidi significationibus, he says; "If any body would undertake to give a general enumeration of those circumstances, in which this term calidum and the others (frigidum, humidum, &c.) are applicable to the explanation of this warmth, he shall find truly, that they are the elements, the humours, the parts, the whole body, medicines, food, air, climate, the weather, the season of the year, and even ages; for these all are either temperate, or hot, or cold, or humid, or dry."

The animal body is moved and governed by two principles; one of them corresponds to the *vie animale* of BICHAT, and the other to the *vie organique*. Since the power of sensation and of voluntary or elective motion, says he, is a property of animals, and since that of growth and nutrition is common both to animals and plants; the former may be called attributes of the soul, and the latter attributes of nature. Whence we say, that animals are governed by the soul and by nature, while plants are governed by nature alone. [Pg 145]

The powers of the body are faculties; and these are either natural, vital, or animal: but they are so subdivided, that we have as many faculties as there are sorts of action. Under the class of natural faculties, we find three principal sorts; to wit, a facultas generatrix, an auctrix, and a nutrix. But if you ask, says GALEN, how many faculties there be, which result from the action of these on each other, you will find them as numerous and diverse as there are numbers and diversities of the animal parts. For example, we have an attractrix faculty, a retentrix, alteratrix, expultrix, &c. &c., all of which are variously modified, according to the nature of the similar or dissimilar parts they are exercised in, or, in other words, according to the nature of the tissues or organs, in which they reside.

Need we go further to show, that Galen, believing all matter essentially conjoined with the hypothetical caliditas, frigiditas, &c. &c., taught that it was gifted with such a degree of inherent activity, as to render it capable under certain states of combination, of exhibiting all the phenomena of organic and animal life? It is certain that he regarded these active qualities, as the causes of all the phenomena, whether of living or dead matter.—Glisson ought not certainly then to be regarded as the author of this dogma in medical philosophy. Plato certainly taught it. Van Helmont could not get along without investing matter with what he called a "seminal likeness, which is the more inward spiritual kernel of the seed," &c. But we will let him speak for himself. "Whatsoever," says V. H., "cometh into the world, must needs have the beginning of its motions, the stirrer up and inward director of generation. Therefore all things, however hard and thick they are, yet before that their soundness, they inclose in themselves an air, which representeth the inward future generation to the seed in this respect fruitful, and accompanies the thing generated, even to the end of the stage: which air, although it be in some things more plentiful, yet, in vegetables it is pressed together in the show of a juice, as also in metals it is thickened with a most thick homogeniety or sameliness of kind. Notwithstanding this gift hath happened to all things, which is called *archeus*, or chief workman, containing the fruitfulness of generations [Pg 146] or seeds, as it were the internal efficient cause; I say that workman hath the likeness of the thing generated, unto the beginning whereof, he composeth the appointments of things to be done. But the chief workman consists of the *conjoining of the vital air*, as of the matter, with the seminal likeness, which is the more outward spiritual kernel, containing the fruitfulness of the seed; but the visible seed is only the husk of this. This image of the master workman, issuing out of the first shape or idea of its predecessor, or snatching the same to itself out of the cup or bosom of outward things, is not a certain dead image, but made famous by a full knowledge, and adorned with necessary powers of things to be done in its appointment; and so it is the first or chief instrument of life and feeling. But since every corporeal act is limited into a body, hence it comes to pass, that the archeus, the workman and governor of generations, doth clothe himself presently with a bodily clothing. For in things soulified, he walketh thorow all the dens and retiring places of his seed, and begins to transform the matter according to the perfect act of his own image; for here he placeth the heart, but there appointeth the brain, and he every where limiteth an unmoveable chief dweller, out of his whole monarchy, according to the bounds of requirance of the parts and appointments. At length that president remaineth the overseer and inward ruler of the bounds, even until death; but the other, floating about and being assigned to no member, keeps the oversight over the particular pilots of the members, being clear and never at rest or keeping holiday."

Notwithstanding the affected and euphuistic jargon of the above passages, it is evident that Van Helmont's idea is very similar to that of Galen. By seminal likeness, we are to understand an aptitude in matter to take on certain determinate forms, and this may be supposed to differ not very essentially from those laws, which govern matter in crystallization. But even this seminal likeness, as we perceive, is a sort of abstraction, very analogous to the Galenical caliditas; for it is the more inward spiritual kernel of the seed, whereby the matter is enabled to enjoy a certain degree of activity, the degree of which is much increased by the union of the air, or archeus, with it. So the caliditas of Galen, which, after all, is matter, gives to its subject the powers which it enjoys. Glisson, speaking of the natura seminalis, says that it is a certain or specific essence, [Pg 147] superadded to mere elementary principles, by means of which mixt bodies adopt certain determinate forms, and acquire the faculty of performing essential operations, more noble than those which belong to naked elements.

We regret very much that we have been unable to procure a copy of Glisson's treatise de vita naturæ, which, so far as we know, can not be had in this country. We shall, therefore, furnish our readers with the following passage from the Biographie Medicale, from the pen of Jourdain.

"The name of Glisson occupies an honourable place in the history of medicine, because to him we are indebted for the first elements of the physiological doctrine of the present day. Instead of directing his attention to movements alone, as the iatro-mathematicians, and even, to a certain extent, the animists had done, he referred to vitality all the phenomena of nature, of whatever kind, and attempted to reduce them to one, common principle. To this end he admitted, that matter is originally endued with forces inherent in it, and that living bodies in particular, are invested in their organs with a radical force, which, put in play by stimulants, whether internal or external, gives rise to all the phenomena of life. He even went so far as to assert, that sympathy may be explained by referring to the intercommunication of this force, to which he gave the name of irritability."

We shall also cite from Sprengel, a passage which throws some light on his theory.

"When they became unwilling, like Descartes and Stahl, to have constant recourse in their explanations, to the soul, they tried to find a philosophic proof of the existence of material forces, to show that matter, as mere matter, is endowed with particular forces, with which they might satisfactorily explain a great many of its phenomena. No one had hitherto sought for a similar proof; for Aristotle had contented himself with an axiom, that all natural things contain in themselves the sufficient cause of their movement and rest. Glisson and Leibnitz set themselves in search of this proof; but it was reserved for the immortal Kant to find it in the nature of matter itself.

"Francis Glisson may with propriety be considered as the precursor of Leibnitz. What he tried to demonstrate by scholastic subtlety, and by thousands of syllogisms, was developed by Leibnitz [Pg 148] with a clearness and ability, which secured the suffrages, even of the unenlightened. Both of

them went too far, in attributing life and sensation to matter, instead of claiming for it the two simple and primordial forces of attraction and repulsion.

"Glisson sets out with the idea of substance, but he does not explain it with sufficient precision. Every substance has three substantial rudiments,—*fundamental* substance, by means of which it exists,—*energetic* substance, by means of which it acts,—and *additional* substance, which determines its accidental qualities. All matter, as substance, must have an energetic substance or nature, which is the internal principle of movement. Therefore whatever moves spontaneously, and in virtue of an internal force, must *feel* this motion, *and desire it*. All matter feels that it is, and that it exists by itself. It has therefore, consciousness of its own nature. Life consists in the activity of the internal substantial energetic nature. Death is the dissolution of the triple alliance of the internal energetic substantial nature, with the vegetative and animal natures, which two last belong to the *additional* substance."[28]

In applying his theory to physiology, Glisson's idea is, that the fibres of the human body are endowed with a force, which he divides into three kinds; to wit, natural or inherent force, (robur insitum)—vital force, (robur vitale)—and animal force, (robur animale.)

Natural or inherent force, is a part of the constitution of the fibre, and is as much a property of its organization as are its tenacity, tensibility, &c. The sum of this force varies, in proportion as the constitution of the fibre is more or less perfect. It is strongest in athletic men and strong animals, and weaker in relaxed and debilitated persons. It may be compared with the contractilité de tissu of Bichat.

The second, or vital force, is something superadded to the inherent sort. It is an *influxus*, derived to any fibre or set of fibres, from that greater sum of force, which arises out of a more elaborate, complex, and exalted organization. It varies in proportion as the vital spirits flow with more or less freedom; and in proportion as their quality is more or less perfect.

The third kind, or robur animale, may be supposed to depend on the organic constitution of the brain and nerves, and varies according to the state of that organization. We cannot help adverting to the resemblance between these two latter kinds, and the contractilité organique, and contractilité animale, of Bichat; and this robur comprises, as we shall show hereafter, both the contractilité and sensibilité of the French physiologist. [Pg 149]

Glisson, in his chapter de Irritabilitate fibrarum, commences by remarking that a motive faculty existing in any fibre, unless it were of an irritable nature, would leave such fibre in one of the two following states: 1. It would either never cease from action, or 2ndly, being once at rest, its motion could never be reproduced; but the varieties and differences which we see in the actions of fibres, clearly demonstrate them to be possessed of irritability: i.e. if a fibre may be by turns in a state of action and repose, it is evidently possessed of a quality, whereby it can be induced to move if in a state of rest; this quality he terms irritable, or irritability. The next inference from this power of alternate activity and repose is, that the fibre is possessed of a faculty, whereby it can *perceive* an irritation offered to it; but this perception of irritation further implies an *appetence* for a change of its actual state, before the motion can really take place. Perception, appetence, and motion, make a triunit. "In the mean time, says he, as sensitive appetence, and sensibility, are frequently confounded with natural perception, in this irritation of the fibres," he divides it into three kinds, viz. Natural Perception, Sensitive Perception, and Perception regulated by animal appetency.

Natural Perception is that principle whereby a fibre perceiving any alteration offered to it, whether pleasing or displeasing, is excited either to accept that change, or to avoid it, and moves accordingly.

Sensitive Perception, is that kind, in which a fibre, perceiving a change effected in some other organ, is impelled ad aliquid appetendum, and to move conformably.

The third sort, or Perception regulated by animal appetency, is that in which the brain directs from within, such movements of the muscular fibres, as are requisite for the execution of any purpose.

"Some persons," says Glisson, "may doubt whether there really exists a natural perception of irritation in the fibres; but we have elsewhere asserted in general the reality of natural perception, to wit, in my work, de Vita Naturæ; and whoever has known it, will readily admit this quality in fibres imbued with inherent, influent, and vital spirits. We do not expect, in this place, to establish it as a general principle; but if any proof, derived from a knowledge of the structure, uses, and actions of the fibres, can be adduced, it may be here attempted." [Pg 150]

"It is indubitable that the fibres are alternately at rest and in motion; for, during sleep, they are all relaxed, with the exception of such as subserve the functions of respiration and circulation, and even these are by turns quiet and active. During waking again, they are all in a state of moderate tonic motion; and moreover, during all movements of the limbs, the antagonist muscles yield spontaneously, the abductors being active, while the adductors are relaxed, and vice versa. Hence it is manifest, that the fibres are alternately quiescent and active: but, since they are not *principal* or sui arbitrii agents, it is necessary, in order to the new movement, that they should be irritated from some source: for, it is impossible that a fibre in repose, can be set in action without an irritating cause; nor can we conceive of a part being irritated without *perceiving* the irritation. It is like speaking to a deaf man, or trying to awaken a dead one."

"If you say, fibres are possessed of sensibility, and can be excited by virtue thereof, I confess that they are sensible parts, and may thereby perceive some, not all irritating causes; but whether sensation excites them immediately, or rather, is transmitted to the brain, and irritates the animal appetency; and further, whether the animal appetence, effects a movement in them directly, and to what sort of perception this irritation may be properly and immediately ascribed, is detailed in order below, when we come to explain sensitive perception, and perception à phantasia imperata."

"Let us now go on to point out those cases, in which no suspicion of *sensation* can be entertained. The pulsation of the heart is neither effected nor affected by sensation; its fibres, in virtue of the irritation occasioned by the blood in its ventricles, are excited to contract, and thus occasion the pulsation, but when the irritation is remitted they relax, and recover the natural state. Now it cannot be denied that this is an evident case of irritation of the fibres, for according as is the irritation, so is the rythm of the pulsation, which varies at times, as in febrile and other [Pg 151] affections: nor is it right to pretend that there is any sensation in this case; because this perception of irritation *per vices*, is exercised as well during sleep, when the senses are all locked up, as in the waking condition. The fibres do not, therefore, *perceive* in these actions by a sensitive, *but by a natural perception*, the irritation of the vital blood, which animates them to alternate contraction and relaxation. This is corroborated by those tumultuous irregular motions which continue in animals after decapitation; so also the intestines when still warm in a recently opened animal, move and twist about; the muscles in dead animals also, excited by the perception of cold, contract with a strong tonic movement, and render the body rigid. The hearts of some animals too, when torn out of the body, and even when dissected, continue their endeavours to pulsate. Is there any further evidence wanting? We may hence infer with sufficient confidence that the fibres (without the aid of the senses) may *perceive* irritation, and move themselves conformably."

In the next place he examines the nature of sensitive perception of fibres, and goes on to show how an impression made on an external part, or a natural perception, becomes converted into sensation, and thus made known to the sensorium. But his disquisition is not only very long but very dark, and we shall therefore pass it by with the exception of the following.

"Natural perception includes within itself a *rationem positivam*, and a *negationem formalem*.

"The ratio positiva is the perception of the idea, or image of the object moving or changing the fibre.

"The negatio formalis is a denial or refusal to communicate this image to the sensorium. In the process of transformation into sensation, the positive ratio is not changed, but remains the same, and is the first part, or basis, both of internal and external sensation.

"The negatio formalis is destroyed or abolished in any case of impression communicated to the sensorium. Natural perception, in its ratio positiva, is not abolished or degraded by being converted into sensation, but is rather exalted, or gifted with a more dignified nature. By as much as public or general knowledge is preferable to private, or public advantage to that of an individual, by so much is sensation preferable to natural perception. Hence nature formed so [Pg 152] many organs of sense, that the phantasy might have notice of what ought to be done, desired, or avoided."

He does not doubt that external sensibility is inherent in the nervous parts of the external organ, whence he infers that it may readily incite the fibres of such organ ad appetendum et movendum; for, as external sensation is communicated to the brain by means of the nerves, it must of necessity be true, that these nerves and nervous parts (such as the fibres,) are the subjects of it. Since then sensibility causes its subject to feel, it consequently enables it to desire and move comformably. For perception in any subject is vain, unless it can desire, and appetence is useless, unless it can move. External sensibility, therefore, may be said to render the fibres *actu irritabiles*, for example, as often as the irritating cause is perceived; but as the irritation is perceived, not by a sensibility, but by a mere natural perception, this it is which constitutes their irritability.

Thus we may perceive that the triunit consisting of perception, appetence, and motion, constitutes the celebrated irritability of our author. But he has been too latitudinarian in his application of the theory; for he did not limit it, as Haller has subsequently done, to one sort of fibres, or indeed to fibres alone, for he says in cap. IX., "It is to be remarked that natural perception belongs to other parts of the body besides fibres; to wit, to the parenchymata, bones, marrow, fat, blood, recrementitious juices, humours of the eye, and such like, all which are irritable, and increase the irritable constitution of the parts, but these parts hardly admit of the existence of animal perception." Haller blames Glisson for having gone so far in his application of the theory, and it is well known that he himself restrained it to the single tissue of muscular fibres, and denominated it vis insitum, or inherent force; whereby he distinguished it from his vis mortua or elastic contraction, on the one hand, and the vis nervosum or voluntary power, on the other; the former being something less, and the latter something more than irritability. Glisson's theory, when fully explained, which we cannot for want of space do here, will be found to bear a very strong resemblance, in many points, to that of Bichat, who has invested the matters of the body with vital powers, far beyond those attributed by Haller; and as we are not furnished in the [Pg 153] present article with sufficient space, we hope in some subsequent number, to place this matter in a plainer light before our readers. In the mean time we may remark, that Glisson seems to be the first of those who have placed the subject fairly before the medical public; for although faint

traces of a similar theory may be perceived before him, especially by translating terms into their equivalents, yet he has the merit of using a term which, in spite of all subsequent modifications, is in daily use.

Glisson's latitudinarianism may be contrasted with Haller's rigid application: for the latter says, "I call that an irritable part of the human body, which on being touched by a foreign body, renders itself shorter;" thus while Glisson attributes his triunit of perception, appetence, and motion to all the tissues and fluids, Haller confines it to muscular fibre alone. No one can doubt that the membranes of the body are endowed with vital properties, but yet they do not shorten themselves on being touched by a foreign body. Bichat has distinguished their vitality as organic vitality, and the contractile qualities displayed are divided into insensible organic contractility, and into contractility of tissue: but these sorts of contractility mount up by insensible gradations. He says, that "entre la contractilité obscure mais réelle, necessaire a la nutrition des ongles, des poils, &c. et celle que nous presentent les mouvements des intestins, de l'estomac, &c. il est des nuances infinies, qui servent de transition: tels sont les mouvements du dartos, des arteres, de certaines parties de l'organ cutané," &c. We will close with a comparison between Glisson's irritability, and Bichat's contractility. At page 70 of the Treatise *sur la Vie & la Mort*, Bichat supposes that a "muscle enters into action, 1st. by the influence of the nerves which it receives from the brain, and this is a case of contractile animale," (which differs in no respect from perception regulated by animal appetency of Glisson). 2ndly. According to Bichat, the muscle enters into action "by the excitation of a chemical or physical stimulant applied to it, and which artificially determines a movement of the whole muscle, analogous to what is natural to the heart, and other involuntary muscles. This is sensible organic contractility or irritability," and corresponds to the sensitive perception of the old English physiologist. In the 3d place it enters [Pg 154] into action by the stimulus of the fluids which circulate in it, and this is insensible organic contractility or tonicity of Bichat, and is nothing different from Glisson's natural perception. Bichat makes a fourth case; as for example, when a muscle is divided across, it contracts by a *contractilité de tissue*, or *par defaut d'extension*. We do not perceive how Glisson's natural perception can be applied to this case, but he treats of it in his fifth chapter under the head of Cessatio: it is that state to which a fibre is reduced when left to itself, and freed from all stimulus.

Bichat has attributed to some fibres the power of active elongation. On this subject Glisson says, "Impossible enim est, ut simplex fibra, sua sola actione, se secundum longitudinem distendat, nec modus quo hæc fiat concipi nedum effari queat non negavero quin in distensione hac, aliqualis fibræ actio includatur, sed ea tota contractiva est, & distensioni ab extranea causa factæ reluctatur." A doctrine as sound as that of the 47th proposition; a doctrine too, without admitting which, we think no man can understand the theory either of simple inflammation, or of the febrile affections. We hope to resume this subject at an early period.

FOOTNOTES:

[25] Hæc ei generatim videbantur, ex igne omnia constare eodemque interire. Diogenes Laertius.

[26]
Quatuor æternus genitalia corpora mundus
Continet; ex illis duo sunt onerosa, suoque
Pondere in inferius, tellus atque unda, feruntur,
Et totidem gravitate carent, nulloque premente
Alta petunt, aer atque aere purior ignis.—Ovid—*Metamorph.*

[27] Lib. de Carnibus, Hippocrates says: Quod Calidum vocamus, id mihi immortale esse videtur, cunctaque intelligere, videre et audire, sentireque omnia, tum præsentia tum futura: cujus pars maxima cum omnia perturbata essent in supremum ambitum secessit; quod, mihi veteres æthera appellasse videntur. Altera pars locum infimum sortita, terra quidem appellatur, frigida et sicca multas que motiones habens, et in qua multum sane calidi inest. Tertia vero pars medium aeris locum nacta est, calidum quid existens. Quarta pars terræ proximum locum obtinens humidissima et crassissima. His igitur in orbem agitatis cum turbata essent, calidi magna pars alias in terra relicta est, partim quidem magna, partim vero minor, alias etiam valde parva, sed in multas partes divisa. Et temporis successu a calido resiccata est terra, ista in ea tanquam in membranis contenta circumse putredines excitant, ac longo tempore incalescens quod quidem ea terræ putredine pinguedinem sortitum est et minimum humidi habet, id citissime exustum ossa produxit. Quæ vero naturam glutinosiorem sortita sunt et frigidi communionem habent, ea neque calefacta exuri potuerunt, neque etiam humida fieri ideo formam longe ab aliis diversam nacta sunt et nervi solidi exciterint, cum non multum in iis frigidi inesset. At venæ frigidi multum habebant cajus pars circumcirca ambiens et quod erat glutinosissimum, a calido exassatum membrana extitit. Quod vero erat frigidum, a calido superatum, dissolutum est ideoque humidum evasit.

[28] K. Sprengel, Hist. de la Medicine.

QUARTERLY SUMMARY OF MEDICAL AND SURGICAL INTELLIGENCE. [Pg 155]

I. ANATOMY.

1. *Papillæ of the Tongue.*—At the upper surface of the tongue, say MM. Leuret and Lassaigne, in their recent work on digestion, the mucous membrane presents projections of three different species; and these are, the sensitive papillæ, the epidermoid papillæ, and the mucous cryptæ. The sensitive papillæ are numerous. They occupy the anterior four-fifths of the tongue, on which they are implanted by a narrow pedicle. The rounded head of these papillæ is much more prominent in the living subject, than after death; but injections are capable of restoring them to their pristine form. Nervous fibres from the lingual branch of the fifth pair have been distinctly traced to their roots. These papillæ are of various sizes; at the root of the tongue they form a V. They are all vascular and nervous. The sense of taste is referred by these writers almost exclusively to the above papillæ.

