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Science, by Richard Carlile**

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Author: Richard Carlile

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*** START OF THE PROJECT GUTENBERG EBOOK AN ADDRESS TO MEN OF SCIENCE ***

**AN ADDRESS TO MEN OF
SCIENCE;**

CALLING UPON THEM TO STAND FORWARD AND VINDICATE THE TRUTH FROM THE FOUL GRASP AND PERSECUTION OF SUPERSTITION; AND OBTAIN FOR THE ISLAND OF GREAT BRITAIN THE NOBLE APPELLATION OF WHENCE MANKIND SHALL BE ILLUMINATED, AND THE BLACK AND PESTIFEROUS CLOUDS OF PERSECUTION AND SUPERSTITION BE BANISHED FROM THE FACE OF THE EARTH; AS THE ONLY SURE PRELUDE TO UNIVERSAL PEACE AND HARMONY AMONG THE HUMAN RACE. IN WHICH A SKETCH OF A PROPER SYSTEM FOR THE EDUCATION OF YOUTH IS SUBMITTED TO THEIR JUDGMENT.

By Richard Carlile

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ADDRESS,

Gentlemen,

In addressing a Letter to so distinguished and so important a part of the community, it becomes me to say, that, I am not myself a man of experimental Science, neither, out of the ordinary occupations of my past life, have I ever seen a scientific experiment made in any one department of Chemistry, or Natural Philosophy; all that I know, with the above exception, has been acquired by reading and meditation. My present address is

chiefly confined to those Philosophers, who study and practice the sciences of Chemistry and Astronomy. I shall endeavour to point out to them that, they are bound by duty, by common sense, and by common honesty, to make known to mankind, or, more particularly their fellow countrymen, whatever discoveries they may make to prove that the others are following a system of error, or that they are acted upon by a system of imposture. I shall make it appear plain to them, that they have not hitherto done this, and that they have openly countenanced systems of error and imposture, because the institutions of the country were connected with them; or, because they feared to offend those persons who might be deriving an ill-gotten profit from them. This subject will form the first head of my address. In my second head, I shall shew that the present system of educating children is entirely on a wrong basis, and their youthful time is so far wasted, as to leave them, when advanced to the years of maturity, in a state of comparative ignorance. I shall shew that if in their school exercises they were made acquainted with nothing but the elements of Astronomy, of Geography, of Natural History, and of Chemistry, so that they might at an early period of life form correct notions of organized and inert matter, instead of torturing their minds with metaphysical and incomprehensible dogmas about religion, of which they can form no one idea but that of apparent absurdity and contradiction, they would be prepared to make a much greater advancement in the Arts and Sciences, and to improve their condition in society much more than can be now possibly done. These shall not be altogether theoretical ideas, their practicability will reach the mind of every rational being, or he who takes the liberty to think and reason for himself. Many new plans and schemes for education are daily starting up, but the whole, of which I have any knowledge, have the above common error; for the subjects upon which our youth are taught to read and write, and those in which the dead or foreign living languages are taught, are by no means calculated to expand the mind, or to give it a knowledge of Nature and her laws; and thus the most important of all opportunities is lost, and much time actually wasted, in which their minds might be prepared for the reception and knowledge of natural and useful truths. What is the knowledge of the present school-boy, in what is called classical literature, when compared with a useful instruction 'in Chemistry and the laws of Nature? Of what use to society at large is a classical scholar? or one well versed in the ancient mythologies, for this, after all, is the chief part of classical knowledge? It neither gives a polish to manners nor teaches morality. It fills the mind with a useless jargon, and enables the possessor now and then to make a tinsel and pompous declamation in half a dozen different languages; which, if it were to undergo a translation into one language, and that which we call native, would be found to be a mass of unintelligible and unmeaning trash—words of sound, to which it would be difficult to attach an idea, and in which all correct notions are wanting. It makes a man a pedant only. Such men have been most aptly termed spouters of froth. My present object is to lay down a sketch of what seems to me a more instructive and useful system of education. I submit this sketch to the judgment of Men of Science, with an idea that every schoolmaster ought to be a Man of Science, and not a parish priest, as Mr. Brougham would have. This is the outline of my second head, on which in due order I hope to enlarge most satisfactorily.

In my first head I shall address myself first to the Chemists of this Island, and finish by a distinct allusion to the students and practitioners in the science of Astronomy.

Of all the advancements made in Science of late years, perhaps the most pre-eminent and the most important to mankind, stands that in the science of Chemistry. Our Chemists have proved themselves the greatest of all revolutionists, for they have silently and scientifically undermined all the dogmas of the priest, upon which the customs and the manners of society seem hitherto to have been entirely founded. Every species of matter has been brought to dissolution, and its elementary properties investigated, by their crucibles and fires, or their galvanic batteries, and we have been practically and scientifically shewn in what manner Nature performs her dissolutions and regenerations. As far as I understand, but one of the phenomena of nature remains unexplored, and that is the properties of the electric fluid, or the real cause of the solar light and heat. I do not despair of this being reached, and I have the stronger hope, as it will lead at once to a knowledge of the cause of our existence, and that of every animal and vegetable substance. It will shew the cause and process by which inert matter becomes organized, and how all the variegated beauties of nature start into life. However, at present, we know quite enough to authorize the rejection of all our priestly cosmogonies, we know quite enough to set at nought the notion that the planetary system of the universe has existed but six thousand years—we know that matter is imperishable and indestructible, for, although, a fire to a common understanding seems to destroy combustible matter, yet such is not the case, for after any combustible substance has passed through the fiercest fire, the whole of its component parts still exist to their former full extent; the fire has only separated them and changed their relative situations; they are dispersed in their gaseous state, and again ready for the operations of nature, to amalgamate with some new living and growing substance, to which their qualities can be assimilated.*