The epidermoid papillæ are of a nature similar to those retroverted prominences so remarkable on the tongue of the cat; as well as in the lion, and some other animals. They are larger in many species than in man, and, in general, the sensibility of the tongue appears to diminish in proportion to the remoteness of the subject from the human structure. The epidermoid papillæ are separated from the tongue along with the epidermis, or rather, epithelium, by maceration for a few days in vinegar. They are pyramidal in form. They are grouped round the sensitive papillæ, except on the edges and point of the tongue, where they are rare. Their base is perforated, and always gives outlet to a crypta. In an epithelium separated from the tongue, these minute and numerous perforations are easily distinguished from the larger ones left by the sensitive papillæ.

The office of the epidermoid papillæ appears purely mechanical.

The only cryptæ which produce, of themselves, a visible projection on the surface of the tongue, are situated at its base. They are formed by the mucous membrane, like other cryptæ, and are scattered between the sensitive papillæ.

In the tongue of birds, there is always a bone or cartilage; and the external membrane is dense. In reptiles the tongue is soft, possessed of little sensibility, and capable of great elongation. In fishes it is endowed with little motion, and is often wanting.—*Bulletin Medicale.*

2. *Villi of the Stomach and Intestines.*—MM. Leuret and Lassaigne state that the villi can be easily injected; most conveniently from the vena portæ, though the arteries may be employed. In the [Pg 156] latter case, the matter of injection is effused into the intestinal or gastric cavity. The villi are peculiar to these parts; they are inversely conical, adhering to the membrane by their smaller end. The best mode of exhibiting them, is to tie the vena portæ of a living animal, when they erect themselves by the afflux of blood. These diminutive organs, about 3/100 of an inch long, then exhibit distinctly, under the microscope, four red longitudinal lines, being probably vessels.

Injections made retrograde from the thoracic duct, pass through the villi into the intestines. When the stomach of a man, who died of some complaint not deranging its condition, is examined, we sometimes find its lining membrane covered with a multitude of minute white points. These are the villi in a flaccid state. In those who have died during digestion, they are erected, and of a rosy colour.

When the intestine of a living animal is examined under a microscope, after being carefully washed, a great number of orifices are seen, from each of which exudes a minute drop of a transparent fluid. These rapidly disappear; and then the villi attract attention. What these foraminula are, the reviewer, M. Du Fermon, does not tell us.—*Ibid.*

3. *Minute distribution of the Vessels of the Liver.*—M. Cruveilhier gives, in his lectures, an account of the results he has obtained from a minute injection of the liver. He finds, 1. The acini surrounded with a dense, cellular texture, paler than themselves; 2. The ramifications of the hepatic artery distributed to this cellular envelope; 3. Those of the vena portæ spread around the acini, or granulations of the liver; and 4. Those of the biliary ducts, and of the hepatic veins, emerging from the cavities of these bodies.

Our readers will observe a great similarity, in this, to the arrangement of the lobules of the kidneys.—*Ibid.*

4. *Trachea perforating the Aorta.*—This odd distribution of parts, was observed by M. Zagorsky, at St. Petersburg, in 1802. The aorta divided itself, at its arch, into two branches, which received the trachea between them, and again united, exactly fitting the organ they received. They were found to have compressed the trachea, and probably produced difficulty of breathing.

In another case, in 1808, the right subclavian artery, instead of its usual origin, arose from the left extremity of the arch of the aorta, and crossed behind the trachea, thus including the latter between it and the aorta.

Why do we call the common trunk of the right subclavian and carotid, the arteria innominata? Is coining words so difficult a task, that we cannot find a proper and expressive name for it? The French call it *brachio-cephalic*, and this expresses its office and distribution.—*Ibid.*

5. *Monsters.*—These productions, hitherto considered as mere objects of wonder, from the study of which no useful inference could be drawn, have recently attracted a good deal of attention in Paris. There seem to be some close affinities discoverable in many of them, not only with the [Pg 157] natural and complete forms of animals of various tribes, but even with the actual condition of

their own species, while in the fœtal state.

The views of M. Geoffroy St. Hilaire seem to us rather mystical and vague. Those of Breschet, and the other practical anatomists, we can understand much better.

6. *Malformation of the Heart.*—Drs. Baillie,[29] Langstaff,[30] and Farre[31] have each published cases; and M. Tiedemann, in his journal of Physiology, now adds a fourth, in which the aorta and pulmonary artery were found to have changed places. In professor Tiedemann's case, the two circulations were entirely distinct; the systemic blood passing from venæ cavæ to right auricle, from right auricle to right ventricle, and from this, through the aorta, to the body at large; while the pulmonary blood ran through an equally simple circle, by the route of pulmonary veins, left auricle, left ventricle, and pulmonary artery. The only communications between the two circulations, were the foramen ovale, the ductus arteriosus, and, in the opinion of M. Tiedemann, the inosculations between the branches of the *pulmonary* and *bronchial* arteries.

The infant is recorded to have presented *no peculiar appearances* till the ninth day; when attacks of suffocation came on, attended with the blackish blue colour, and followed by death, at the end of twelve days. Similar histories are said to be given of the cases mentioned above, and the references to which we have copied. We have not the time to consult them.—*Ibid.*

7. *Acephalous Mummy.*—M. Geoffroy St. Hilaire has read a memoir of some length to the Academy of Sciences, on an acephalous mummy. It was found in a catacomb, destined, with this exception, exclusively to animals. It had an amulet suspended round its neck, being an earthen figure of a cynocephalus, for which it was very probably mistaken by the Egyptians. The collector, M. Passalacqua, who obtained it, showed it to M. G. St. H. as a monkey, of which he wished to know the species. Yet the latter observes that these amulets were only put on human mummies.

M. G. concludes that the monkeys, elephants, &c. said by Livy, Valerius Maximus, Pliny, and others, to have been born of women in their times, and considered as omens of public calamity, were acephala.

8. *New Anatomical Plates.*—Messrs. E. W. Tyson and George Simpson are publishing anatomical plates, in London. They are spoken of with approbation. The labours of the latter are designed for the use of painters.

9. *A Manual of Osteology* has been undertaken by Dr. Weber, of Bonn, and one volume published.

10. *Sœmmering's fine work on the anatomy of the ear*, has been translated into French, and his splendid folio plates copied in lithography. [Pg 158]

11. *Does the conjunctiva run over the cornea?* Messrs. Lecoq, Leblanc, and Artus, state that they have each seen a case in which regular *skin* and *hair* were seen, forming a small patch on the cornea of the eye of a quadruped. This is considered as a proof of the existence there of a membrane naturally analogous to the skin; which must, of course, be the conjunctiva. An officer saw another case, in which a hair was seen in the middle of the eye of a horse.—*Bulletin.*

II. PHYSIOLOGY.

12. *Electro-Galvanic phenomena of Acupuncturation.*—M. Pouillet, after making a complete circuit, through a needle introduced in acupuncture, through wires, and through the patient's mouth, found, by means of a multiplier of Schweigher with a magnetic needle, that the electro-magnetic rotation could be readily produced; at least so far as to effect small vibrations backwards and forwards. On repeating it with two needles, one of them run into an artery and another into a vein, or one into the medulla spinalis, at the neck, and another into an extremity, in a rabbit, no effect whatever took place.—*Magendie's Journ. de Physiologie.*

13. *Variations in Milk.*—Milk, says M. Vallot, in his memoir read to the Academy of Dijon, may be *red*. The cause of this is unknown, though it has given rise to superstitious fears. Some have observed that the cow's teats are then tender. Whether this be cause or effect has not been ascertained.

Yellow milk is said to have been produced by the cow's eating the caltha palustris, (marygold.) *Blue milk*, from a cause still unknown, in the departments of Seine-inférieure and Calvados. Some have ascribed it to the hyacinthus comosus; others to butomus umbellatus.

The *green milk* of some writers is supposed to be only blue. *Milk not coagulable* is produced by feeding on husks of green peas, and on mint. *Bitter milk*, from wormwood, sonchus alpinus, and the leaves of the artichoke; and in goats, from eating freely of elder, (sambucus nigra,) and potato-tops; *a disagreeable taste*, from turnips, in Upper Canada. *Garlicky milk*, from causes well known. *Insipid milk*, and *lead-coloured butter*, from equisetum fluviatile. *Milk unnaturally sweet and luscious*, (sucré,) from alpine clover, (trifolium alpinum;) and *red butter*, from the ripe berries of asparagus.—*Bulletin.*

14. *Hyoscyamus dilates the pupils of the eyes*, the same manner as stramonium, several Eastern species of datura, and belladonna, which the Europeans use. The strongest species was datura fastuosa.—*Oriental Magazine, apud Du Fermon.* [Pg 159]

15. *Worms in the Eye.*—Several cases of worms in the eye are mentioned in the Bulletin des

Sciences Medicales, for Feb. 1826. Deguilleme saw several in the eye of a cow; and the case was published by Gorier, a veterinary teacher, in his memoirs. In the report of the proceedings of the veterinary school at Lyons, in 1822-3, there is the case of a mule, in which a knot of worms (crinons) was seen in one eye. *Two* were extracted; (why no more is not said;) and another subsequently. No inflammation was produced; but a violent nervous agitation of the head, and a turning of it to the left side took place. Next follows an account of a memoir read before the Medical Society of Calcutta, but of which the name of the author is not given. He is represented as stating, that the strongylus armatus minor of Rudolphi, and the *filiaris* (filaria) papillosa, are frequently found in the eyes of the horses in India, but much more so in the cellular membrane, particularly about the loins. He believes that they make their way into the blood-vessels, and, through them, into the eye. Their most ordinary seat is the cellular membrane of the loins; where they exist for years, producing emaciation, and, at length, paralysis of the hind legs. This last the Calcutta author is represented as ascribing to the penetration of the spinal marrow; but he does not appear to have verified it by dissection. Treuttler says, he has seen the strongylus armatus in *aneurisms* of the mesenteric artery of the horse; but the writer in the Bulletin doubts whether any have ever been found in sound arteries.

Dr. Kennedy, in the Edinburgh Philosophical Transactions, describes a worm, which he calls *ascaris pellucidus*, (pellucida,) as being common in the eyes of horses in India. A review of Bremser's work on worms is expected in our next, and inferences will then be drawn from these singular facts.

16. *Digestion.*—MM. Leuret and Lassaigne, in their very interesting and valuable experimental essay on this subject, have met with many curious results.

They found no remarkable difference in the saliva of carnivorous and herbivorous animals. The purest saliva was obtained for their experiments directly from the parotid duct, in man, the horse, and dog. The composition was as follows:

Water, 99 parts; mucus, traces; albumen, soda, chloride of sodium, chloride of potassium, carbonate of lime, and phosphate of lime, 1 part. Total, 100.

Their experiments on the bile confirmed the results of Thenard and Crevreuil.

The pancreatic juice is of the specific gravity 1.0026; at 15° of the thermometer: (centigrade, we presume.) Its composition is:

Water, 99.1 parts; animal matter soluble in alcohol, animal matter soluble in water, traces of albumen, mucus, soda, chloride of sodium, chloride of potassium, and phosphate of lime, 0.9 parts. Total, 100. This greatly confirms the analogy long observed between the pancreatic liquor and the saliva. [Pg 160]

In the *gastric liquor*, there are:

Water, 98 parts; *lactic acid*, muriate of ammonia, chloride of sodium, animal matter soluble in water, mucus, and phosphate of lime, 2 parts. Total, 100.

Dr. Prout and Mr. Children have announced the gastric acid, of which so much has been said, to be the muriatic, while M. Chevreuil had stated it to be the lactic. MM. Leuret and Lassaigne confirm the results of Chevreuil, and that with great confidence in their own accuracy. They found the contents of all the four stomachs of ruminating animals acid. MM. Prevost and Leroyer had stated those of the three first to be alkaline. The observations of Leuret and Lassaigne agree with those of Montegre, (vide Dict. des Sci. Med.) who believes digestion to produce acidity as a result of the regular process.

The *fæces* become alkaline.

Substances which contain no azote, from whatever class they are obtained, cannot serve for nutrition. We cannot understand this, especially when compared with what follows. "If, on the contrary, they are soluble, one part is absorbed and another is expelled, either by urine or by the anus; such are sugar, gum, &c." This seems to us like a contradiction.

It is impossible, in the present state of science, to determine the chemical change which aliments undergo in the digestive organs; both on account of their mixture and the insufficiency of our means of analysis.

"The absorption of chyle takes place by the villi." "These communicate directly with the lacteals and the vena portæ."

"The transference of the chyle takes place by the lacteals; nevertheless, if they are obliterated, *this may be done through the vena portæ*."

The section of the pneumo-gastric nerves does not stop the dilution of aliments in the stomach, or chylification.

The juices secreted by the liver and pancreas, are poured into the intestines in greater quantity during digestion than at any other period; in consequence of the contact of the acid chyme with the biliary and pancreatic orifices.

The pancreatic juice is analogous to the saliva.

The spleen is an appendage to the liver; it swells during the absorption of liquids by the vena

portæ.

Liquid aliments are digested, just as much as solid; but they do not require so great a quantity of gastric and intestinal juices.

Watery drinks are absorbed in the stomach and intestines, by the radicles of the vena portæ. Spirituous drinks occasion an afflux of the gastric juices, become acid, and are absorbed.

Excrements owe their colour and odour to the bile, and their consistence to the absorption of a portion of the water they contain. They carry off a large amount of the nutriment. [Pg 161]

Great obscurity still remains as to the cause of hunger.

Thirst is thought to be produced by the drying which the pharynx undergoes, from the passage through it of the air used in respiration, and at a time when the supply of mucous fluid is scanty.

Our readers will have perceived, long ere this, that here are several propositions at war, not only with our received opinions, but with the experimental researches of some others among the modern physiologists. We do not know what Dr. Wilson Philip would say to his observations being so cavalierly dismissed: they seem scarcely to condescend to mention his name in France. Not having the original, we could do no better than translate, almost literally, the conclusions of these experimenters, as stated in the Bulletin; and the result of this is what we have just given our readers. From the words "the absorption of chyle," to the end, is nearly verbatim the language of the review.

III. PATHOLOGY.

17. *Dothinenteria. Pustules of the small Intestines.*—From δοθη, a pustule, and εντερον, an intestine. This name is given to a disease which has been described by M. Bretonneau, of Tours, and, after him, by Serres, Broussais, Andral, and several others, and consists in pustules, generally situated at the lower end of the ileum.

We are constantly lamenting to ourselves the contracted bounds allotted to our Quarterly Summary. Indeed, were it not for other objects, it might occupy, with advantage, half of the number, and most of the time employed in the preparation of the work. Every thing must be curtailed, though cut off at the most interesting and valuable point; and the painful exertion of the attention, necessary to condense information for our readers' use, of the amount of which they cannot possibly be aware, can only be equalled by the constant feeling of disappointment at rejecting so much important matter.

We are told that this pustular disease is as common and as destructive as the *small pox*, (indeed!) the measles or the scarlatina; that few persons spend the whole of their lives without having, at some period, suffered by it; that it never affects individuals but once; and that it is suspected of being contagious.

M. Bretonneau has prepared a set of specimens, taken from the bodies of those who have died in various stages of this complaint. He traces the malady day by day, with a precision which we will not copy here. The seat of this affection is the glands of Peyer and Brunner. The former are found in groups, throughout the lower half of the jejunum and the whole of the ileum, gradually increasing in the size and number of their clusters, till they reach the valve of the colon, where they cease. They have been mistaken by some dissectors of the modern school for the effects of inflammation. They are found in honey-combed patches; which are agglomerations of mucous glands. The glands of Brunner are thinly dispersed mucous follicles which are scattered singly throughout the whole length of the small intestines, with nearly equal frequency. These organs are well described by Haller in the great Physiology. They are not seen well, unless in a young subject, and by cutting into the intestine very close to the mesentery. [Pg 162]

When inflamed, they swell and thicken, and, after some days, the membrane around them assumes a reddish tint. The mesenteric glands are enlarged. M. Bretonneau has seen one as large as a hen's egg: they generally equal in size that of a pigeon. The disease spreads and affects an additional number of glands. It reaches its acme generally on the 9th day; after which sometimes all, and always a part of the affected glands return to their natural condition, by resolution of the inflammation. Those which are to run the full course of the disease continue to augment in size and projection into the intestine. On the 13th and 14th days they are discovered tinged with bile, which penetrates their substance, and thus proves the occurrence of disorganization. On the 15th and 16th, the sloughs separate, and leave from one to six ulcers. These penetrate the gland, and with it the mucous membrane, of which it forms a part, and next, the cellular tissue of the intestine. In numerous instances they perforate the muscular coat, leaving nothing but peritoneum at the bottom; and frequently, passing this, they induce inflammation of the cavity of the belly, and death.

The cases of simple resolution terminate in three weeks: those in which sloughs are formed, in from 30 to 40 days, if not fatal. If death be from peritonitis, it is of course soon after the 15th and 16th days; if from exhaustion, at periods varying according to the strength of the sufferer. Dothinenteria occurs in many of the cases commonly called typhus fever, gastro enteritis, &c. It is proper to remark that both the author and the journal are in opposition to Dr. Broussais. —*Archives.*

18. *Dr. Broussais.*—While the opinions of this celebrated reformer have been gradually becoming

more extensively known among our countrymen, the war has prevailed with increased heat in his native land. The most vehement attacks are made, from various quarters, upon his system of *medicine physiologique*. No one appears to deny that he has clearly proved the existence of mucous gastritis and enteritis in many or most fevers, or the propriety of directing a part of the remedies to them. Criticisms and invectives are freely emitted: but they are only levelled against the too extensive application of this doctrine, and the inconsistencies, unquestionably often real, [Pg 163] of the system of which he has made it the foundation. Indeed, if the quotations given are correct, we think no one who has not assumed a party, can refrain from concurring in their condemnation.

"Those who understand our doctrine never attack it; they speak of it only to express their admiration: above all, they never think of wishing to modify it, because they know that its fundamental dogmas are unshakeable." "Surtout ils ne s'avisent jamais de vouloir la modifier," &c. A man who assumes such ground as this, had need be very careful in assuming his positions, indeed; and should particularly avoid any thing like self-contradiction.

The *Lettres a un medecin de province*, in a style of lively criticism, labour to show a great variety of inconsistencies in this immoveable doctrine. The review of this publication in the Revue Medicale, including copious extracts, coincides with, and evidently wishes to aid, the author's satire. In the same journal are a series of criticisms on some of the elementary propositions of Dr. Broussais, published in a late edition of his Examen; (nearly the same which were published here, some time since, in the American Medical Recorder, having been translated by Dr. Atkins.) In these critiques, great severity is shown, in dealing with the new dogmas, and the doctrine is treated as one of dangerous tendency; while, at the same time, high praise is awarded to their author, for his discoveries in the diseases of the alimentary mucous membranes.

In the other journals, there is a division; some favouring the new opinions, while others oppose them with more or less of vehemence.

That the doctrine of gastritis has made a great impression at Paris, that almost every one believes in it, to a greater or less extent, appears undeniable; but there, as well as here, most of the more rational, and moderate minded men are evidently of the only school a physician ought to belong to, the *eclectic*. Borrowing largely from Broussais, and having had their minds powerfully stimulated by the succession of striking and novel ideas which he has introduced, they think it unmanly to "bind themselves to his chariot-wheel," but form conclusions for themselves from every resource within their power. If the great French reformer really wishes to establish as absolute a power over the minds of his followers, as Mahomet or Pythagoras did, and as the above-quoted extract seems pretty fairly to indicate, he must certainly undergo many mortifications. Notwithstanding the "inebranlable" nature of his dogmas, M. Miquel has furnished us with several variations from them, in the writings of Messrs. Boisseau, Roche, Sanson, Remusat, Richond, and Begin; and the last-named individual has had a public dispute with his preceptor.

M. Begin has produced his promised work on surgery, according to the principles of the new school. We have not seen the volume, but have read a review of it in the Revue Medicale, by M. Bellanger. The latter describes it as a cursory work, having for its object the adaptation of surgery to a set of general principles, rather than a detailed system of instructions how to [Pg 164] proceed in each individual case. It contains only what is easy to be remembered, and omits those matters for which it is usual to refer to books. Thus two pages only are appropriated to fractures of the body and neck of the femur! and twenty-six for the whole subject of fractures, wounds, and six or eight of the most important diseases, of bones! Yet all this criticism is not without a compliment, well-merited at least by the former productions of the same author, to his talents and ingenuity.

19. *Whooping-cough.*—"There is no disease of children, in which the resources of medicine are more manifestly serviceable than in an obstinate whooping-cough." Such, in amount, was the opinion of Dr. Underwood, and Dr. Watt uses language almost equally strong. Certainly, we are not at all times equally successful or equally sanguine in America.

Dr. A. Cavenne considers whooping-cough a true bronchitis, a pulmonary catarrh; accompanied with greatly heightened nervous symptoms, owing to the irritable period of life at which it occurs, and particularly to its frequent existence in nervous constitutions. Professor Tourtelle calls it a pneumo-gastric, pituitous catarrh; and certainly, the pupils of a modern school will find no difficulty in recognizing symptoms of gastritis in its severer forms. The further inferences drawn by Dr. Cavenne, are as follows:

1. That the whooping-cough, in an individual of a sanguine temperament, requires, in general, the use of bleeding, and a debilitating regimen.

2. That bleeding and a debilitating treatment are equally necessary, whatever be the temperament, in whooping-cough of the chronic form.

3. The antispasmodics are necessary in nervous constitutions.

4. That blood-letting and the debilitating treatment should be rejected, when the subject is endowed with a lymphatic temperament. This observation, says our author, is equally applicable to early infancy, in which lymph predominates over the red blood, and the fluids are more diluted.

Finally, if the disease be obstinate and there be disturbance in several functions, there is

certainly reason to believe that a lung, a viscus of the abdomen, or the brain, is in an unfavourable condition; (the author means of the inflammatory kind;) and this is ground for the moderate abstraction of blood.—*Journ. Univ. Feb.*

20. *Antiperistaltic globus. Globus hystericus.*—Dr. Trolliet, of Lyons, observes that hysteria cannot, with propriety, be said to exist in the male sex; that it arises, as its name imports, from derangement of the uterus, and that Cullen and Sydenham have done wrong, and stand alone, in teaching the contrary. When there exists a real hysteria, the contractions are not confined to the intestinal regions, but invade the neighbouring parts; (quere, which of them contract?) they are always accompanied, when existing in a high degree, with convulsions and loss of the mental powers. In the intervals, the patients affected can satisfy their appetite. [Pg 165]

Antiperistaltic globus may occur from various causes; and either in the intestines or the œsophagus.

That of the intestines is met with chiefly in advancing age; and is generally produced by daily and often-repeated pressure on the abdomen, as practised in various professions. Hard labour and bad diet also greatly aggravate it. At first pain in the intestines occurs, aggravated by labour; together with derangement of digestion.

The sensation of a globe then appears on the lower and left side of the abdomen; and, after performing various circuits, finally reaches the stomach; from which is soon after discharged, with great relief, a quantity of gas, issuing from the mouth. Vomiting of an acid and burning fluid, as also of the food, is not uncommon as an accompaniment. This ball is about the size of a man's fist, and is sensible to the external touch, and even to the sight. The patients possess the power, to a certain extent, of controlling its motions, and relieving the pain, which is often extremely violent, by pressure.

Indigestible food always aggravated the disease. Some could only tolerate milk, broth, and other fluids. A weaver was obliged to quit his profession, from the pressure on the abdomen which it required, occasioning the paroxysms.

The treatment consisted in

1. Avoiding the original causes.

2. The use of a species of corslet, (plastron,) to prevent future pressure on the abdomen.

3. A rigid diet. We do not understand why, firstly, articles containing a great deal of fecula, and, as it is said, "requiring a great action of the intestines," are forbidden, while, in the second place, rice is recommended. "Bouillon aux herbes," (a laxative decoction,) rice-cream, and milk, were found the best. Wine was injurious. Assafœtida and camphor were useful, and were administered in boluses. Purgatives were injurious. Emolient enemas were useful.

Of antiperistaltic globus in the œsophagus our author saw only two cases, which were not complicated with hysteria. The patients had both been subject to rheumatism; and, in one of them, this had been supplanted by an eruption Of tetter: on the disappearance of which last the globus appeared. These cases were cured, the latter by a severe, light diet, and some antispasmodics, the names of which are not mentioned; the other by curing the rheumatism.

Dissections are somewhat difficult to obtain; unless where some other more mortal disease exists. In one, scirrhus of the pylorus was found; the stomach greatly enlarged; the small intestines contracted, *red outside and gray within*. (Where was the redness situated; in the peritoneal or the muscular coat? We must *guess* the latter.) The stomach was pale gray, and thickened. The large intestines were dilated, and gray.—*Journ. Univ.* [Pg 166]

21. *Non-contagion of Yellow Fever.*—Dr. Valentine, of Nancy, has printed a pamphlet of a single sheet, in which he finds himself involved in all the turmoil, through which American physicians passed during the period which intervened between 1793 and 1805. Dr. V. gives his authority decidedly in favour of the non-existence of a contagion in this disease; and grounds his opinion upon the innumerable cases of patients affected with the disease and otherwise, who have escaped from infected districts, without communicating the malady in any instance, to the persons with whom they lived; upon the healthiness of ports, from which it has been said to have been introduced, &c. Dr. V. is not, as some of his countrymen have been, unwilling, from some unimaginable cause, to make use of the immense mass of American evidence; though he observes, and with justice, that experiments should be repeated in France, in order to set the public mind at rest in that kingdom. He proposes the employment of criminals for this purpose; and recommends every mode of the most close contact which his imagination could suggest. He mentions experiments of this kind having been made in the United States; and by M. Guyon, of Martinique, on his own person.

He quotes Dr. Chervin's labours, with great and just applause. This indefatigable and daring physician has now spent upwards of ten years in accumulating proofs upon this single question.

At the commencement of the pamphlet, the arrangement of which does not seem to us to be quite clear and easy, Dr. V. gives a sketch of the situation and localities of Leghorn. He traces the fevers of that place to putrid matters, perceptible by the sense of smell; and principally to obstructed drains. He does not give the exact degree of heat, but merely states that it was excessive, and followed by heavy rains.

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

22. *Iodine.*—In the former numbers of this journal, we offered some observations respecting the medicinal properties of iodine, intending then to present in one of our future numbers an elaborate analysis of a valuable work on this subject, by Dr. Manson, which appeared in England sometime last year.[32] Fearing, however, that the want of room and time will prevent us from fulfilling this task, as soon as soon as might be desired, we have thought that a condensed notice of its contents would be acceptable in this place.

It appears that previously to the discovery of iodine as a medicinal agent, our author used the burnt sponge in bronchocele, a disease very common in the neighbourhood of Nottingham, where [Pg 167] he practices. But when the effects of the former remedy was announced, Dr. M. prepared a tincture composed of one drachm of iodine to two ounces and a half of rectified spirit, (spec. grav. 916.) and prescribed it very extensively in doses of from 10 to 30 drops three times a day, according to the age and strength of the patient. Dr. Manson has presented a tabular view of 116 cases of bronchocele treated by iodine, and also a detailed account of 15 more cases, with appropriate remarks. Of the former, there were, viz:—

Males—	Cured,	10
	Much relieved,	1
	Discharged for non-attendance,	1
	Improving under treatment,	3—Total 15
Females—	Cured,	66
	Much relieved,	9
	Not relieved,	2
	Discharged for non-attendance,	10
	Improving under treatment,	14—101—116

Whilst using the tincture internally, Dr. Manson occasionally had recourse externally to a liniment composed of

Liniment. Sap. Comp.	ʒi
Tinct. Iodinæ,	ʒi *m.*

Some patients can bear this quantity rubbed into the tumour once, and sometimes twice a day; though in some, the skin is so tender, that the liniment cannot be so frequently used. Dr. M. prefers this liniment to the common iodine ointment, as less liable to evaporation. In France, we believe Dr. Richond prefers rubbing in the tincture itself. The following remarks are useful:

"In some *individuals*, after the preparations of iodine have been given internally for some time, they are apt to occasion headach, giddiness, sickness of stomach, with some degree of nausea, langour, and inaptitude for exertion; when these unpleasant sensations and effects occur, the best plan to remove or obviate them is to suspend, for a time, the use of the medicine, or to reduce the dose, as may seem most expedient." A reduction of dose, from fifteen to twelve drops, was the plan adopted by our author on this occasion.

2d. *Paralysis.*—Want of success with the ordinary modes of treating this disease, induced Dr. Manson to try the effects of iodine.

"The wonderful powers of iodine, which I had recently witnessed; and a long previous acquaintance with the same remedy as it exists in burnt sponge, in reducing morbid enlargements of the thyroid gland, led me from analogy, to think, that in cases of palsy, from tumours or fluids pressing on the brain or spinal cord, or from morbid thickening of the investing membrane of the cord itself, iodine might prove a useful remedy not only by stimulating the nervous system, and removing morbid tumefaction and effusion, but also by correcting the [Pg 168] strumous state of the constitution that often gives rise to the disease."

The following interesting case as abridged in the Medico-Chirurgical Review, for January 1826, we take the liberty to transcribe.

"J. Watterton, aged 19, was admitted into the General Hospital of Nottingham, on the 27th of March, 1821, having been ailing since October, 1819. Stated that he had at first been attacked with pain in the bowels, which having ceased, the lower extremities became swelled and painful.

"After this, his neck became stiff and painful, with shooting pains from the neck into the left side of the head. These also disappeared, and did not afterwards return. This was about nine months ago, and, at that time, he suddenly lost the power of the left arm, and in a short time afterwards, that of the left lower extremity. Some time after this, he recovered, partially, the use of the left arm; the leg remaining paralytic. About this time, the *right* half of the body was instantaneously and completely palsied. He has continued ever since in this wretched state, getting worse rather than better, passing his stools and urine, involuntarily. He lies on his back, and, with the exception of the left arm, he is completely paralytic on both sides, from the neck downwards. The sense of feeling is very much impaired—there is no distortion of the face, nor impediment of speech. Is troubled with twitchings in the lower extremities. *Purgatives—blisters to the nape of the neck, and to be kept open.*

"It appears that, about two years ago, he had a bloody purulent discharge from both ears. The left still continues to discharge a purulent looking matter. Purgatives were continued till the 6th of April, when the tincture of iodine, in doses of 15 drops, was given thrice a day. April 9, can raise the right arm nearly to the head; but the power of the lower limbs has not improved. The twitchings have decreased. Purgatives—the tincture of iodine to be increased to 20 drops ter in die. 10th. Evinces some muscular power in the lower extremities to day—feels stronger—can retain his urine for some time. 14th. Continues to improve. The left foot is become exquisitely sensible, and that extremity is often drawn up spasmodically towards the body. The iodine to be increased to 25 drops. 16th. The paralytic symptoms continue to yield to the powerful influence of the iodine. When his meat is cut, he can now feed himself with the left hand;—can raise the right hand to the chin, and draw the right upper extremity up towards the body. He continues to hold his water. The iodine is increased to 30 drops, thrice a day—from this date to the 7th of May, the medicine was occasionally obliged to be intermitted and again commenced in smaller doses. At this period, however, the patient could walk from his bed room to the day ward with very little assistance. 19th. He can walk without any assistance, except that of a stick to steady him. June 9th, can walk without a stick. He is gradually recovering the power of motion and sense [Pg 169] of feeling. Drops agree. Appetite good, and is allowed full diet. July 3d, the patient was discharged cured."

Besides this highly interesting case, 24 more of paraplegia, hemiplegia, and partial paralysis, are given in detail, in which the iodine was exhibited with various success. In his prefatory remarks to this chapter, Dr. Manson observes, that although he has been able to cure only a proportion of the cases of palsy that have come under his care since April 1821, yet he has been much more successful in his practice since that time, than he was previously with the use of all the ordinary means.

Having succeeded so well in paralysis, Dr. Manson was induced to try the effects of iodine in chorea, which he thinks is more closely allied to palsy than is supposed, and is linked to it by that species of the disease called shaking palsy. Of chorea treated with iodine, and showing the efficacy of the remedy, Dr. Manson details eleven cases, and concludes this section with a tabular view of 72 cases treated at the General Hospital near Nottingham, between the 6th of October, 1812, and the 5th of October, 1824. In all the cases detailed by our author, the iodine was administered after purgatives, and throughout the treatment, the bowels were carefully regulated by aperient medicines.

Dr. Manson next records the results of his experience with iodine in scrofula—detailing three cases of scrofulous enlargement of the conglobate glands—two of scrofulous ulcers, and four of scrofulous ophthalmia; in all of which, the most beneficial effects were obtained. Our author details eleven cases of fistula lachrymalis, in which iodine produced the happiest results. He was led to prescribe iodine in this disease from the circumstance, that one of the individuals to whom he gave it for paralysis, laboured under the fistula, and was promptly relieved of it, whilst under the use of the remedy.

Dr. Manson has likewise detailed nine cases of deafness cured, or greatly relieved, by iodine. In most of these cases, the disease originated from obstruction of the Eustachian tube, the consequence of swelling of the tonsils, or of the membrane of the tube itself, from previous inflammation.

Seven cases of dysphagia, eleven of white swelling, four of morbus coxarius, and eleven of distortion, form the subjects of the four succeeding sections. The medicine in all these cases, manifested so very decided a power in arresting the progress, and even in curing the disease, that we think ourselves safe in recommending a trial of it in similar cases. As the iodine, however, is a powerful stimulant, we would advise it not to be prescribed when there exists any fever, and especially when there are any decided signs of gastric irritation, as it would be likely to aggravate it.

23. *Non-mercurial treatment of Syphilis.*—In the first number of this Journal, we inserted an essay on this subject, by Dr. Thomas Harris, of this city, in which the author confirms, by the results of his public and private practice, the statements of the British army surgeons respecting the efficacy and safety of the non-mercurial treatment. Since that period, having noticed that, by [Pg 170] the worthy editor of a respected cotemporary, it is asserted that though mercury fails, "yet from the most ample experience in Europe, the present practice of Paris, England, Ireland, and the Continent generally, we must lean to the idea, that its use, under proper regulations, must be always adopted, as the only safe mode of cure in these diseases," we deem it but justice towards Dr. H. to call the attention of our readers to the result of the extensive experience of some physicians on the continent of Europe. Not to mention Broussais himself, who appears to have rejected mercury almost entirely in the treatment of primary or secondary symptoms, we may cite Mr. Richond, who reports that he treated, at the military hospital of Strasburgh, nearly 3000 cases of syphilis in all its grades, the vast majority of which were completely cured without mercury, and simply by means of antiphlogistics, emollients, and revulsives. Mr. Richond, besides some essays in the Archives Medicales, and a summary of his experience in the preface to his work on apoplexy, has lately published an elaborate work on the subject. In the October number of the Annales de la Médecine Physiologique, Mr. Becquart of the military hospital of Bayonne, details twenty-six cases of gonorrhœa, inflammation of the testicles, chancres on the glans and lips, buboes, excrescences around the anus, &c., all of which were cured without mercury, and with the same remedies as were employed by Mr. Richond. We might adduce the testimony of other French physicians, and particularly of M. Begin, but we deem it unnecessary, as the above

will be sufficient to show that in France the practice meets with the support of many very intelligent physicians. We annex the conclusions of Dr. Otto of Copenhagen, drawn from an extended personal experience, and from his researches on the subject. Dr. Otto's essay is contained in a late number of Gräafe's and Walther's Journal, and the conclusions are published in the Edinburgh Medical and Surgical Journal. Dr. O. remarks:

1. That the cure of syphilis, without mercury, has been asserted by so many authorities, that the fact can no longer be doubted. If, then, the disease could formerly be cured without mercury, it may certainly now be much easier, as it has lost much of its violence and obstinacy.

2. Syphilis can undoubtedly be radically cured in this manner; but then the cure is of longer duration, and the diet requires considerable restriction.

3. The secondary symptoms, and a return of the complaint, are certainly more frequent; but the symptoms are not so difficult of removal; and the treatment has a much more speedy effect.

4. As the treatment without mercury requires a longer time, it appears more practicable in hospital than in private practice; and on the other hand, the patient can be better watched in a hospital, which, on account of the diet, is of great importance. [Pg 171]

5. As ulcers on the genitals are often not syphilitic, and the use of mercury is contraindicated from a predisposition to scrofula or phthisis existing in the individual, it is consolatory to learn from the results of experience, that this medicine is not always necessary, and that a radical cure, by more simple and innocent means, can sometimes be effected. Where, however, the physician is anxious to avoid the possible evils which mercury is capable of producing, and also to prevent loss of time, there remains a middle way, namely, to employ mercury, whose specific action can scarcely be denied, in moderate doses.

It results from a report of the cases of syphilis admitted into the public institutions of Sweden, that 3,574 were treated in 1822; 3,465 in 1823, and 3,355 in 1824. During the course of this last year, 55-3/10 per centum of all the patients were treated by the mercurial method, and 35-1/10 per centum by the non-mercurial method, and by low diet; 2-1/2 per centum by means of fumigations. MM. Kessler, Wurster, Ronberg, and Sandmark, prefer the dietetic method, and consider it as the surest of all those hitherto employed. Relapses are rare. In 1822 they amounted in relation to the whole number of cases, to 11-2/3 per centum; in 1823 to 10-1/4, and in 1824 to 10-2/3. After the treatment by starvation, they amounted in 1822 to 7-3/4 per centum; to 7-1/3 in 1823; and to 8-1/3 in 1824. After the mercurial treatment, in 1822 to 17-1/2 per centum; in 1823 to 14-1/16; and in 1824 to 14-1/2. *Bulletin des Sci. Med.*

We hope to lay before our readers at some future period, an analysis of Mr. Richond's work above alluded to, as well as of one on the same subject by Mr. Jourdan of Paris, author of some essays on the origin of syphilis, translated and published here a few years ago.

24. *Cancer treated by Antiphlogistics.*—Of all diseases classed among the opprobria medicorum, cancer has hitherto been justly viewed as holding the most conspicuous rank, and it is only within a short time, that it appears to have been treated on correct principles, and that cures have been detailed by individuals of undoubted veracity. The idea of the inflammatory nature of cancer, and of the propriety of treating it by means of antiphlogistics, has been held many years ago, and supported by Vasalva in Italy, Fearon in England, Hufeland in Germany, Pouteau and Vacher in France, not to mention other high authorities. But, notwithstanding the success attending this practice, it was too simple for the supporters of cancerous humours and specific inflammations, and seemed, in consequence, to have been abandoned by them, in their search after anti-cancerous or specific remedies; and little was heard of it, until revived by the disciples of the physiological school of France, and particularly by its founder professor Broussais, and by professor Lallemand of Montpellier, the result of whose experience is published in a thesis, lately defended at Montpellier by Dr. Mareschel.

We have been led to these reflections from reading the above essay, and another on the same subject, published by Dr. J. A. Puel, in a late number of the Archives Générales de Medecine. Dr. [Pg 172] P. details many cases, which were treated by his father, by means of leeches, emollients, purgatives, &c. so early as 1807. In most of these cases, the practice appears to have been very successful. As it is our wish to impress our readers with the propriety of making a fair trial of this method, in cases of scirrhus and cancer, we shall select and translate a few cases from the latter essay. It is proper to premise, however, that the practice must not be viewed as completely successful in *every* case, and that the older the complaint, the less confident we ought to be, in respect to the happy results of the case. Nor is it to be expected, that *boldness* in the employment of the lancet and leeches, will answer as well as a perseverant, constant, but moderate use of these means. Chronic inflammations are not to be removed by storm, but by a *chronic* use of remedies, and particularly by attention to diet.

We cannot at present determine precisely the proportion of cures effected, by this method, of scirrhus or cancer, in a given number of cases, and how far it will surpass, in point of success, the common method of treatment by *specific* narcotics and escharotics; but, even supposing that it is not more successful, (which we are disposed to deny,) it has at least the vast advantage of being more *comfortable*, and much less painful to the patient.

Mrs. D. enjoying good health, and mother of three children, was brought to bed in 1823, of a healthy child, which, however, she did not suckle. With a view of suppressing the secretion of milk, irritating applications to the breast were resorted to, which brought on an inflammation of

that organ. Emollient poultices were now applied; these, however, did not prevent the formation of an abscess, which was opened by means of caustic potash. The suppuration, for a few days, was abundant and the matter discharged healthy. Purgatives were prescribed, with the view of suppressing the discharge, and mercurial ointment was rubbed on the tumour, to produce its absorption. These remedies were not successful, because no means were employed to arrest the inflammation, which gave rise to the suppuration.

When the patient applied for advice, she had been sick already four months, and presented the following symptoms. She was very much emaciated, and laboured under fever, resulting from a gastro-enteritic inflammation, kept up by purgatives and deostruents, (*fondans*,) which, from the commencement of the attack, were prescribed for her. The ulceration of the mamma was of the size of a five frank piece, unequal and gray, and gave issue to an ichorous and fœtid purulent matter. The edges were thick and everted, and surrounded with an erysipelatous inflammation. The whole mamma was large and hard, and the seat of lancinating pain. Thirty-five leeches were applied around the tumour, and gave rise to a profuse hæmorrhage, which continued many hours. From this, the patient experienced so much relief from pain, as to be able to take some repose, of which she had been deprived for some weeks. Emollient poultices and drinks were prescribed, and a low diet enjoined. By all these means, the pain was lessened, and the swelling [Pg 173] much diminished. Leeches were again applied, and the other remedies continued. The wound gradually improved, and in forty five days, was completely healed.

Mr. P. was called on the 25th of September, 1817, to attend a lady, who had been affected for two days with uterine hæmorrhage, which he succeeded in arresting. The following history of her complaint was given to him: she had aborted about 18 months before, and since that time, had experienced every fortnight an uterine hæmorrhage, which generally lasted five or six days. During the intervals, she complained of deep seated pain, numbness and cramps, in the lower part of the abdomen, in the thighs and groins. The pain was much aggravated when she had a stool—walking, especially when long continued, was painful, and attended with a sense of dragging, which was only relieved by repose. From the same period, her disposition had changed from gay and lively, to melancholy and morose—her digestive functions were slow and painful—she was affected with leucorrhea, and during coition, felt much pain, and often lost some blood. On examination per vaginam, it was found, that the neck of the uterus was elongated—the anterior lip of the same organ was soft to the feel—the orifice somewhat enlarged, and painful when the finger was introduced into it. On the inferior lip there was a small unequal and painful spot, which was regarded as a superficial ulceration; the uterus was a little prolapsed, and somewhat enlarged; the pulse small and frequent; febrile exacerbations every evening; sleep not refreshing, and interrupted by short lancinating pain in the uterus.

The disease was judged by Mr. P. to be a chronic metrites, with ulceration, and all the symptoms usually attending incipient cancer. Guided by this belief, and notwithstanding the already long duration of the disease, and the debility of the patient, the following treatment was adopted—complete repose in the horizontal posture—leeches to the vulva, repeated several times—vaginal injections, with emollient decoctions—hip baths—very low diet. After persevering in this plan twenty days, the patient appeared much better, and was allowed to sit up. General baths were substituted for the partial ones. The same treatment was continued, with the exception of the leeches, and at the end of thirty days more, all the symptoms of the disease had completely disappeared. Mrs. P. was allowed to spend the following spring in the country, from whence she returned in very excellent health. She has since continued to enjoy it, and has borne several children.

Cases nearly similar, are detailed by Mr. Mareschal, as having occurred in the practice of professor Lallemand. The same gentleman, also gives the history of two cases of external cancerous sores, in which the same treatment was adopted. The patients having died during the progress of the cure, of other diseases, an opportunity was offered, of examining by dissection, the changes that had occurred in the parts. We cannot enlarge on the subject in this place, and [Pg 174] can only remark, that these changes were such, as to lead us to hope, that less difficulty will be experienced in the treatment of sores reputed cancerous, by the local antiphlogistic plan, than is commonly supposed. At any rate, recommended by such high authorities, the practice deserves a trial.

The Revue Medicale for February 1826, contains the details of a case lately cured at La Pitié, by Mr. Lisfranc. The patient, a woman, aged 36 years, of a strong and good constitution, had suffered the removal of a cancerous breast, 18 months previous to her admission into the Hospital, on the 10th October, 1825. The following symptoms were observed. On the whole surface of the cicatrix were felt a number of engorged ganglia, and an induration situated on the large and small pectoral muscles, and spreading from the clavicle to all the external and superior part of the thorax, and as far as the axilla, where other swollen ganglia were felt. The enlarged surface was elevated about half an inch above the level of the chest. Severe lancinating pains were at short intervals felt by the patient—which came on without any evident cause, and were particularly severe on the least pressure of the swollen part.

This patient was treated by means of frequent and copious bleeding from the arm—the very frequent application of leeches to the inflamed part, and to the upper and interior part of the thighs, to bring on the menstrual discharge—digitalis to remedy the frequent palpitations—emollient applications, and low diet. On the 10th of January, she was considered well;—the swellings and pain having disappeared—the menstrual discharge being well established, and the movement of the arm (which during the progress of the disease had been impeded from the

swelling in the axilla) perfectly free.

We are happy to learn that this practice is pursued with success by the Spanish physicians, as may be readily found by a reference to a late number of the Periodico de la Sociedad Medico Quirurgica de Cadiz, which contains cases of scirrhous mamma cured by the repeated application of leeches.

25. *Essential oil of Male Fern, as, a remedy in Cases of Tænia.*—The male fern has long been regarded as a valuable anthelmintic medicine; but, as every powder administered in large doses, its exhibition is difficult and disagreeable; so much so, indeed, that many patients refuse to make a sufficiently constant use of it to ensure its beneficial effects. Struck with this inconvenience, M. Perchier, a pharmaceutist of Geneva, has lately made some experiments with a view of discovering its active principle, and to see whether this latter may be administered with equal success with the powder or infusion of the plant. We are happy to learn that the result of his experiments are very satisfactory. We translate the following observations from a memoir on the subject, read on the 7th of October last, by Mr. Gendrin, before the medical society of the department of the Seine. "This medicine, which is a fatty oil extracted by distillation from the [Pg 175]
æther, in which the powder of the root of the male fern has been macerated, has caused in many cases, the expulsion of the tænia, without occasioning nausea, colics, or any other morbid phenomena." "It is exhibited at bed time, either in an oily potion, in pills, or incorporated in an electuary, in doses of 18 or 20 drops. On the following morning, a similar dose is given, and two hours after, two ounces of castor oil are administered. In most cases, the tænia is expelled in the course of the day, but if this does not occur, the same doses of the oil are given in the same way, and followed by a similar quantity of the castor oil. The fatty oil of fern, has an æthereal and empyreumatic smell; its colour is brown, and its consistence rather greater than that of castor oil; it is, however, easier to separate in drops. Its taste is acrid, pungent, empyreumatic, and very disagreeable."—*Propagateur des Sciences Medicales, Janvier 1826.*

26. *Tincture of Bastard Saffron*[33] *for the expulsion of Tænia.*—Dr. Chisholm, of Canterbury, has lately used with success, in a case of tænia of many years standing, the vinous tincture of bastard saffron. The patient had already undergone various plans of treatment, and had especially used the oil of turpentine in very large doses. Dr. C. was induced to try the above remedy, from having noticed, that in a case in which it had been prescribed for the cure of rheumatism, a large portion of tænia had been expelled. He consequently administered two ounces of the tincture; advising the patient to take a table spoonful more of it mixed in a little water, two or three times a day. On the third or fourth day after commencing the use of this remedy, the patient voided a large portion of the worm, and has since been free from the usual symptoms of the disease.

27. *Oil of Turpentine in Tænia.*—Although the oil of turpentine is used in many parts of this country, in cases of tænia, we have good reasons for believing, that some physicians continue, notwithstanding the testimony in its favour, to hesitate exhibiting it in doses sufficiently large to destroy and promote the expulsion of the worm. Such being our opinion, we are induced to offer here a few remarks on the subject, and to notice a memoir published by Dr. De Pommer, in a late number of Hufeland's Journal. The employment of this remedy in such cases, is not of recent origin, having been resorted to many years ago by the Swedish practitioners, and subsequently revived by the English. In Germany it has recently been used by Professor Osan, and we believe particularly by Dr. De Pommer, who appears to have prescribed it boldly in very many instances, and in some, after the ineffectual employment of all other anthelmintics. Dr. P. adds, that he never saw any bad effects resulting from its use, and that patients are very little liable to relapses when treated by it.

Among the cases detailed by Dr. De Pommer, we select the following, as calculated to show the manner in which the Dr. uses the remedy.

"G.K..., a soldier aged 21 years, thin, tall, and who during his infancy had been subject to [Pg 176]
ascarides, has occasionally voided during more than 10 years past, portions of tænia. He had used several purgative medicines, by which several yards of this worm had been expelled; but annoyed with so many attempts at obtaining its total expulsion, he had ceased, three years before, the use of all sorts of anthelmintics. But the phenomena resulting from the presence of the animal being aggravated, the patient applied for advice to Dr. De Pommer, who found him labouring under the following symptoms:—Frequent pain in the abdomen, and especially in the umbilical region, accompanied with a sense of burning heat, and alternate distension and depression of the abdomen. Appetite sometimes keener than in health; at others nearly lost. In the morning before breakfast, the patient was seized with extraordinary weakness, and general uneasiness, accompanied with trembling of the limbs, ineffectual attempts to vomit, a sense of constriction in the throat, and a profuse salivation. All these symptoms disappeared after K... had taken food; but reappeared two hours after. Milk and farinaceous aliments were the only articles of which he could make use without an aggravation of his disease. The pulse was febrile; sleep good, but attended with dreams. The pupils were in the natural state. From the symptoms, and from the history of the case, Dr. P. was induced to make use of the oil of turpentine in the following manner. The patient was ordered in the morning, before breakfast, three table spoonsfuls of the remedy, at half an hour's interval. The first doses produced only a few borborygma. Two more table spoonfuls occasioned a vomiting of mucous matter. Three more table spoonfuls were exhibited, and followed by a stool of solid fæces, mixed with which were five small pieces of tænia. The patient not finding himself incommoded, took in the space of an hour, three more table spoonfuls of the remedy, after which he experienced some pain in the head, and vomited about one pint of bilious liquid. An hour after, the same quantity of the medicine was

taken, and followed again by vomiting, but after a repose of half an hour K... discharged, per anum, firm and greenish fæces, and with them five ells of tænia. The urine discharged had the smell of violets. He again took a few spoonfuls of the vermifuge, which were not followed, however, with any fæcal discharge, and only with some vomiting of mucus, and slight vertigo. In the afternoon the patient felt well, and experienced a great appetite, in which he indulged. From this moment he recovered, and has ever since enjoyed good health. The quantity of the remedy used was six ounces."

It appears, from the observations of Dr. P., that the gastric irritation occasioned by the spirits of turpentine, has never amounted to phlogosis, and has generally subsided after the remedy had been discontinued. Nevertheless, as the spirit of turpentine is a very powerful stimulant, we would not venture to recommend its use, when there exists an inflammation in the gastro- [Pg 177] enteritic system. We are aware that it is resorted to in burns, and highly eulogized in puerperal and yellow fever. In the first, it is certainly very useful, but on what principle we know not, except perhaps that its stimulus is different from that existing in the diseased part. But in the second case, it acts, not on the diseased surface, but by revulsion, on the mucous membrane; and as regards its virtues in yellow fever, we are rather sceptical in respect to what has been said on the subject. In this opinion we are supported by the testimony of our friend Professor Rhees, whose situation of house surgeon to the fever hospital, during the epidemic of 1820, afforded him ample opportunities of testing the propriety of the practice.

In the number for March 1826, of the Revue Medicale, M. Maudru relates two cases in which large portions of tænia were expelled, and the patients cured, by means of a strong decoction of the bark of pomegranate. The first patient took, in one day, two pounds of the decoction made with four ounces of the remedy. The second patient took six ounces of the bark in decoction, in the course of forty-eight hours. In neither case did the medicine occasion unpleasant effects, with the exception, in the second patient, of slight colicky pains.

28. *Action of the Oil of the Euphorbia Lathyris.*—At a meeting of the Academy of Medicine, (section of pharmacy) M. Bally read the results of some clinical experiments made by him at the hospital of La Pitié, on the action of the oil of the euphorbia lathyris. The preparation used by him, had been made by means of alcohol and expression. It appears to be a little more active than the other preparations. Administered to fifteen individuals of different ages, it did not produce very various results, nor prove very active in its purgative effects. As a purgative, indeed, it is far less active than the croton oil, and requires to be given in much larger doses; as much as six or ten drops. It has also the bad property of exciting emesis, by which it is rejected from the stomach. On the other hand, however, it does not, like the croton oil, produce salivation, and is, on the whole, regarded by M. Bally, especially when fresh, as a useful purgative in diseases of children.—*Archives Generales, Decembre, 1825.*

29. *Medicinal properties of the Apocynum Cannabinum, or Indian Hemp.*—In an essay on this plant, submitted to the medical faculty of Jefferson College, by Dr. M. L. Knapp, we are informed, that in doses of 15 or 30 grains it possesses emetic properties. It was besides, on trial, found to be cathartic, expectorant, diuretic and diaphoretic. It appears to have been generally administered in powder, and Dr. K. remarks, that "in decoction, it seems to lose some of its emetic properties, and to act more upon the bowels as a hydragogue cathartic." "The root possesses all the medicinal properties of the plant, and is active throughout, both in its cortical and ligneous portions. Water or proof spirit is its proper menstruum."

This article was prescribed with success in dropsy, by Dr. Knapp, and by Dr. Parrish of this city. It [Pg 178] was likewise used in intermittent fever, in bilious affections, amaurosis, hernia humoralis, dysentery, chronic rheumatism, &c. Dr. Knapp appears to have derived benefit from its use as an alterative in a case of fever in a child, attended with disordered bowels. "The powders (gr. ii. each at intervals of three hours,) were regularly persisted in for a week, and the child's health went on gradually improving. Neither vomiting nor purging was produced, but the morbid heat and thirst were allayed, the stools became natural, the skin soft and moist, and the functions of digestion and assimilation were gradually restored, and the child is at this time fat and healthy."—*American Medical Review, &c. April* 1826.

30. *Remarkable effects from the external application of the Acetate of Morphia.*—M. Dubourg has recently published the result of an experiment made at the hospital de la Pitié, with the acetate of morphia, which we regard as sufficiently interesting to be noticed in this place. The patient had been affected twelve months before with puerperal peritoneal inflammation, complicated with cerebral symptoms, from which, notwithstanding a most energetic antiphlogistic treatment, she never entirely recovered. When she was admitted into the hospital, she presented the following symptoms:—"considerable emaciation; skin hot and pungent to the feel; pulse small and frequent; tongue of a pale rose colour, dry at the tip and edges, brown and smooth in the centre as far as the basis; severe pain on the least pressure on the epigastrium and over the whole abdomen; cardialgia, nausea, vomiting of all solid and liquid aliments, and during the empty state of the stomach, violent efforts to vomit occurring at irregular intervals; abdomen tense and tympanitic; violent intermittent pain along the course of the intestines; constipation; sensation of fatigue and lassitude in the lumbar region and in the extremities; dragging pains in the inter-scapular region; extinction of the voice; urine red and scanty; the face animated and bearing no marks of profound suffering; agitation, and total want of sleep."

The disease was regarded as a chronic gastro-entero-peritonitis, and treated accordingly, by the antiphlogistic regimen; but no benefit was derived from this plan. The patient continued to vomit

almost every thing she took, with the exception of sugar and a paste made with the Iceland moss. A blister was applied to the epigastrium on the 15th of February, seven days after her admission. Called to her assistance on the 22nd of February, on account of an aggravation of the vomiting, M. Lambert, one of the house pupils of the hospital, endeavoured to calm the symptoms by means of the acetate of morphia in powder, applied to the raw surface of the blister. Half a grain was used in this way, and in a few minutes the vomiting disappeared, and the patient passed a better night than she had yet done. M. Serres having authorized the continuance of this method, M. Dubourg the next day applied half a grain in the same way; and the patient slept the whole night. The remedy was applied every day with the same effect, and was gradually increased to two [Pg 179] grains and a half. From the first application of the remedy, the symptoms gradually subsided; aliments were retained and properly digested; the pain and swelling of the abdomen disappeared, and on the 14th of March the patient was regarded as in a fair way of recovery.—*Archives Generales, March* 1826.

In some remarks which accompany this interesting case, M. Dubourg, seems to doubt the correctness of the first diagnosis, and to view the disease as a nervous, rather than as an inflammatory affection of the abdominal viscera.

31. *Cure of Urinary Calculi by means of the internal use of the Bicarbonate of Soda.*—At a late meeting of the Academy of Medicine, Mr. Robiquet read a memoir on the use of this salt in cases of urinary calculi. Having learnt from Mr. Darcet, that the use of the waters of Vichy changes the quality of the urine from acid to alkaline, Mr. R. conjectured, that this effect should be attributed to the bicarbonate of soda contained in them; and from this circumstance, he was led to administer this salt internally, in cases of calculi composed of uric acid. In July last, he made the experiment on a man 74 years of age, who had laboured under symptoms of the disease since the month of February, and in whom, by means of the sound, a small and soft calculus had been detected. Mr. R. ordered him 10 grains of the bicarbonate in the course of the day, dissolved in two pounds of water—prescribing at the same time, hip baths, injections, &c. At the end of fifteen days, much benefit had already resulted from this treatment; and in a month, the patient appeared to be cured. Nevertheless, the remedy was continued until November, when the patient passed through the urethra, a small calculus composed of uric acid, which appeared to have been the nucleus of a much larger one, the exterior strata of which had been worn off. From that period, the patient has not experienced any unpleasant symptom; but the sound was not resorted to, to ascertain whether the first calculus before felt, could be detected.—*Archives Generales, February, 1826.*

32. *Attempt to cure Abdominal Dropsy, by exciting Peritoneal Inflammation.*—In the number of the London Medical and Physical Journal for April, 1826, a case of ascites is related by H. R. Oswald, Esq. in which the cure was attempted to be effected, by exciting peritoneal inflammation. The following symptoms were noticed at the time of application for advice: the abdomen measured nearly six feet in circumference, was exceedingly hard and tense; but not tender. The patient "could hardly walk across her cabin from dyspnœa and debility, and the weight and tension of the tumour; which caused her to bend the body much forward, leaning her hands on her knees. The emaciation was very considerable; the appetite good; thirst considerable; tongue clean; pulse 120, and small; skin dry, harsh, and rough; bowels habitually costive; urine scanty." "This affection commenced about twelve months ago, after an obstruction of the catamenia for [Pg 180] nearly a year, arising, as was supposed, from exposure to cold. The swelling was preceded by lancinating pains in the abdominal and lower part of the thoracic cavities, but which, after a few months, ceased entirely; and the disease had, in a chronic manner, gradually arrived at its present oppressive form."

Paracentesis was performed several times; cathartics, diuretics, the lancet, blisters, and tonics were resorted to, with relief from some of the symptoms. The tumour, however, returned several times, so that M. Oswald despairing of effecting a cure by following the same plan, and recollecting a case of ascites, which was cured apparently by an inflammation having supervened in the peritoneum, from the orifice made by tapping remaining open, attempted to produce the same effect in the present patient, by keeping the orifice of the wound open by means of a small tent. In this he partly succeeded, for in the course of a few months, all symptoms of the effusion had disappeared; health and strength had much improved, and the patient had experienced a return of the menstrual discharge, which had been suppressed for nearly three years.

About a year afterwards, however, the disease returned. Paracentesis was again performed several times, and a tumour was perceived to have formed in the lower part of the abdomen. The patient died in about five or six months from the re-appearance of the effusion. On dissection, much water was found in the abdominal cavity, which was lined by a dense, white, and rough looking membrane, of a fragile and diseased structure. The intestines behind this membrane, were unusually small, and of a dark leaden colour. The tumour above alluded to, was discovered to be situated in the region of the right ovarium; it was a tubercular, carcinomatous, and pale coloured fungus, possessing a structure not unlike that of the placenta, and was formed in the interior of the sac, which being traced further back, was found to be the cyst of a dropsy, originating in the right ovarium at the fundus of the sac, or "more properly speaking of its neck."

"The foregoing statement," Mr. O. remarks, "involves four facts and questions of considerable importance in pathology. 1st. The great quantity of fluids evacuated in so short a space of time: no less than ninety-six quarts in eight months, by four operations; and fifty-nine quarts from August to December, 1824, by three. 2nd. The variety in the nature, consistence and colour of these fluids. 3d. The possibility of curing ascites and dropsy of the ovaria, by exciting

inflammation in the abdominal sac, either by the admission of air into it, or mechanical irritation; and 4th. The possibility of a thickening of the parietes of the abdomen by inflammation, or by an exudation of a carcinomatous sort, being mistaken for a tumour rising out of the pelvis."

33. *Artificial Respiration.*—Dr. J. WARE of Boston, relates in the New England Jour. for April last, that he was led by the experiments of the justly celebrated physiologist Mr. BRODIE, to employ [Pg 181] artificial respiration in the case of an infant 9 weeks old, whose system was prostrated from an over dose of laudanum. "The action of the heart was reduced to an occasional throb; the pulse had entirely ceased, and the efforts at respiration, which for some time had consisted merely in an occasional gasp, became more and more unfrequent." The child had been afflicted for five or six weeks with hooping-cough, and had been very sick and feeble when the laudanum (about 15 drops) was administered.

By means of the stem of a tobacco-pipe, artificial respiration was excited, and continued for several minutes: the action of the heart was immediately renewed, and the pulse could be again felt. At the end of an hour, during which the artificial respiration was repeated at intervals; "the respiration became natural, the pulse distinct and tolerably strong, and the heat began to return." A fit of coughing, preceded by a livid appearance of the forehead and face, arrested the breathing, "which did not return till assisted by the artificial process." The child, assisted by these measures, and by attention to the more usual means of recovery, struggled through the night, but died during a paroxysm of coughing in the morning.

The conclusions of Mr. BRODIE are, that narcotics destroy life through the organs of respiration, and hence, if respiration can be artificially carried on until the effects of the narcotic subside, life may be preserved. Dr. WARE'S case would seem to confirm this idea; for it is *probable* his patient would have recovered from the effects of the narcotic, if the paroxysms of coughing had not interfered.

34. *Secale Cornutum.*—Mr. CHARLES WALLER has lately published (London Medical and Physical Journal, April 1826,) several cases illustrative of the action and efficacy of secale cornutum. We have not room for any of the cases, and content ourselves with transcribing Mr. W.'s inferences. These are: "That the secale cornutum is a remedy which is capable of increasing the force of the uterine contractions in a most remarkable manner, under certain circumstances; but that the effect is doubtful, unless there be some degree of action present. In other words, that, although it will increase the contractions when already present, it will not always renew them when they are suspended.

"That the effect is more certain if the infusion be of greater strength than is usually recommended; two drachms of the secale to six ounces of water being barely sufficient for the purpose.

"That it appears to be a stimulus peculiarly fitted for irritable, and what are generally termed *nervous* habits.

"That the fears entertained by some practitioners of its proving detrimental to the child, are groundless.

"But, although it is in general necessary, not only that there should be a disposition for labour, but that this process should have actually commenced, before we can expect the secale cornutum to have any effect upon the uterus, still one solitary case has indirectly come to my knowledge [Pg 182] (and I will vouch for the authenticity of it,) where this remedy was given for the purpose of producing abortion in a female, about the second month of utero-gestation; and this effect was accomplished in a few hours after its exhibition."

35. *Animal Magnetism.*—This strange doctrine begins to acquire considerable vogue in France, and other European countries, from which it seemed to have been expelled, by the contempt and ridicule which it met with, from most of the learned of the latter part of the last century. ANTHONY MESMER, the great chorœgus of the magnetic mummers, was born in 1733, and excited a vast deal of attention, by the enormous pretensions which he set forth on the subject of magnetism. MESMER came from Austria to Paris in 1778. He addressed the Academy of Sciences, and that of Medicine, but no attention was paid to him, till a commission was appointed to examine carefully into the merits of the question. This commission in 1784, so fully exposed the fallacy of MESMER'S theories and practice, that he soon afterwards quitted Paris, and retired to England under a feigned name. He subsequently went to Germany, and died in obscurity, in the year 1815.

In December last, M. HUSSON (for himself, and MM. ADELON, BURDIN, MARC, and PARISET,) read a report to the Royal Academy of Medicine, on the question, whether it was fitting for the section to undertake new researches on animal magnetism, as it had been thought to be definitively settled by the decisions of 1784. The report concluded affirmatively, for several reasons; among which the principal seems to be, that magnetism has at present fallen into the hands of the learned, whereas it was formerly under the domain only of quacks and the vulgar.

M. HUSSON'S report was discussed at subsequent sittings of the Academy, for the purpose of ascertaining whether a new commission should be appointed; and as this topic is certainly one of the greatest novelties of the day, we shall give some account of the discussions, making free use of the report of them, contained in the Revue Medicale, Mars. 1826.

M. DESGENETTES, declared against the appointment of a commission, because he considered the magnetism of the present day, quite as much a matter of jugglery as that of 1784; and he informs

us, that the publicity given to the report, had already increased the audacity of the magnetisers, who look on it as an approbation of their art.

M. Virey, regretted that the report had not spoken in strong terms, against the ridiculous practices, and shameful jugglery, which disgrace the cause of magnetism; he wished the committee had announced an intention, to make only physiological, or psychological researches, on the influence, which magnetism really appears to exercise on the nervous system; and gave his voice for the formation of a commission of experiments.

M. Bally, voted against it for several reasons, and among others, because of the fact announced [Pg 183] by all the magnetisers, that the person who magnetises, acquires a sovereign power over the magnetisee; and he inferred from this, all the inconvenient and even dangerous consequences which may result to public morals!—Finally, he voted against it, because magnetism is ridiculed every where, because it is all darkness and confusion, and especially, because it being an inexhaustible mine of empiricism, the section ought not to lay open such a fertile field for those gentry who live by quackery.

M. Orfila, (eheu!) defended the propositions of the reporters. It is opposed, said he, on the three grounds following: 1st. Because the section has not been invited to the examination now recommended. 2nd. Because magnetism is nothing but juggling. 3d. Because commissions will not commonly do any work. The first ground is not correct: M. Foissac, a physician of Paris, has invited our attention to it, and offered to subject a magnetic somnambulist to its exploration; and very reputable physicians, members of the Academy, MM. Rostan, (the ramollissement man, is his head soft too?) and Georget, have in their recent publications called the attention of the learned to this subject. Secondly, if there be any jugglery, in the magnetic phenomena we are told of; it is nevertheless certain, that the whole of them are not simulated. The testimony of well taught physicians, ought to be received on this head. That the phenomena are extraordinary, is no argument; for those of electricity must have been quite as marvellous, at the period of their discovery, &c. &c.

M. Double, blamed the report as being nothing more than an apology for magnetism, which is tarred with the same stick as that of 1784, and only modified a little, by the esprit de notre temps, &c. &c. He said he had made magnetism a special subject of study, and *never saw a phenomenon produced by it*.——He thinks the commission could only do injury to science, and compromit the Academy, &c. &c. He would vote against the appointment, and advised the section to wait until some scientific memoirs should be sent to it.

M. Laennec, agreed with M. Double, because after studying the subject for twenty years, he is satisfied, that it is almost nothing but deception and juggling; although, when he commenced the study, he was prejudiced in its favour. According to M. Laennec, among the magnetic influences, there are several, attributable to the impressions, which one individual naturally makes on another in correlation with him; and he cited a mistake, which he saw committed by a somnambulist woman. She was magnetised by two persons, one of whom was handsome, but anaphrodisiac, the other ugly, yet possessing in integrity, the genital faculties. She received no impression, except from the first individual; so that the impression which this female had received by the organs of vision, before the experiment, superseded that, which the pretended magnetic sense ought to have made on her. He thinks, the academy ought to *observe* the magnetisers, but what he has seen, has convinced him, that nine-tenths of the facts in magnetism [Pg 184] are supposititious. The phenomena effected by magnetism, and the oracles uttered by the somnambulist, vary with every magnetiser. Mesmer excited convulsions; Deslin effected crises, such as are seen in diseases. The somnambulists of Mr. Deleuze, a learned man, are much better taught than those of Puysegur, who is ignorant of the sciences, and finally, Mr. Laennec has seen a somnambulist under the direction of a pharmacien, who was quite distinguished, by the art with which she compounded the medicines, she recommended. The discussion was now adjourned to the next sitting.

On the 24th of January, it was resumed.

M. Chardel, bears witness to a reality of the magnetic phenomena, as he has witnessed them himself, in a case of what is called somnambulism. He dares not pronounce on the question of magnetism, as a therapeutical agent; but is disposed to think it ought, if ever, to be used with great reserve. Whether it consist of nervous phenomena of a particular order, or whether it be a product of the imagination, in either case, it deserves to be studied, &c. &c.

M. Ronchoux, thought the proposed examination would be impossible; for the magnetisers assert, that if one of the parties have a will opposed to that of the magnetiser, no phenomena can be produced. Their confessed inability to surmount any opposite will, seems to Mr. Ronchoux, an invincible obstacle to any exploration to be attempted by a commission.

M. Marc, gave some explanation of the labours undertaken in Germany. According to the opposition, nothing conclusive can be derived from these labours; because Germany is the native soil of sects and of thaumaturgæ but, Mr. M. proved by citations, that they are not to be attributed to excited imaginations, as has been urged, but to the most celebrated Savans of that country, as for example, Oerstdt, Klaproth, and Hufeland, to learned bodies, and to governments. The Royal Academy of Berlin, offered in 1818, a prize of 3300 francs, for an essay on this topic.

The governments of Prussia, Russia, and Denmark, have founded medical commissions for the examination of it, and subjected its therapeutical application to certain regulations. He thought,

therefore, that the Academy could follow without compromising its dignity, such good examples. He added, that the examination was absolutely necessary, unless they desired that every French practitioner should hereafter reject the whole subject, and for ever abandon its employment to jugglers and credulous fools.

M. Nacquart thought, that as magnetic somnambulism is something wholly independent of organical, physical, or physiological laws; that as the senses here have no need of organs; as time, space, and intermediate bodies, wholly disappear; we can avail ourselves of no method of [Pg 185] appreciating magnetical facts, and consequently, the Academy ought not to trouble their heads about it—a very good joke truly: but M. Itard said, that jokes had nothing to do with the question, because they are meant only for the abuses and extravagancies of magnetism; but we want to get at the truth, and to eschew the folly. Magnetism, says he, is either a real or imaginary agent; it ought to be examined. To refuse this, is to despise the path of experiment, which can alone lead to truth, &c. &c.

M. Recamier, could add nothing to the observations of MM. Desgenettes, Bally, and Double; but he wished the section to know, that he been a witness to the magnetic phenomena—he had been present at the oracles of the marichale of M. De Puysegur, who was represented as the most lucid of all possible somnambulists. He had reason to suspect a cheat in this case, as he was denied the means of dissipating his doubts; and heard this woman repeat what he had before said to the patient himself. How ridiculous, moreover, is it, to hear one drachm of glauber's salt prescribed as a transcendental remedy for phthisis pulmonalis! He also attended at the Hotel Dieu, at experiments made on one woman and two men. He saw the woman go to sleep (as was asserted,) at the simple will of the magnetiser, who for that purpose was concealed in a closet of the apartment. The only mode adopted, to prove that she was really asleep, consisted in some slight pinching of her ears, and some noises; yet, in the recital, these slight impressions have been transformed into most painful tortures. In the experiments made on the men, he employed a more powerful proof, which was the application of moxa; and that he did, because it was indicated by a coxalgia, with which the patient was affected: it is *a fact*, says he, that the man did not awake, or show *the slightest sensibility*. Mr. R. believes, therefore, in magnetical action; but does not think it can ever be available in the practice of physic. In Germany, said he, where magnetism is so much employed, do they cure better than elsewhere? And has magnetism been the occasion of any therapeutical discovery any where? In somnambulism there is only a disordered sensibility, and not an increase of it; and the pretended clairvoyance of the somnambulists, has no real existence, &c. &c.

M. Georget, cited in proof of the existence of magnetic power, the names of many physicians, members of the Academy, as MM. Rostan and Fouquier—he cited the experiments made at the Hotel Dieu, by Dr. Duportet, in the presence of many members, who had signed the results, as MM. Husson, Geoffroy, Recamier, Delens, Patissier, Martin, Solon, Bricheteau and Kergaradec. If there be any analogy between magnetic and natural somnambulism, ought we to be astonished at the production of the former by certain practices? The magnetisers conceal nothing, but publish all their proceedings, and do you call these the tactics of jugglers and charlatans? [Pg 186]

M. Magendie thought the examination expedient, and wished commissioners to be appointed to examine the somnambulist, offered by Dr. Foissac.

M. Guersent was in the affirmative: he himself had magnetised, and witnessed several phenomena, &c.

The discussion was then adjourned to the next setting, and on the 14th February, after hearing M. Gasc against, and M. Lherminer for the report, M. Husson the reporter was heard. The section then closed the discussion, and it was decided by a majority of ten, (35 to 25,) that a commission should be appointed to examine animal magnetism.

We are indebted for the above account to the Revue Medicale for March—the No. for February, also contains a review of M. Dupau's Lettres Physiologiques et Morales sur le Magnetisme Animal, 8vo. Paris, 1826. In order to show our readers how they manage these matters, we shall translate the following from p. 269.

"Here, says M. Rostan, is an experiment that I have often repeated, but which I was finally obliged to interrupt, because it fatigued my somnambulist prodigiously, who assured me, that if I continued, it would make her go mad. This experiment was made in presence of my colleague and friend, M. Ferrus. I took my watch, which I placed three or four inches from her occiput. I asked my somnambulist, if she saw any thing: "certainly, I see something that shines; it hurts me." Her countenance was expressive of pain, and ours expressed astonishment. We looked at each other, and M. Ferrus breaking silence, said, if she sees something shine, she can doubtless tell what it is. "What do you see that shines?—Oh! I don't know, I can't tell. Look at it well—Stop, it fatigues me, wait—(and after a moment of great attention) *It's a watch*." More astonishment. But, if she sees the watch, said M. Ferrus, she will doubtless see what o'clock it is. "Could you tell me what o'clock it is?—Oh! no, it is too difficult." "Look at it, try." "Wait then, I'll try; may be I can tell the hour, but I never shall be able to see the minutes;" and after the greatest attention—"It wants ten minutes of eight o'clock:" which was exact. M. Ferrus now desired to make the experiment himself, and repeated it with the same success. He made me turn the hands of his watch several times, and when presented to her (occiput we suppose,) without her having seen it, she never made any mistake."

These statements we have thought fit to lay before our readers, who will observe the respectable

names which are connected with them. We shall seize the first opportunity to give the report of the new commission, and if they confirm the miracles, we can still say, credat Judaeus apella. If it will make no cure, it will probably make much pay; since MESMER got upwards of 340,000 francs for his mumming exhibitions, to the *spectacle* loving quidnuncs of Paris. The commission consists of 11 members, viz. LEROUX, BOURDOIS, DOUBLE, MAGENDIE, GUERSENT, LAENNEC, THILLAYE, MARC, ITARD, [Pg 187] FOUQUIER and GUENEAU DE MUSSY.

36. *Sketch of the Medical Literature of Denmark, Sweden, and Norway—by* Dr. C. OTTO, *of Copenhagen, apud Bulletin des Sci. Med. Feb. and March.*—"Denmark is richer in medical literature, than the other countries which in conjunction with it, composed the ancient Scandinavia. Although it does not in this respect, bear a comparison with France, Germany, England, and Italy, nevertheless, medicine, of all the sciences, seems to be that which is most successfully cultivated, and Copenhagen contains a great number of learned, and able physicians." In proof of what Denmark has done, Dr. O. refers us to the great names of the two BARTHOLINS, of STENO, of WINSLOW, of CALLISEN, &c.

"In the 16th century, Denmark possessed the anatomical works of the two BARTHOLINS: (*Instit. Anatomicæ de vasis lymphaticis, &c.*) and other works of the same kind, which have been translated into all the languages of Europe. STENO, the disciple of THOMAS BARTHOLIN, followed the career of his master, with an equal success. HALLER never spoke of this anatomist, without the highest admiration. RODE enriched the literature of Germany and Denmark, with works which have made his name illustrious, wherever science is cultivated. Among these, we may chiefly distinguish his Bibliotheca, and Materia Medica." The Danes are indebted to him for several popular works on medicine, which are in the judgment of Dr. OTTO, chef d'oeuvres of this sort of writing. He published more than 13 volumes on these topics. "To the celebrated CALLISEN, who is recently deceased, we are indebted for 1st, a *Systema Chirurgiæ Hodiernæ*, a work of the highest merit, and which has reached a fourth edition. 2nd, a Medical Topography of Copenhagen, published in Danish. (2 *vols. 8vo. Copen.* 1807.) 3d, the Director of the Academy of Surgery. He is also the author of several important memoirs, inserted in those of the *Roy. Soc. of Sciences*, of Denmark, and in some other collections. The late professor MATH. SAXTORPH, composed an excellent *manual of labours*, for the use of midwives. A second edition with plates, appeared in 1804. T. L. BANG, has given a *Praxis Medica*, an excellent guide to young physicians in their first outset in practice. HERHOLDT has shed some lustre on Danish Physiology: his dissertations on the life of the fœtus, and on the question, whether vision is performed with both eyes, or with one only, bear testimony to his genius and penetration: he is also author of a memoir on penetrating wounds of the Chest, inserted, as well as the former dissertation, and many other pieces, in various medical journals.

"TYSCHEN published in 1804, a *Treatise on Pharmacy*, in Danish; and professor MYNSTER, gave a work on Pharmacology, of which two volumes only had appeared, when death interrupted his useful labours. In 1794, he commenced the publication of a journal, the *Bibliothek for Physik Œconomic og Medicin*, which was continued in 1799, by BAHN, and afterwards under several [Pg 188] names, till 1807. We now come to the existing state of Danish medical literature.

"The Royal Medical Society of Copenhagen, which, without contradiction, holds the first rank among those of Scandinavia, celebrated its 50th anniversary in 1822. It publishes at irregular periods, its memoirs, under the title of *Nova Acta Societatis Medicæ Havniensis*. The last volume appeared in 1821. Professor JACOBSEN, is ardently devoted to the study of Comparative Anatomy, and has published several works on the subject, inserted in the Mem. of the Roy. Soc. of Sciences, extracts from which have appeared also in several foreign journals. The collection we have just now cited, (for 1824, V. I.) contains a memoir of Dr. GARTNER, which confirms the opinion entertained by the ancients, as to the presence of a glandular body in the uterus of some animals. The author has added a plate to this interesting dissertation. Dr. OTTO has enriched the physiological sciences with his *Phrenology*, and is zealously occupied with all that relates to this subject. Professor WENDT, physician to the General Hospital of Copenhagen, has recently published several small medical works. We may cite his *Historical and Chemical Supplements, to the knowledge of some therapeutical agents, of the class Euphorbiæ*; some notices on *small pox*, *vaccina*, and *modified small pox*.

"Denmark possesses three periodical journals of medicine, without counting those of the Royal Societies of Sciences and of Medicine of Copenhagen. The first and best of these journals, is the *Bibliothek for Læger*, published by a society instituted for the advancement of medical studies. CLASSEN, the founder of this association, bequeathed to it a sum of money, to purchase annually, some foreign medical works. This collection is composed of original memoirs, extracts, and announcements of other works, and a review of the *course* of the faculty of medicine. It is specially consecrated to the practical department of the art—(three numbers per ann. of 70, to 100 pages each.) The 2nd collection, is the *Nye Hygæa*, the editor of which, (M. OTTO,) embraces in his plan, all the medical sciences. This journal, although specially devoted to physicians, is in reach of all those persons of education, who can be interested in a variety of important medical questions. It contains original memoirs, and extracts from foreign works, (five leaves per month.) The 3d collection, Archives for the History of Medicine in Denmark, (*Archiv. for lægevidens kabens historie in Danmark*,) does not appear periodically, but at indefinite times. Professor HERHOLDT, the editor, has only published one number, in 1823.

"As to inaugural dissertations for the doctorate, the number amounts only to three or four in the space of ten years; because the title of M. D. is not requisite to the practitioner in Denmark."

The above is taken from the Bulletin for February, the ensuing portion of the sketch is contained in the March number of the same journal.

"The medical literature of Sweden, must have been very insignificant in past ages, if we may form an opinion, from the total want of documents in relation to it. There existed no scientific lien between the physicians of that country, or even among those of the capital. A medical society might in vain have been sought for there, at a period, when they were common in all other countries. The Royal Academy of Sciences, published some essays relating to medicine, from time to time, but until 1807, a work on this topic was regarded as a sort of rarity. However, in the course of that year, seven physicians of Stockholm, united in order to found a society, which received the royal sanction, and took the title of *Svenska Lœkare Sœllskapet*, (*Society of Swedish Physicians*.) This institution, seemed to communicate to the practitioners of Sweden a new existence, and then really commenced the æra of medical literature in that country. The number of works published since that period, has scarcely amounted to more than one or two per annum. Dr. Raben is the author of three works, which, though not large, give evidence of considerable knowledge and penetration: Their titles are: 1st. De præcipuis causis mali Scrophul. ejusque remediis Commentation. Lund. 1807. 2nd. A second volume on the same subject, written in the Swedish language, Lund. 1819. 3d. Observationes in Syphilidem, ejusque curationem, ubi novæ quoque proponuntur curandi rationes. Lund. Goth. 1821. [Pg 189]

"We shall also mention among the works recently published in Sweden, 1st. A biographical and literary gallery of the physicians of that country, from the reign of Gustavus I. down to our own times, by Dr. J. F. Saklen. 2nd. Flormann's Manual of Anatomy. Finally, a collection of the laws of the kingdom, which relate to medicine. The Medical Society of Stockholm, regularly publishes its transactions, *Svenska Lœkare Sœllskapets Handlingar*, the 10th vol. of which has just appeared. In it, are some remarkable cases, a table of the constitution of the atmosphere, and of the diseases which have prevailed at Stockholm, and in its environs; reports on the hospitals and baths of the whole kingdom; extracts from Medico-legal Examinations, recent discoveries, &c. M. Eckström promises to publish a complete description of the variolous epidemic, which prevailed last year at Stockholm, and in the provinces. Besides these transactions, the secretary makes an annual report, on what passes at the sittings. To this he adds, short notices of the most interesting recent discoveries and observations, which he derives from foreign medical literature. He publishes this collection once a year, and adds some nosological articles. In closing this review, we ought not to forget to mention the collection of theses, defended at the university of Upsal, which is published yearly by Dr. Zetterström."

37. *Erysipelatous Mumps or Angina Parotidiana.*—Dr. Behr of Bernberg, has published in the *Journ. der Pract. Heilkund for July*, 1825, an account of this disease, which we find in the *Bulletin* for Feb. 1826. Dr. Behr's "memoir is intended to pourtray the principal features of an epidemic prevalence of parotitis at Bernberg, in the months of December, 1822, and January and February, 1823. Dr. B. attributes it to the frequent and sudden variations of the atmosphere at that period." He says, "the disease is so rare in this country, that physicians of 30 years standing had never met with it before." Bernberg contains 6000 souls; it is divided into two parts by the Saale, and it is situated on the great road from Leipsic to Magdeburg, in a narrow valley, which runs from N. W. to S. E. [Pg 190]

The precursory symptoms were rigors followed by heat, heaviness of the limbs, pains in the joints, especially in the evening, sense of tension in the region of the lower jaw, and sometimes a difficulty in mastication. The appetite was usually natural, with gastric symptoms only in the most severe cases. On the evening of the 3d day, there was an increase of uneasiness with chills and heat, after which the patient commonly enjoyed sweet sleep. The next day, on awaking, he felt tolerably well, and had no more sense of heaviness in his limbs, but his face was swelled on one or both sides. Speech and mastication were effected with difficulty; the lower jaw was *comme engourdie*, and a dull pain was felt in the ligaments of the joints; the tumefaction increased and soon extended from the ear to the cheek. On a careful examination, it was found to affect the parotid gland, and the surrounding cellular tissue. The tumour was hard, diffused, and not very painful, except on pressure. The colour and temperature of the swollen part were natural. In the evening, the pulse became hard and accelerated, the tongue white, the stools more consistent than common, and the urine pale. The following night he was agitated, frequently awakened by lancinating pains in the affected part, and sometimes by a sense of tension in the head. The following day, the tumour reached its maximum of elevation, and sometimes comprised the submaxillary glands of the same side. From this time, the pains did not increase, and the skin became slightly red only in a very few examples.

The disease having thus reached its acme, a gentle sweat commenced behind the ears, then extended over the whole tumour, and remained as long as the swelling lasted. This evening there was no fever, but a gentle perspiration continued throughout the night. The day following, being the 6th of the disease, the tumour was evidently diminished, and continued decreasing until its final disappearance, which occurred on the 9th, and sometimes on the 7th day. Until this period, abundant local perspirations in the day-time, less abundant, but more general ones in the night, were observable. When the disease was critical by urine with sediment, the diminution of the swelling was dated from this appearance; but the resolution was not perfected in some cases till the 14th day, and in such cases, the integuments of the part were covered with a mealy desquamation. Dr. Behr did not observe any metastasis to the genitals, but he saw cases, in which the disappearance of the swelling, was followed by considerable fever with *augoisse*, and then an œdema, commonly situated on the head. [Pg 191]

He often saw the termination by induration, but this soon yielded to a proper treatment. As to the contagion of mumps, the author thinks, it can only occur where there is desquamation of the integuments; and remarks on the analogy of this circumstance, with what occurs in scarlatina. Dr. BEHR thinks, that antiphlogistics are rarely indicated in the treatment of parotitis.

38. *Tænia.*—In several cases in which gum. gutt., salts of tin, and other medicines, were unsuccessfully used for the expulsion of tape worm, Dr. BOUGARD succeeded in expelling them with pills compounded as follows: Merc. dulc. Extr. aloes, aa. gr. iij. divided into three pills. This dose was given every evening for eight days, and gradually increased or diminished, so as to procure three stools per diem. A rigorous diet was observed during this treatment.—*Rust's Magazin fur die gesamte Heilkunde apud Bulletin des Sci. Med. March*, 1826.

39. *Scrophula.*—Dr. WETZ recommends the employment of caustic potassa in scrophula. He dissolves x grs. of caustic potassa in one ounce of orange-peel water, and gives from xij to xx gtt. four times a day, in a cup of broth. A solution of caustic potassa in six ounces of distilled water, is applied as a wash to the ulcers.—*Ibid.*

40. *Digitalis.*—We find in the Propagateur des Sciences Medicales for Feb. 1826, an account of the directions of Dr. NEUMANN of Berlin, for the employment of digitalis in pulmonic diseases: they are said to be the result of long experience. Digitalis is useless, says the writer, in all cases of suppuration of the lung, consequent to tubercles of that organ. It is of no avail in those suppurations, which succeed inflammatory hæmoptysis. It is employed without success in *local* phlegmorrhagies of the lungs; but it almost invariably cures those chronic catarrhs, which depend on a state of erethism of the mucous lining of the bronchiæ. This disease is sometimes called chronic bronchitis, sometimes mucous consumption, pulmonic catarrh, and galloping consumption. If the diagnosis in this case be well made out, hopes may be entertained of a cure, one of the two following conditions being present:

A. The patient must be susceptible of the stimulant action of the remedy: this is often not the case. We may be sure the digitalis will not produce its effect, where the pulse of the patient remains *uniform and frequent after he has taken it for several days*. It does not suit such persons.

B. The medicine ought to be administered in a proper manner. To be good, the leaves, even in the dried state, should be perfectly green and free from any brown spots. Two ounces of the leaves, should be infused in six ounces of boiling water; and the patient may take a table spoonful every hour, until he feels nausea, or a sense of constriction in his throat, or flashing of the eyes, or irregular pulse. The use of the foxglove should then be interrupted for seven or eight days, in which interval, the full action of the medicine is developed, the pulse remaining irregular, and [Pg 192] the mucous secretion diminishing gradually. If the first trial does not remove it entirely, a second course may be commenced after a few days.

V. SURGERY.

41. *Dr. Physick's operation for artificial anus, denied to have been performed!*—We have often had occasion to remark the claiming, and, we fully hope, the actual re-invention of American operations and practices among physicians on the other side of the Atlantic. As we are not a publishing people, it is, perhaps, not very strange that the French and English should be generally unacquainted with the discoveries and inventions which have been made among us; but here comes an actual denial of the invention having ever taken place!

Every American who has any pretensions to the character of a surgeon, is most probably familiar with the proposal and performance, by Dr. PHYSICK, of a peculiar operation for those cases of artificial anus, where the two ends of the divided or opened intestine adhere laterally to each other, in the manner of a double-barrelled gun. We are now told that M. RICHERAND, in his new work "On the recent progress of Surgery," "avoids giving this the least confidence." (Archives Generales, Janvier, 1826.) The reviewer in the Archives, in a paroxysm of angry jealousy for the honour of French surgery, deeply wounded, as he conceives, in the *admissions* by M. RICHERAND of discoveries and inventions among the English and others, adds no small amount of ill-nature to this unworthy intimation, and makes the observations which we have translated below.

It is certainly an easy method of erecting reputations, to deny, directly, the priority of others in operations which a favourite has repeated. No matter though the knowledge of this priority be widely diffused; if readers can, by means of national predilections, be induced to place confidence in your denial, the effect, as far as relates to them, is completely obtained. Yet one would think it an ungenerous act, to call in question, and before partial judges, the veracity of such men as are here named. Where a physician reports cases which agree too well with his preconceived theories, we doubt the correctness of his observations; and with justice: for we know that an already formed belief will greatly tinge the most honest seeings and hearings of very sensible and honourable heads. But this is a far different thing from impeaching, in a manner entirely gratuitous, the moral honesty of the record of a historical fact, made by men at the head of their profession.

The reviewer, Mr. and probably Dr. L. C. ROCHE, comments as follows:

"1. Dr. PHYSICK never published any thing on this subject. [Pg 193]

"2. Dr. DORSEY, who makes the claim for him, never published the work in which he does so, [the Elements of Surgery,] till 1813.

"3. In the English journal (?) and in that work, he contents himself with a simple assertion, without giving either the date of the operation, the name, age, or sex of the patient, the names of his assistants, or the details of the operation; *all points which men never forget to make known, when treating of the first attempt in a new operation of this importance*."

To the first of these comments we reply, that Dr. PHYSICK, to the great regret of his countrymen, has never been in the habit of publishing; but still possesses many useful improvements in medicine and surgery, which he has not committed to the press. On the other hand, however, he has taught this operation annually, to from three to four hundred pupils, in his lectures, during about twelve successive years; and this is no mean substitute for a publication in types. M. ROCHE'S memory will supply him with an instance of an eminent French surgeon, whom we shall not attempt to defraud of his laurels, who also made it his practice to leave the publication of his observations and improvements to his pupils.

To the second remark, the above is also a sufficient reply; but we will add that it was recorded in the case book of the Pennsylvania Hospital in 1809.

Our comment on the third observation of Mr. ROCHE may be brief. It is that we promise an account of the case for the next number of this Journal. In the mean time, the patient was well known to us and to many persons now living. The operation was performed in 1809.

In reply to that portion of the last observation, which we have marked with italics, we can assure the reviewer that he is mistaken; at least with regard to this side of the ocean. We Americans are a very peculiar people, and but little affected, as yet, with the cacoethes scribendi; a malady which the present work, in its humble sphere, is designed to disseminate. We are not in the habit of frequently publishing, and above all, of publishing volumes. Books are dear, private libraries small, public ones few, and encouragement for even the best original publications but limited. Of this we have known some melancholy instances. It is impossible for either a Frenchman or an Englishman to judge correctly of a country, which, in many important respects, is in such a different situation from his own.

It is a thing of by no means uncommon occurrence here, to make a valuable discovery or improvement in the healing art, and not to make it public. A striking instance of this fact, at least with the exception of the insertion of an imperfect account in the Eclectic Repertory, which very probably never reached England, is mentioned in our last number. We allude to the extirpations of diseased ovaria, by Dr. M'DOWALL, of Kentucky. Here a unique and brilliantly successful operation was performed, successful as yet beyond European imitations, and still the inventor and achiever of it did not possess vanity or industry sufficient to treat the public with a full [Pg 194] account of it. M. ROCHE may find it hard to explain modesty of this species; but we can promise him, should these sheets ever reach his eye, and he still continue skeptical, abundance of proofs, and some more instances of the same kind.

42. *Gangrenous Sore Mouth of Children.*—Dr. COATES begs permission to add the following quotation from FABRICIUS HILDANUS to the authorities quoted in his paper on gangrenous ulcer of the mouth, at the commencement of the present number.

"Gingivarum inflammatio maxime in infantibus in gangrænam interdum degenerat. Morbus enim magnus, vehemens et peracutus; magna quoque requirit remedia: sed quis illa in ore adhibere ausus?"—*De Gangræna et Sphacelo, Cap. IV. p. 773. col. 2. Edit. Beyeri. Francofurt ad Mæn.* 1646.

"Gangræna in partibus humidis, gingivis, palato, naribus, &c. raro sanabilis; in sphacelum autem degenerans, insanabilis."—*Cap. XI. p.* 781. *col.* 2.

This is all I find in that author, relative to the subject.

43. *Operation for Phymosis.*—M. J. CLOQUET, has so improved this operation that no deformity results. He recommends the incision to be made at the *inferior* surface, near, and parallel to, the frænum præputii. The longitudinal wound thus made, becomes transverse, as soon as the prepuce is drawn behind the glans penis, and cicatrizes in a line scarcely visible; so that the prepuce acquires in breadth what it loses in length. M. CLOQUET has, in this way, perfectly cured many patients; the prepuce appearing to possess its natural conformation.—*La Propagateur des Sci. Med. for March.*

44. *Lunar Caustic on Wounds and Ulcers.*—The practice of healing wounds and ulcers by natural or artificial scabs, to which the attention of the profession was first directed by Mr. J. HUNTER, has been too much neglected, and the circumstances under which it is useful, have not been accurately stated. In a small work published by Mr. HIGGINBOTTOM, in January last, at London, the practice of forming an *eschar* by the lunar caustic over small ulcers and recent wounds, has been strongly recommended as saving the patient much pain, trouble, and danger. The whole surface is to be pencilled with the solid caustic so as to form an eschar, and where this remains *adherent*, the wound or ulcer invariably heals with comparatively little inconvenience. When effusion occurs under the eschar, whether of serum or of pus, there is more difficulty; but if this fluid be evacuated by a puncture, and the caustic applied to the orifice, the eschar will often remain adherent. Sometimes the fluid must be frequently evacuated. If the eschar does not separate favourably, a cold poultice may be applied, which not only removes the eschar, but lessens the irritation and inflammation. Should the sore not be healed, Mr. H. recommends the reapplication of the caustic. To prevent effusion under the eschar, and to preserve it adhering, he advises the whole to be covered with a piece of gold-beater's skin; but we may add, that as this effusion [Pg 195]

arises from too much inflammation, more powerful means may occasionally be employed, especially a solution of acetate of lead. LARREY recommends with the same view, after the application of moxa, the use of the aq. ammoniæ. Indeed any evaporating, cold, astringent lotion will be advantageous.

The application of the caustic, of course, produces some pain, but this soon subsides, and the patient experiences more ease than under any other mode of treatment.

Particular cases in which the Caustic is useful.—In punctured wounds, it should be applied to the orifice and surrounding skin, and the eschar allowed to dry. The terrible effects of punctured wounds, are thus completely prevented, whether caused by needles, hooks, bayonets, &c. So also of wounds from saws; of bites from leeches and animals; of the stings of insects; and especially of those small scratches, and punctures, received in *anatomical dissections*. The danger of these last mentioned accidents may, according to Mr. H., be completely arrested by the prompt and free application of the lunar caustic. Even in neglected cases, when a small tumour has formed under the skin, attended with a smart stinging pain, he advises the tumour to be removed, and an adherent eschar to be formed by the caustic; and in still more neglected and advanced cases, where inflammation of the absorbents has supervened, "a free crucial incision is to be made, the caustic to be freely applied, and afterwards, the cold poultice and lotion; the usual constitutional remedies being actively enforced."

In *bruises*, especially of the shin, the adherent eschar from lunar caustic, has, with Mr. H., always effected a cure; and even when a slough has been produced, the application of the caustic will moderate the inflammation.

In *ulcers*, which are small, not exposed to friction or motion, and discharging little, the cure by eschar will be preferable; especially in those little irritable and painful ulcers often seen about the ancle and tendo Achillis. Apply first a cold poultice, and then form the eschar, which may be freely exposed to the air. Should the matter, nevertheless, collect, it should be evacuated by puncture as often as necessary, until the eschar remains adherent.

This practice is recommended by Mr. H., in various other affections; as in inflammation of the fingers; in the fungous ulcer of the navel in infants; in *tinea capitis*, &c. In this last case, we have ourselves used it with marked advantage. In all cases, the lunar caustic has a decided effect in *diminishing the irritability* of the parts to which it is applied; and hence should usually be preferred for the purpose of forming a "*scab*," for such the eschar really is, in a practical view; and we think that our author has hardly done justice to nature's methodus medendi by "scabbing;" while he so ably and strenuously recommends his own imitation of her process. Scabs may be formed by the coagulation of blood; by the drying of mucus or pus; and by the formation of an eschar, by the actual or potential cautery. The surgeon may frequently reduce parts to the [Pg 196] same situation, by the use of gold-beater's skin, court-plaster, or other unirritating applications, which prevent exposure and evaporation. In all cases, care must be taken to prevent the surrounding inflammation from transcending the adhesive stage.

45. *Hæmorrhage from Lithotomy.*—In the London Med. and Phys. Jour. for Jan. Mr. JOHN SHAW has published an account of a patient, who unfortunately perished from hæmorrhage, in consequence of being cut for the stone. The parts being injected after death, it was found, that the bleeding proceeded from the *unusual distribution* of a branch of the pudic artery, which traversed the neck of the bladder, and lay directly in the way of the incision. The pudic artery was uninjured.

46. *Extirpation of the Parotid Gland.*—The best surgical writers have condemned this operation, if not as absolutely impracticable, nevertheless, as too dangerous to be ever attempted. Successful cases have however been reported, and Mr. A. COOPER, in a letter to the operator in the following case, avers, that he twice removed the parotid gland in one year. Mr. KIRBY, late president of the Royal College of Surgeons in Ireland, in a work published in 1825 at Dublin, on hæmorrhoidal excrescences, has given the details of a diseased parotid, and of the operation for its removal. We condense from Johnson's Review for April, 1826.

The patient was a poor female, aged 40, who had a tumour extending from above the zygoma downwards on the neck, two inches below the angle of the jaw, stretching as far forwards as the anterior edge of the masseter muscle, forcing the ear backwards, and raising it outwards from its natural position. Above the surface, it was about the size of a goose-egg; immoveable; painful when handled; irregular on the surface, and of a deep livid colour over the prominent points. Pains of a lancinating character, extended over the head and neck, producing sickness and want of sleep.

The operation was performed chiefly by the fingers and the handle of the knife, after dividing the integuments by a crucial incision. The branches of the portio dura were of course divided, and great embarrassment arose from a copious hæmorrhage, caused by the bursting of the tumour, while Mr. K. was rooting it out from between the pterygoid muscles. The bleeding was restrained by the finger of an assistant, and the complete extirpation of the diseased gland was effected. Mr. KIRBY says, "the space between the pterygoid muscles was void—the auditory tube was fully exposed—the articular capsule of the jaw was brought into view—the finger could trace the length of the styloid process, and on sponging the wound of its blood, it could be seen by those who surrounded the chair." The hæmorrhage was restrained by a sponge firmly lodged at the bottom of the wound, covered by compresses of lint, and the whole secured by a double-headed roller.

The patient was much exhausted, slept tolerably well the next night, complaining of thirst and inability to swallow. On the 2nd day, inflammation, swelling, and fever followed—erysipelas appeared on the neck—patient lethargic—pulse small and frequent. Fourth day, suppuration—symptoms improving—no relapse. The patient completely recovered, without any regeneration of the tumour. [Pg 197]

In Ferussac's Bulletin Universel for Jan. 1826, we observe the following notice, from a German Medical Magazine, conducted by M. D. Schmidt.

A female, aged 33 years, had suffered for 9 years from a diseased parotid gland, which had gradually attained a large size. It was extirpated by Dr. Prieger, and the patient soon returned home in good health, and little disfigured. The tumour measured 8 inches in circumference, and weighed three and a half pounds. (Livres.)

Dr. Prieger had previously extirpated a scirrhous parotid successfully. M. Wienhold affirms, that he has extirpated three parotids; the details of these operations are published. M. Schmidt, however, suggests some doubts, as to the *nature* and *seat* of the tumours removed.

47. *Aneurism from a Wound, cured by Valsalva's method.*—This interesting and valuable case, is condensed from Le Propagateur des Sci. Med. for March, 1826. M. Antouard, a healthy female, æt. 18, was wounded on the 18th of June, 1825, by a poniard, in the left carotid artery, below the superior extremity of the sternum; the instrument passing obliquely inwards and downwards. The anterior and lateral portions of the neck, were enormously distended with blood, and syncope supervened. Four days after the injury was received, an aneurismal tumour was observed at the edge of the sternum, the surrounding effusion being greatly diminished by absorption; and at the expiration of a month, when she was first seen by Dr. Souchier, it was of the size of the two fists of the young female. The pulsations at this time, were nearly equal over the whole surface of the tumour; but rather more distinct over the orifice in the vessel. The surrounding blood was entirely absorbed. No pain was experienced, unless from the pressure of the swelling; from which cause also, resulted a troublesome and continued headach. Dr. Souchier, not believing an operation adviseable, during the warm season of the year, and on a tumour, situated so much under the sternum, determined to fulfil the following indications: 1st. To lessen the quantity of blood; and thus, to diminish the stimulus to the heart, the projectile force it exercises, and consequently, the rapidity with which the blood escaped from the ruptured vessel, and the impulse hence imparted to the sides of the tumour, preventing, in some degree, the coagulation of the blood. 2nd. To increase the effect of general and local bleeding by the use of *cold*, of *pressure*, and especially, of the digitalis purpurea: that thus the force of the circulation may be lessened, the blood allowed to coagulate, and a radical cure be accomplished.

Mademoiselle Antouard, determined to yield herself to this plan, and was directed: 1st. Rice-water, acidulated with lemon-juice, and an infusion of mallows, for *food* and *drink*. 2nd. To employ frictions on the abdomen, and on the insides of the thighs, morning and evening, with eight grains of the pulverized leaves of digitalis, previously macerated for 24 hours in a sufficient quantity of saliva. 3d. To apply every day 12 leeches, near the aneurismal tumour, and after favouring the flow of blood by emollient fomentations, to cover the part with compresses, wet with a saturated solution of the acetate of lead, to be frequently renewed, so as to be kept below the temperature of the skin. 4th. The effect of these means to be augmented by pressure, made by means of the base of a glass tumbler, fixed by the hands of assistants; and 5th. To be kept at rest, and in perfect silence. [Pg 198]

Fourth day of treatment, being 2nd of Aug. 1825. Pulsations more central; tumour very sensibly diminished; pulse less strong and reduced from 86 to 74 in the minute; the menses, which had been suppressed for two months, appeared on the 31st ulto. and still flow. *Prescription*, V. S. ʒxviij. next day, twelve leeches, on the lateral parts of the tumour; gr. xxiv. of digitalis in three applications through the day. Continue ut supra.

Aug. 8th. Patient tranquil; pulse 60, full, not active; face not flushed, but preserving a delicate tinge of red; headach now slight; no nausea; menses continued until the 6th inst. *Prescription*, V. S. ʒxij.—fifteen leeches to-morrow; increase digitalis to gr. xxviij. daily; the rest, ut supra. The tumour has diminished at least one-fourth.

Aug. 12th. Tumour reduced to 3-5ths of its former volume; pulse at 56; her nights are comfortable; has some headach, and lately, cardialgia; complains of hunger and weakness, and from the fatigue of her assistants, the pressure was made with a bandage less effectually than before. This was allowed, as the pulsations are weakened, and more and more central, while the elevation of the tumour is trifling. For fear her health might be injured, she was permitted to rise a little from bed, and to add to her rice water, some light jellies, (crémes) made from the same grain. V. S. ʒx. and every 2nd day, eight leeches around the tumour; digitalis increased to 32 grains daily; warm pediluvium for one hour, morning and evening; silence as complete as possible.

Aug. 18th. No tumour visible; pulsations can yet be felt; the skin is thickened; pulse at the wrist is at 50. V. S. ʒviij.—six leeches every 4th day until menstrual period; digitalis reduced to gr. xx. and still to the same parts; continue the pressure; allow some rice jelly, vermicelli soup, gentle exercise; silence to be preserved, continue pediluvium, and relieve constipation by simple enemata.

In 15 days, Dr. Souchier again visited his patient. It required an experienced hand to distinguish,

at the spot where the artery was cicatrized, an elevation rather more evident, than over the rest of the artery. Pulse 48 per minute; hunger great, and the remedies now unpleasant. Most of them were suspended, and fruit and the white flesh of poultry added to her diet list. The digitalis [Pg 199] reduced to 12 grains a day. Compression, silence, and moderate exercise, to be continued as before. The menses appeared at the expiration of twenty-five days, and were more abundant than at the last period.

At the end of a month, no trace of the tumour was discoverable. The young lady had carefully increased her nutriment and exercise without inconvenience, and all remedial measures were now omitted.

During the months of December and January last, she remained free from any inconvenience from the tumour, and the union of the parietes of the artery was therefore regarded as complete.

In the above account, we have only to regret that the state of the artery above the tumour, before and after the treatment, had not been noticed. Perhaps this may be supplied by Dr. SOUCHIER, in the commentary, which he proposes publishing on the above case.

48. *Protrusion and Wound of the Stomach.*—Mr. TRAVERS, in the Edin. Journ. of the Med. Sciences, for Jan. 1826, relates, that a female, aged 53, and the mother of *nineteen* children, inflicted on herself a wound in the abdomen, three inches in length, and in a transverse direction. When admitted into St. Thomas' Hospital, at the expiration of six hours, the greater part of the large curvature of the stomach, the arch of the colon, and the entire large omentum, were protruded and strangulated in the wound. The omentum was partially detached from the stomach, which organ was wounded in two places; one, half an inch long through the peritoneal coat; the other, a perforation of all the coats, admitting the head of a large probe, and giving issue to a considerable quantity of mucus. Patient faint; pain slight; pulse 102, and irregular; some hiccup. A silk ligature was placed round the small puncture in the stomach, and the displaced viscera returned, after enlarging the external wound. This last was closed by the quill suture. Warm fomentations and abstinence from food and drink enjoined. 2nd day, some re-action; had been sick in the night from some drink given; is free from pain; pulse 120; pain on pressure; an enema ordered. *Evening*, a dose of castor oil, and twenty leeches to the abdomen. 3d, much fever; V.S. ʒxviij. and 20 leeches to the abdomen; bowels not opened. 4th day, two stools; pulse 98; tension of the abdomen; three more stools during the day. 5th, sutures removed; wound united, except at its right extremity, where a serous fluid is discharged in considerable quantities. On the 6th day, was allowed food, and on the 23d of Dec., about two months after the accident, was discharged cured.

49. *Œsophagotomy.*—This operation has been objected to, not only on account of the dangers attending its performance, but from the alleged difficulty of promoting the union of the wound in the œsophagus; as it is seldom at rest, the lips of the incision being often separated, and the mucous coat adhering with difficulty under any circumstances. Hence we are induced to notice the following case, in which the operation was successfully executed on an inferior animal, by M. [Pg 200] FELIX, a veterinary surgeon of Bergelac. The account is published in the Feb. No. of Le Propagateur des Sci. Med.

A *Cow* was threatened with immediate suffocation from the lodgment of a potato in the œsophagus. It had shortness of respiration, an incapacity of swallowing even its saliva, which flowed from the mouth, was in great distress, and covered with a cold sweat. Being properly secured in a horizontal posture, an external incision was made on the inside of the sterno-mastoid muscle, and a cautious dissection practised until the tumour was completely exposed. The œsophagus was divided by "an incision extending the whole length of the foreign body, which was extracted without any force, *which is almost always fatal*. I immediately made two close sutures; and also two others in the skin, on each side, adapting to them two pieces of packthread, more easily to fix the dressings. I dressed the wound with brandy, filling the opening with hemp soaked with brandy." The animal was kept on very little food or drink. On the third day the wound was dressed for the first time, and a digestive ointment applied.

In the course of the 2nd week, the cicatrization of the œsophagus occurred; the part was dressed with lint; and by the 20th day after the operation, the animal was quite restored.

This case would have been more useful, if more precision had been employed in describing the dressing and subsequent treatment of the wound. It would seem that the sutures were passed through the parietes of the œsophagus only, and that the external wound was kept open by being filled with tow. Certainly, union by the adhesive inflammation ought to have been attempted in all parts of the wound; but whether sutures in the œsophagus are advantageous, or whether the uniting bandage be preferable, is not so easily determined. In the two cases described in 3d vol. of the Mem. de l'Acad. de Chirur. the uniting bandage was alone employed, and with success.

50. *Retention of Urine, caused by a Stricture of the Urethra, relieved by a forcible but gradual Injection.*—The editor of Le Propagateur des Sci. Med. in the No. for Feb. 1826, introduces the following case, by observing, that it reflects great honour on M. AMUSSAT, and that his discovery merits the greatest praise. M. D... aged 70 years, of a plethoric constitution, had suffered about 30 years before from three attacks of gonorrhœa; since which period he has had a difficulty in urinating, and can never discharge more than one or two ounces of urine at a time.

At eight o'clock, P. M. of the 1st of Feb. he tried to urinate, but could not succeed. He suffered great pain. Pulse agitated; face flushed; belly swelled, and globular at its inferior part; the

subcutaneous abdominal veins distended, and the penis in a state of semi-erection. All attempts to urinate were painful and ineffectual. At ten o'clock, A. M., on the 2nd, M. Amussat visited him, and passed a bougie. This was arrested by a contraction near the bulb of the urethra, and caused [Pg 201] the discharge of some blood. No urine had been passed for 14 hours, while ordinarily he urinated 12 or 16 times through the night. The obstruction was so great, that none of the usual means of relief remained, except *the forcible introduction of the catheter*, or the *puncture of the bladder*. M. Amussat resorted to the following plan which he had devised, and which completely succeeded. He injected warm water forcibly, but gradually, into the urethra, which, dilating the orifice of the stricture, forced backwards the thickened mucus which had obstructed it. As soon as the liquid injection met the urine, the patient cried out that he was saved, and immediately was able to urinate as formerly. At two trials, he discharged nearly two pints of thick urine. There was no return of the retention, the patient continuing well.

Should subsequent experience confirm this experiment of M. Amussat, this simple measure will be a most valuable substitute for those dangerous measures hitherto resorted to for retention of urine, in cases where the obstruction arises from thickened mucus, from small calculi closing the orifice of a stricture, from inflammation, or from what are termed, (justly or not,) spasmodic strictures.

51. *Tracheotomy.*—In the Amer. Med. Review for April, Dr. John Atlee, of Lancaster, mentions that on Wednesday, Aug. 11th, he was consulted by a child ten years old, who had that morning, while running, put a button-mould into his mouth, which during respiration was drawn into the trachea. He complained of uneasiness in respiration, with a slight rattling, and pointed towards the upper part of the sternum, as the situation of the button. On coughing, a rattling was heard, and immediately after, a sudden check to expiration, from the lodgment of the button near the rima glottidis, requiring a sudden and violent effort of inspiration to remove the sense of suffocation. An emetic was given with no advantage. During the night, he had two or three spells of coughing, threatening suffocation.

An operation was urged, to avoid immediate and subsequent dangers from the lodgment of this extraneous body, and was agreed to by the parents, and by Dr. Humes, who was called in consultation. It was performed on the 14th of Aug.; a cathartic, and afterwards an opiate, having been given.

An incision, one inch and a half long, was made through the integuments, extending downwards from above the cricoid cartilage, and exposing the sterno-hyoid and thyroid muscles, which were then separated. After exposing the trachea, a longitudinal incision, about three-quarters of an inch in length, was made through its parietes at the third ring. This was held open, and the patient requested to cough. This was ineffectual. The wound being closed, the button was, by coughing, thrown up against the rima glottidis. A probe passed into the trachea, produced a violent effort to cough, by which, as soon as the instrument was withdrawn, the button was thrown through the wound, to some distance from the patient. [Pg 202]

The wound was dressed with two sutures and adhesive strips. Most of it united by the first intention: and in a few days the patient completely recovered.

52. *Fistula Lachrymalis*—At the session of the Royal Academy, on the 15th of December, M. J. Cloquet related the case of a female, who, three years previously, had submitted to the operation for fistul. lachrym. according to the method of M. Foubut. The canula which had been allowed to remain in the nasal canal, had ulcerated through the floor of the nose, and presented its inferior extremity on the inside of the mouth.

A practical commentary on this mode of operating, which is still recommended by able surgeons!

53. *Aneurisma Herniosum.*—This form of aneurism is supposed to consist of a dilatation of the internal and muscular coats of the artery; the external cellular having been destroyed. It is termed by Arnaud, and by Dr. William Hunter, *aneurisma herniam arteriæ sistens*. Its existence in any case has, however, been denied by a large majority of surgeons; and perhaps the only cases reported are those of Dubois, in 1804, found in the thoracic and abdominal aorta of a dead subject.

The reporter of the following case, quotes also Monro, as having cited examples of this kind of aneurism. But what Monro termed a "mixt aneurism," arose from the rupture of the coats of a "true aneurism," by which it was reduced to the state of a "false aneurism;" very different from that here contended for. Sabatier and Boyer, also, deny the existence of this hernia of the artery, and a good summary of facts and arguments is given by Boyer in his Surgery, in support of this opinion, (vide article Aneurism, tome i.) which it would be difficult to invalidate, especially by cases analogous to the following. The reporter, M. Bonnet, of the late French army, considers this case as proving a hernia of the artery in a vessel of medium diameter; those of Dubois having been noticed in the largest arteries.

A Prussian soldier was wounded over the femoral artery by a musket ball. No hæmorrhage ensued, and the wound cicatrized. In this state, M. Bonnet visited him for a mortification of the foot of the same limb, which had been frozen. Amputation of the leg was performed, the stump healed readily, and in 12 days the ligatures came away. On the 13th day, (being six weeks since wounded in the thigh,) the patient perceived a tumour at the original cicatrix on his thigh, which had appeared during the preceding night. On the 14th, it had enlarged to three times its former size: it was painful; fluctuation was evident; but there was no pulsation, not even the thrilling

noise, which is evident in the last stage of aneurism. A consultation was called, to determine whether it was an abscess or an aneurism. The question could not be satisfactorily answered, and it was determined to open it, after having made the necessary arrangements to secure the artery, should the tumour prove aneurismal. As soon as the integuments were punctured, the jet of blood [Pg 203] evinced the nature of the complaint; and the artery was secured by ligatures above and below the tumour. The coagula were numerous, and the superficial ones, quite hard and cartilaginous. The patient did well, and there was every prospect of his recovery on the 1st day, when M. Bonnet was forced by the movement of the armies to leave him at Meaux.

Such are the facts, from which the Reporter infers, that the aneurism consisted of a protrusion of the internal and middle coats of the artery. The *reasoning*, founded on them, appears to us inconclusive; but we have not space to insert it, and must refer to the March No. of Le Propagateur des Sci. Med.

54. *Extirpation of the Two Dental Arches, affected with Osteo-sarcoma.*—Dr. Giorgi Regnoli, physician at Pesaro, performed this operation on a female 35 years of age, who had from infancy, been troubled with pain and diseases of the teeth and jaws. When Dr. R. visited her, both dental arches were enormously swelled; red and sanguineous tumours had formed over their whole surface, and covered the teeth. The alveolar processes were entirely softened. The diameters of the mouth were greatly lessened; but by the touch, it was evident, that the disease was confined to the alveolar processes of the two ossa maxillaria. A fœtid odour exhaled from the mouth. Lancinating pains continually tormented the patient; especially on attempting to masticate. The slightest touch was very painful, and was always followed by an effusion of blood. There was also an alteration of voice; a disgusting deformity of the mouth, with emaciation, fever, &c. The operation was performed on the 18th May, 1825.

The patient was seated opposite to a window; her head being supported against the breast of an assistant, who, at the same time, pressed upon the labial arteries. The inferior lip was divided perpendicularly, and detached laterally from the inferior jaw, so as to expose the whole extent of the carcinoma. Some strokes of the saw were made on the anterior and most prominent part of the bone, and into the groove thus formed, the blade of a very strong knife was inserted, by means of which, aided by some slight strokes with a mallet, all the diseased portion was removed. The soft parts had been previously detached from the internal surface of the jaw. The last left molar tooth, not being diseased, was alone left. The hæmorrhage from the dental artery was arrested by the actual cautery.

The dental arch of the upper jaw, was then completely removed in the same manner. The bleeding was here more profuse, but was arrested by a hot iron. The alveolar processes thus removed, were enlarged, and of a lardaceous colour, and the fungous growths had the appearance and consistence of indurated albumen.

In 25 days, the patient was discharged well. Her general health was good; the fœtor had quite gone; the cicatrix over the bone was regular, white, hard, and could be pressed upon without causing pain. The patient can triturate her food with facility; the lips are slightly drawn inwards, [Pg 204] without any sensible inconvenience; and the voice is a little altered, but this even is daily improving.—*Le Propagateur des Sci. Med.* for Jan. 1826.

55. *Traumatic Erysipelas.*—In the Feb. No. of the Revue Medicale, is a clinical report of the celebrated Baron Larrey, surgeon in chief of the Hospital de la Garde Royale; in which he criticises severely the use of leeches in erysipelas, and recommends in that variety of the disease, arising from wounds, &c. the application of the actual cautery, as effectual in arresting immediately the progress of the disease. It causes, he says, but little pain; destroys the burning and tense pain of the disease, as also the redness and swelling of the part; is not followed by suppuration, and does not cause gangrene in the contiguous parts. The eschar separates, without leaving a cicatrix. Various other advantages are enumerated, all of which are confirmed by a list of cases, as treated at the hospital. We have no room for details, which would, if known universally, hardly render us Americans, whether surgeons or patients, as fond of the cautery, as our trans-atlantic brethren of the French school.

56. *Obliteration of a portion of the Urethra, remedied by an operation.*—M. Vanier of Cherbourgh, relates in the Jan. No. of "Le Propagateur des Sciences Medicales," the case of a man aged 27 years, who, on the 16th of June, 1815, was wounded in the penis by a musket ball, which completely divided the urethra at its middle portion, without injuring the corpora cavernosa. The wound healed up; but by degrees, the passage contracted, so that in May, 1819, the patient could pass his urine only guttatim, with pain and difficulty, and was threatened with inflammation, &c. of the perineum. Bougies afforded no relief. An incision was then made externally, in the direction of the urethra, so as to divide the cicatrix, and open the canal above and below the contracted part. The lips of the incision were drawn together over a sound, passed into the bladder; and by the 5th day, the wound was completely cicatrized. The sound was then removed, and a short bougie inserted, so as to pass beyond the cicatrix. This was worn occasionally, and the patient completely recovered. At the end of three years, he was able to "urinate with ease, and in a full stream."

57. *Artificial Joint cured by Caustic.*—Dr. J. Rhea Barton, has applied the caustic potash to the extremities of the fragments of a broken tibia, after an artificial joint had fully formed. Exfoliation was produced, followed by bony union. In three months, the patient recovered.

Dr. B. alludes to other cases, by Mr. White of Manchester, and Mr. Henry Cline, thus treated with

success; to two instances, in which the practice failed in the hands of Mr. EARLE; and finally, to one case by Mr. A. COOPER, the result of which he has not learnt. He does not recommend the operation, as usually preferable to the *seton*, for which, the profession is indebted to Dr. PHYSICK; but as an additional expedient, when other means fail.—*Med. Record. April*, 1826.

58. *Epilepsy cured by Trephining.*—In the 17th No. of the New-York Medical and Physical Journal, Dr. DAVID L. ROGERS relates an interesting case of a man, aged 46, who had been subject to epileptic convulsions for 14 years, and who, of late years, had been unable to labour, and rapidly sinking into a state of idiocy, from their frequent recurrence. [Pg 205]

These fits were preceded by a fracture of the os frontis, with depression, from which he readily recovered; but soon after he was attacked with convulsions. He now suffers pain on the injured side extending down the neck and left arm—the eye of the same side is diminished—the sight much impaired, and his memory almost entirely destroyed. A cicatrix covering a slight depression was easily found, above the left superciliary ridge of the frontal bone, and over the superior orbitar foramen. Under these circumstances, the operation of trephining was performed on the 7th of July, 1825, but with some difficulty, from the irregular thickness of the bone, and from the saw having to pass through the upper part of the frontal sinus. "The dura mater was unfortunately cut through for one-half the circumference of the circle." The parts were found more vascular than usual, and the under surface had a ridge corresponding to the internal depression, but too slight to have caused compression of the brain. "Having made a section of the frontal sinus, [with a trephine?] a part of the *posterior table* was removed with the *circular* piece. This portion of the internal table had been fractured, and separated to some distance from its inferior attachments to the frontal plate, and driven back upon the substance of the brain. Its sharp edge was worn round and smooth." This seemed to have been the cause of all the mischief.

After the operation, the patient suffered from pain in his head, with some moderate excitement, which was relieved by cathartics. He had no return of fits until the 25th day, when the wound was entirely healed. These had been brought on by overloading his stomach with food, and were followed by high arterial excitement and inflammation of the brain.

He was relieved in a few days by active depletion, and was discharged cured on the 20th of August. *Nine months* afterwards, this man continued free from fits, his memory had nearly recovered its usual strength, and he could attend to his business without any inconvenience.

VI. MIDWIFERY.

59. *Gastrotomy.*—M. BULK, in Germany, has successfully performed this operation on a female, aged 36 years, of good constitution, under the following circumstances. The patient, during her pregnancy, suffered from a severe pain at the left and inferior portion of the abdomen; her menses were not suppressed, and every six or eight days, a clot of blood and mucus came from the vagina. Her general health was very good.

About the middle of her 8th month, she was washing some linen, and suddenly felt as if something was tearing in her abdomen; at the same time, a swelling of the size of two fists (poings) formed on the right side, below the umbilicus. She fainted, and for six weeks suffered dull pains in the abdomen. At this time, she had *true labour pains* for 48 hours, and was attended by a midwife. The os uteri dilated so as to admit one finger only. The tumour disappeared during these pains. The patient recovered, with the size of the abdomen undiminished. [Pg 206]

In this state she continued for two years and three months, menstruating regularly. She became again pregnant, with little inconvenience until the 7th month, when her abdomen was painfully distended, and of a bluish colour, and fluctuation was induced on the least motion. At the full period, she was delivered of a large fœtus, which she suckled for 15 days. The infant then died of an aphthous affection.

Her milk ceasing, she rapidly declined with hectic symptoms. The tumour reappeared below the umbilicus about the size of an egg, and soon opened, discharging from small orifices a little pus. The opening was enlarged, and some skin and hairs were removed. The patient's constitution was fast yielding, and gastrotomy was immediately performed. An incision was made, with the requisite precautions, through the linea alba into the cavity of the abdomen, from two and a half inches above the umbilicus to within nine lines of the pubis, care being taken to prevent the escape of the intestines. A fœtus of full size, in which putrefaction had commenced, was found on the right side of the uterus. "I raised," says the operator, "the body with much care, and endeavoured to trace the umbilical cord. This was turned over the fundus of the uterus to the left side, and terminated in a vascular substance in a state of suppuration, (probably, the remains of the placenta,) which was situated below the great omentum. I pressed out, and dried up the pus, which covered these parts, by means of a sponge. The uterus was an inch and a half in length and an inch in breadth, of a pale rose colour, and could easily be distended (se laissait distendre aisément.) It was otherwise in a good condition."

The wound in the abdomen was closed with sutures. The patient was in great danger from inflammatory symptoms for 8 days, but eventually recovered. She left her bed on the 55th day.

60. *Cæsarian operation, performed with safety to the Mother and Fœtus.*—We condense from JOHNSON'S Review for April last, the following summary of a case of Cæsarian section performed by GRAEFE, on the 20th of September, 1825.

Carolina Bechang, was admitted into Graefe's Clinicum, in an advanced stage of pregnancy; being 30 years of age, much deformed by rickets, and only four feet (Rhenish) in height. On the 20th of Sept. after having been five days in labour at the full period, pains severe, and os uteri dilated, she consented to the Cæsarian section.

A little after 2 o'clock, Graefe placed the fore finger of his left hand, immediately below the umbilicus, and with a large scalpel, made an incision downwards in the linea alba, to within one inch of the pubis; dividing the entire parietes, and even penetrating the substance of the uterus. [Pg 207] A second incision penetrated the uterus and exposed the placenta; which, as had been anticipated, was found on the fore part of the fundus. The assistants now compressed firmly the edges of the divided abdominal parietes upon the uterus, to prevent the protrusion of the intestines, in which they succeeded; and Graefe carried his hand in a moment into the uterus, separated the placenta with his finger and thumb, and then withdrew it and the child almost together. The child was very active, and cried lustily. The uterus immediately and suddenly contracted, and the bleeding was inconsiderable. Not more than twelve ounces of blood were lost, and no ligature was required. The whole operation was completed in four minutes and a half. The wound was secured by three broad sutures, and adhesive plasters, assisted by a bandage round the abdomen. The child weighed six pounds and was well formed. During the operation, the patient was sick, and once vomited slightly. In two hours had pain and fever: V.S. ʒxij. Draught with ten drops of the aqua laurocerasi was given, and repeated in a few hours. The patient passed a quiet night. The symptoms of pain, inflammation, and fever, were threatening for some days, and were promptly resisted by the lancet, by enamata, by narcotics, especially the laurocerasus and hyosciamus, by fomentations, &c. By the 9th day, the wound had cicatrized, excepting near the symphisis; symptoms all favourable. The lochia were discharged regularly; and in three weeks, she was able to sit up, and in three more, quite well. Early in November, she returned home with her child, both in perfect health.

In Ferussac's Bulletin Universel; for February, another case, in which the Cæsarian operation was performed with safety to the mother and infant, is copied from Rust's Magazine.

61. *Extirpation of the Uterus.*—Dr. Rheineck, of Memmingen, was consulted by a female, who in December, 1824, was attacked by fever, from which she slowly recovered. A prolapsus of the uterus, which gradually became inverted, followed, attended with frequent hæmorrhage and discharge, by which she was almost worn to the grave. The whole of the uterus was inverted, and without the labia externa; its surface loose, fungous, and in several places easily broken down upon pressure; but there was no hardening nor ulceration. The irritation was so great, as to threaten the patient's life, and after a consultation, in which it was agreed, that the swelling was really formed by the uterus, the tumour was laid hold of and drawn forwards, and a broad ligature, secured with a double surgeon's knot, was applied round its base. In about three weeks, the whole had separated, and the part above the ligature was cicatrized. During this period, the patient was dangerously ill, and was only rescued by great care and attention.

The operator had before performed a similar operation, in which case, the patient died suddenly from hæmorrhage, on the separation of the ligature. Osiander, Struve, Longenback, Sauter, Siebold, and Zaug, have in late years performed the same operation, with various degrees of success. [Pg 208] —*Johnson's Review for April*, 1826, who quotes from *Siebold's Journal fur Geburtshulfe*, 1826.

62. *Uterine Hæmorrhage.*—In the Bulletin Universel for Jan. 1826, the following case is detailed from the Gazette de Santé, for Dec. 1825.

A female aged 32 years, was taken with labour with her first child, on the 12th Feb. 1825. The pains soon ceased, and on the 15th of Feb. M. Bedel, physician at Schirmack, was consulted, who speedily delivered her, by means of the forceps, of a dead child. The hæmorrhage was so considerable, as to render the immediate removal of the placenta necessary; but the uterus did not contract, and the bleeding continued, with tremblings, syncope, cold sweats, &c. Irritation on the internal surface of the uterus, the use of cold water to the abdomen, injections into the uterus of cold water and vinegar, were unavailing.

Plugging the vagina, and also the *uterus*, was now resorted to, as the only means of safety remaining. The uterus was filled with pieces of rags, for fear the patient could not sustain the loss of blood necessary to fill that cavity; while a methodic compression was at the same time made to the abdomen. The hæmorrhage was immediately arrested, and soon after reaction ensued.

On the 16th, M. Bedel extracted the plugs from the uterus, cautiously and in succession; and had the pleasure of finding the uterus regularly contracting after each removal. The lochial discharge continued, and there was no secretion of milk. The patient recovered slowly.

It is in such cases as the above, that the physicians of the United States have employed the Secale Cornutum (Ergot,) the judicious use of which would have probably superseded the necessity of instruments, and prevented or arrested the hæmorrhagic discharge.

VII. CHEMISTRY AND PHARMACY.

63. *State in which Morphia exists in Opium.*—In the 80th article of our Quarterly Summary for January, we stated that Mr. Robinet had announced the discovery of a new acid in opium, with which the morphia was combined; while the meconic acid was alleged to be united with soda. To the former salt, he gave the name of *codeate of morphia*. Mr. Robiquet, however, has shown, that

the pretended *codeate*, is a *muriate* of morphia, formed by double decomposition between the muriate of soda, employed by Mr. Robinet in his analysis, and meconate of morphia. The same decomposition shows the source of the meconate of soda. We observe that Mr. Robinet admits his mistake.—*Archives Générales de Medicine.*

64. *Peculiar principles of Narcotic Plants.*—"Dr. Brandes of Sabzerflen, having been prevented by extreme illness, induced by investigating the peculiar principles of narcotic plants, from [Pg 209] completing his inquiries, has announced the results of his labours in general terms. He states, that he has found a peculiar narcotic principle in all the narcotic plants; as belladonna, hyosciamus, conium, stramonium, chelidonium, digitalis, &c. The narcotic principles are readily soluble in alcohol, ether, acids, and water, and of a highly offensive odour. This odour is so great in the principle of conium, that it is almost impossible for an individual of an irritable habit, to remain in the room, where there is an etherial solution, containing only a few grains of it. The smell of such a solution is equal to the smell, arising from twenty or thirty pounds of the plants. It is also remarkable, that as this principle is neutralized by acid, the disagreeable odour disappears, or is greatly diminished; which so far agrees with the circumstance, that the plants themselves give little of their peculiar smell, because the narcotic principle is not in a free state. Dr. Brandes has promised to communicate the manner of obtaining the principles."—*Lond. Med. Repository, Feb. 1826.*

65. *Relative quantities of Cinchonia and Quinia in the most esteemed Varieties of Peruvian Bark.*—Mr. Bally asserts, that practitioners, from observation, have classed the Peruvian barks in the following order;—first, the gray loxa bark, (*Cinchona Officinalis*;) then the red bark (*Cinchona Magnifolia* of Ruiz and Pavon, or *Oblongifolia* of Mutis;) and lastly the yellow bark, or calisaya, (*Cinchona Cordifolia* of Mutis, or *pubescens* of Valli.) The *Cinchona Officinalis* furnishes much cinchonia, and little quinia; the *Cinchona Magnifolia* affords about equal quantities of the two salifiable principles, while the *Cordifolia* contain much quinia.

Mr. Bally, assuming it as proved, that cinchonia is the more powerful salifiable base of the two in a medical point of view, considers, therefore, that, in regard to the above barks, chemical analysis justifies the order of their relative value, which had been previously deduced from their medical employment.—*Archives Generales de Medecine.*

66. *Sulphate of Quinia, extracted from the Cinchona Bark, exhausted by Decoction.*—Mr. Julia-Fontenelle, from the sparing solubility of quinia and cinchonia, suspected that decoctions and aqueous extracts of Peruvian bark contained but little of those vegetable alkalies; whence it would follow, that the residuum, generally rejected as having no febrifuge power, would still contain the greater part of them. This suspicion has been in a great measure verified. The aqueous extract was found to contain but little cinchonia and quinia; while the residuum of decoctions, giving the mean results, furnished two-thirds of the sulphate of quinia, yielded by the same weight of cinchona not acted on by water.

As decoctions and aqueous extracts of bark are febrifuge, though containing inconsiderable quantities of quinia, and cinchonia, Mr. Julia-Fontenelle is led to believe, that these salifiable bases are not the only febrifuge principles in Peruvian bark, but that the extractive matter also possesses that property. [Pg 210]

His results present a striking difference between alcoholic and aqueous extracts of bark; for while the former contain nearly the whole of the salifiable principles, the latter contain very little. —*Revue Medicale.*

67. *Analysis of Rhubarb.*—It is some time since Mr. Nani, an Italian chemist, announced the discovery of a crystallizable vegetable alkali in rhubarb. Mr. Caventou has repeated the experiments of Mr. N. and finds them, in many respects, inaccurate. Upon analysing the alcoholic extract of rhubarb, by the aid of alcohol and ether, employed separately and combined, Mr. C. obtained a fatty matter, containing a little odoriferous volatile oil, and a yellow colouring principle, capable of crystallization, and of being sublimed without decomposition, which may be called *rhubarbin*. He also detected in the alcoholic extract, a brown substance, insoluble in water when pure, but rendered soluble by combination with rhubarbin; when it forms a compound, constituting the *eaphopicrite* of some chemists, and the *rhubarbin* of Psaff.—*Archives Generales.*

Mr. George W. Carpenter, of this city, prepares the medicinal principle of rhubarb in combination with sulphuric acid, under the name of sulphate of rhubarb, by the following process:

"Boil, for half an hour, six pounds of coarsely powdered Chinese rhubarb in six gallons of water, acidulated with two and a half fluid ounces of sulphuric acid; strain the decoction, and submit the residue to a second ebullition in a like quantity of acidulated water; strain as before, and submit it again to a third ebullition. Unite the three decoctions, and add, by small portions, recently powdered pure lime, constantly stirring it to facilitate its action on the acid decoction. When the decoction becomes slightly alkaline, it deposites a red flocculent precipitate, and the fluid is changed from a yellow to a crimson colour. The precipitate is then to be separated by passing it through a linen cloth, and dried; after which, reduce it to powder, and digest in three gallons of alcohol, at thirty-six degrees, in a water bath, for several hours, at a moderate heat. Separate this solution from the calcareous precipitate, and distil off three-fourths of the alcohol. There then remains a strong solution of rhubarbine, to which add as much sulphuric acid as will exactly neutralize it. Evaporate this slowly to dryness, without having access to atmospheric air. The residuum will be of a brownish-red colour, intermingled with brilliant specks, possessing a slightly pungent styptic taste, soluble in water, and its odour that of the native rhubarb." This

residuum is the sulphate of rhubarb. (Sulphate of *rhubarbin.*?)

Mr. CARPENTER assures us, that this preparation contains the medicinal principle of the rhubarb, apart from its inert portion; and considers it as bearing the same relation to rhubarb, as the sulphate of quinia to the Peruvian bark. The Chinese rhubarb, at half the price, furnished twice as much rhubarbin as the reputed Russian, which Mr. C. considers to be spurious in the Philadelphia market, being the English prepared in imitation of the Russian.—*Philadelphia Journal of the Medical & Physical Sciences. May*, 1826. [Pg 211]

68. *Alkaline Lozenges of Bicarbonate of Soda.*—Mr. D'ARCET proposes the following formula for these lozenges:—Take of

Bicarbonate of Soda, pure and dry, and in fine powder,	5 parts.
Very white Sugar, in fine powder,	95
Mucilage of Gum Tragacanth,	q.s.
Essential oil of Mint, pure and fresh,	2 or 3 drops

for about every 3 ounces of mixture of bicarbonate and sugar.

Shake the bicarbonate and sugar in a well dried bottle, with the view of mixing them intimately. Withdraw the mixture from the bottle, and add the mucilage and oil of mint, blending the whole together on a marble. The mass obtained, is then to be divided into lozenges, which should weigh, when dried, about 15 grains each. As they slightly attract moisture, they ought to be kept in a dry place, or in well stopped bottles.

Mr. D'ARCET praises very highly the effects of these lozenges in disordered digestion, and in preventing its occurrence, as well from experiments made on his own person, as from observations on others. He believes their operation to be purely chemical, consisting in the saturation of the morbid acid of the stomach, and, therefore, not likely to be lessened by habit. Their effects are much more prompt than magnesia, either pure or in the state of carbonate.

In the phosphatic diathesis, where the urine is disposed to be alkaline, it would seem that these lozenges would do harm. But, perhaps, we have this security against their use in these cases, that the stomach would not at the same time be troubled with acidity. *Annales de Chimie et de Physique, Jan.* 1826.

69. *Presence of Mercury in Samples of medicinal Prussic Acid.*—Mr. REGIMBEAU, apothecary at Montpellier, has detected this impurity in some prussic acid, prepared in Paris. Its presence was first suspected, from a portion of the acid, accidentally dropped, leaving a white stain on the copper dish of a balance. It is probable, that the impure acid, spoken of, had been made by passing sulphuretted hydrogen through a solution of cyanide of mercury, according to VANQUELIN'S process; and that an insufficiency of the decomposing gas had been employed.

May not this accidental impurity explain the occasional salivating effects of prussic acid.

70. *Proposed Method for preparing Protoxide of Mercury by precipitation, for Medical Employment.*—Mr. THOMAS EVANS has published some observations on this subject, and justly remarks, that the blue pill, mercurial ointment, and other mercurial preparations, are not uniform compounds, but contain variable proportions of the real protoxide, and uncombined mercury. Some blue pill, which had been carefully prepared by Mr. E. by the usual process of trituration, was found to contain on analysis 20 per cent. of unoxidized mercury; and the blue mass from Apothecaries' Hall, London, furnished about the same proportion. [Pg 212]

As it is obviously a desideratum to procure preparations of protoxide of mercury of uniform strength, Mr. EVANS has been led to seek a process, by which to obtain this oxide in a pure state. After repeated experiments, he has pitched upon the following formula: Dissolve four ounces of caustic hydrate of potassa in a pound of water, and to the clear solution, decanted from any impurities, add four ounces of calomel, and shake the mixture frequently. Pour off the liquid, and wash the precipitate formed with water, and then dry it at a gentle heat.

In regard to the medical efficacy of the protoxide obtained in this way, Mr. EVANS reports the following to be the results obtained by Dr. COATES, at whose suggestion the article was prepared. As a substitute for calomel, it is more apt to vomit and purge, two grain doses operating several times. As an alterative, it was found incomparably more efficacious than the blue pill, being more certain and regular in its operation. Dr. C. thinks, that one-fourth of a grain of the precipitated protoxide, as prepared by Mr. EVANS, is equal to three or four grains of the blue mass.—*Journ. of the Philad. Col. of Pharm. May*, 1826.

The method here proposed for obtaining the black oxide of mercury by Mr. EVANS, was first suggested and put in practice by Mr. PHILLIPS. See his "Experimental Examination of the last edition of the Pharmacopœia Londinensis, London, 1811," page 114. His words are, "When solution of potash is employed, the several inconveniences attendant upon the use of lime-water are avoided, and a blackish coloured protoxide is obtained without heating the solution. As potash is much more soluble than lime, it is scarcely necessary to employ one-tenth part of the quantity of water; this not only renders the process more convenient, but the quantity of air contained in the water being less, very little of the oxide, perhaps none of it, is converted into peroxide." See also the experiments, and observations of Mr. DONOVAN, on Mercurial Ointment, &c. published in the Medical Journals, several years ago.

71. *Goulard's Extract of Lead.* Mr. DANIEL B. SMITH proposes the following formula for obtaining Goulard's extract of uniform strength:

Acetate of lead, crystallized,	15 ounces, troy.
Protoxide of lead,	9 ounces, troy.
Distilled water,	4 pints.

"Boil them together for fifteen minutes and filter. The filtered liquid will weigh about five and a quarter pounds, is transparent, colourless, and of the specific gravity of 1.267. (30° Baumé.)"

We conceive that Mr. SMITH has erroneously denominated the sugar of lead, a binacetate. The best usage is to deem that the primary saline compound, which contains a single proportional of acid and base. Accordingly we call the saturated carbonate of potassa, a *bicarbonate*; and Dr. [Pg 213] THOMSON calls borax, a biborate of soda, on account of its containing two proportionals of acid to one of base, notwithstanding the alkaline qualities of this salt. Goulard's extract is, therefore, a sub-binacetate of lead, or according to Dr. THOMSON'S recently suggested nomenclature, a *diacetate*.—*Ibid.*

FOOTNOTES:

[29] Series of Engravings to the morbid anatomy; fasc. 1. pl. 6. fig. 1, 2.

[30] Lond. Med. Review; vol. 4.

[31] Pathological Researches; Essay 1.

[32] Medical Researches on the Effects of Iodine in Bronchocele, Paralysis, Chorea Scrofula, Fistula Lachrymalis, Deafness, Dysphagia, White Swelling, and Distortions of the Spine. By Alexander Manson, M. D., &c. London, 1825.

[33] Carthamus Tinctorius.

[Pg 214]

QUARTERLY LIST OF AMERICAN MEDICAL PUBLICATIONS

Observations on the Autumnal Fevers of Savannah. By W. C. Daniell, M. D. 8vo. pp. 152.—W. T. Williams, and Collins & Hanway. Savannah, 1826.

An Analysis of Fever. By Charles Caldwell, M. D., Professor of the Institutes of Medicine, and Clinical Practice in Transylvania University. 8vo. pp. 97.—Lexington, K. 1825.

Medical and Physical Memoirs. By Charles Caldwell, M. D., Professor, &c. Containing, 1. An Introductory Address, intended as a Defence of the Medical Profession against the charge of Irreligion and Infidelity; with Thoughts on the Truth and Importance of Natural Religion. 2. A Dissertation in answer to certain Prize Questions, proposed by his Grace, the Duke of Holstein Oldenburg, respecting the "Origin, Contagion and general Philosophy of Yellow Fever, and the Practicability of that Disease prevailing in high Northern Latitudes;" with Thoughts on its Prevention and Treatment. 3. Thoughts on the Analogies of Disease. 8vo. pp. 224.—Lexington, K. 1826.

Florula Cestrica: an Essay towards a Catalogue of the Phœnogamous Plants, native and naturalized, growing in the vicinity of the borough of West-Chester, in Chester County, Pennsylvania; with brief notices of their Properties and Uses, in Medicine, rural Economy and the Arts. To which is subjoined an Appendix of the useful cultivated Plants of the same District. By William Darlington, M. D. 8vo.—West-Chester, 1826.

> We are much gratified with the appearance of this little flora. It is really an uncommonly neat, useful, and convenient performance; and, we have no doubt, is by far the most elegant and creditable botanical work, if not the only one, published in any small town in America. To a country town, we would not think of looking for such a production; but in fact, the county of Chester has, of late years, made very considerable advances in science and literature. It has produced a public library, and perhaps others with the existence of which we are not [Pg 215] acquainted, several botanical and mineralogical collections, a very respectable series of essays on its history, similar to Mr. Jefferson's notes on Virginia, schools, teaching the higher branches of the English mathematics, and one of those partly literary newspapers which have recently sprung up among us.
>
> The above title considerably explains the nature and extent of the work. Of its scientific accuracy, sufficient time has not yet elapsed to form an adequate judgment; but we observe that the author has had the frequent assistance of Baldwin, Collins, Steinhauer, Torrey, and Schweinitz: so that, if the maxim "noscitur a socio" be at all applicable in the present case, it is evident that he has

been in the very best botanical company which our land affords.

> The work is executed with very great neatness, such as would do credit to the press of a metropolis, and is really wonderful for a moderate sized village, and for the disturbed life of a country physician, its author. There is also a great deal of that kind of popular explanation, which so agreeably relieves the repulsiveness of dry works on natural history: such as the familiar names of the plants; the derivations of the names of the genera, designed to assist the student in remembering them, by enabling him to associate some idea with them; occasional comments on their uses and injurious effects, &c.
>
> We may add, that from the close proximity of Chester County to Philadelphia, extending to a large part of the line of the Schuylkill, this little work will answer extremely well for common use around this city, with the single exception of the sands of New-Jersey.

Memoir on the Topography, Weather, and Diseases of the Bahama Islands. By P. S. Townsend, M. D.—New-York, 1826.

The New-England Journal of Medicine and Surgery, and Collateral Branches of Science. Conducted by Walter Channing, Jr. M. D., and John Ware, M. D. No. 2. Vol. XV.—Boston, April, 1826.

The American Medical Review, and Journal of Original and Selected Papers in Medicine and Surgery. Conducted by John Eberle, M. D., Nathan Smith, M. D., George M'Clellan, M. D., and Nathan R. Smith, M. D. No. 1, Vol. III.—Philadelphia, April, 1826.

The Medical Recorder of Original Papers and Intelligence in Medicine and Surgery. Conducted by Samuel Colhoun, M. D. No. 2, Vol. IX.—Philadelphia, April, 1826.

The Philadelphia Journal of the Medical and Physical Sciences. Edited by N. Chapman, M. D., W. P. Dewees, M. D., and John D. Godman, M. D. No. V. New Series.—Philadelphia, May, 1826. [Pg 216]

The New-York Medical and Physical Journal. No. 17. Edited by John B. Beck, M. D., Daniel L. M. Peixotto, M. D., and John Bell, M. D.—New-York, April, 1826.

Journal of the Philadelphia College of Pharmacy. No. 2, Vol. 1.—Philadelphia, May, 1826.

AMERICAN EDITIONS OF FOREIGN MEDICAL BOOKS.

Manual of Surgical Operations; containing the New Method of operating, devised by Lisfranc; followed by two Synoptic Tables of Natural and Instrumental Labours. By J. Coster, M. D. and Professor of the University of Turin. The Translation and Notes by John D. Godman, M. D. 12mo. pp. 265.—Carey & Lea. Philadelphia, 1825.

A Treatise on Derangements of the Liver, Internal Organs, and Nervous System. By James Johnson, M. D. 12mo. pp. 223.—Carey & Lea. Philadelphia, 1826.

An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs. By William Prout, M.D. F.R.S. From the second London Edition, with Notes and Additions, by S. Colhoun, M. D. 8vo. pp. 308.—Towar & Hogan. Philadelphia, 1826.

We are sensible that the foregoing does not present a full list of medical publications for the last quarter; but it is as complete as our opportunities have enabled us to make it. It is obviously for the interest of authors and publishers, to send us the titles of their medical publications as soon as they appear, and we invite them to do so.

*** END OF THE PROJECT GUTENBERG EBOOK NORTH AMERICAN MEDICAL AND SURGICAL JOURNAL, VOL. 2, NO. 3, JULY, 1826 ***

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of

this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

START: FULL LICENSE

THE FULL PROJECT GUTENBERG LICENSE

PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg™ License available with this file or online at www.gutenberg.org/license.

Section 1. General Terms of Use and Redistributing Project Gutenberg™ electronic works

1.A. By reading or using any part of this Project Gutenberg™ electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg™ electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg™ electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg™ electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg™ electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg™ electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg™ electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg™ mission of promoting free access to electronic works by freely sharing Project Gutenberg™ works in compliance with the terms of this agreement for keeping the Project Gutenberg™ name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg™ License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg™ work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg™ License must appear prominently whenever any copy of a Project Gutenberg™ work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

> This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg™ electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the

work and the Project Gutenberg™ trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg™ electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg™ License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg™ License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg™.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg™ License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg™ work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg™ website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg™ License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg™ works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg™ electronic works provided that:

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg™ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, “Information about donations to the Project Gutenberg Literary Archive Foundation.”
- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.
- You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain “Defects,” such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the “Right of Replacement or Refund” described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS', WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg™ work, (b) alteration, modification, or additions or deletions to any Project Gutenberg™ work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg™

Project Gutenberg™ is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg™'s goals and ensuring that the Project Gutenberg™ collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg™ and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations ($1 to $5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the

solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate

Section 5. General Information About Project Gutenberg™ electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg™ concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg™ eBooks with only a loose network of volunteer support.

Project Gutenberg™ eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.

This website includes information about Project Gutenberg™, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.