** The latter part of this sentence might appear preposterous when addressed to the Chemist, or to the Man of Science, but it is probable that this Address might be read by some individual who might not comprehend the assertion that matter is imperishable and indestructible; therefore the writer has taken the liberty to introduce this slight explanation. He confesses that but two years since he startled himself at the assertion, and asked the assertor whether fire did not destroy matter.*

We know that the planetary system of the universe has existed to all eternity as to the past, and must exist to all eternity as to the future. For, although, that solar system of which our habitation is a part, or other solar systems, might go through great changes, yet its effect is but as the falling of a hair from our heads, and cannot be said to disturb the great whole.

Instead of viewing ourselves as the particular and partial objects of the care of a great Deity, or of receiving those dogmas of the priest which teach us that every thing has been made for the convenience and use of man, and that man has been made in the express image of the Deity, we should consider ourselves but as atoms of organized matter, whose pleasure or whose pain, whose existence in a state of organization, or whose non-existence in that state, is a matter of no importance in the laws and operations of Nature; we should view ourselves with the same feelings, as we view the leaf which rises in the spring, and falls in the

autumn, and then serves no further purpose but to fertilize the earth for a fresh production; we should view ourselves but as the blossoms of May, which exhibit but a momentary splendour and beauty, and often within that moment are cut off prematurely by a blast. We are of no more importance in the scale of Nature than those myriads of animalcules whose natural life is but for the space of an hour, or but a moment. We come and pass like a cloud—like a shower—those of us who possess a brilliancy superior to others, are but as the rainbow, the objects of a momentary admiration, and a momentary recollection. Man has been most aptly compared to the seasons of the year, in our own climate, the spring, is his infancy; the summer, the time of his ardent manhood; the autumn, his decline of life; and the winter, his old age and death—he passes, and another series comes. He is produced by, and produces his like, and so passes away one generation after another, from, and to all eternity. How ridiculous then is the idea about divine revelations, about prophecies, and about miracles, to procure proselytes to such notions! To what generation do they apply, or if they apply to all future generations, why were not the same revelations, prophecies, and miracles, necessary to all the past generations? What avail the dogmas of the priest about an end to the world, about a resurrection, about a day of judgment, about a Heaven and Hell, or about rewards and punishments after this life, when we assert that matter is imperishable and indestructible—that it always was what it now is, and that it will always continue the same. Answer this, ye Priests. Come forward, ye Men of Science, and support these plain truths, which are as familiar to your mind, as the simplest demonstration in mathematics is to the experienced and accomplished mathematician.

Future rewards and punishments are cried up as a necessary doctrine wherewith to impress the minds of men, and to restrain them from vice: but how much more impressive and comprehensible would be the plain and simple truth, that, in this life, virtue produces happiness, and vice nothing but certain misery.

Away then with the ridiculous idea, and the priestly dogma of immortality. Away with the contemptible notion that our bones, our muscles, and our flesh shall be gathered together after they are rotted and evaporated for a resurrection to eternal life. Away with the idea that we have a sensible soul which lives distinct from and after the dissolution of the body. It is all a bugbear, all a priestly imposture. The Chemist can analyse the body of man, and send it into its primitive gaseous state in a few minutes. His crucible and fire, or his galvanic battery, will cause it to evaporate so as not to leave a particle of substance or solid matter, and this chemical process is but an anticipation, or a hastening, of the workings of Nature; for the whole universe might be aptly termed a great chemical apparatus, in which a chemical analysis, and a chemical composition is continually and constantly going on. The same might be said of every organized body, however large, or however minute; its motions produce a constant chemical analysis and composition, a continual change; so that the smallest particle of matter is guided by the same laws, and performs the same duties, as the great whole. Here is an harmony indeed! Man alone seems to form an exception by his vicious conduct and demoralizing character. By assuming to himself a character or a consequence to which he is not entitled, and by making a pretension to the possession of supernatural powers, he plays such fantastic tricks as to disturb every thing within his influence, and carries on a perpetual war with Nature and her laws.

After those few observations upon the properties of matter either organized or inert, (to which I know every Chemist in the country, whose science has conquered the bigotry of his education, will give his assent) I would call upon them all and every one to stand forward and teach mankind those important, those plain truths, which are so clear and so familiar to their own minds. It is the Man of Science who is alone capable of making war upon the Priest, so as to silence him effectually. It is the duty of the Man of Science to make war upon all error and imposture, or why does he study? Why does he analyse the habits, the customs, the manners, and the ideas of mankind, but to separate truth from falsehood, but to give force to the former, and to extinguish the latter? Why does he search into Nature and her laws, but to benefit himself and his fellow man by his discoveries, by the explosion of erroneous ideas, and by the establishment of correct principles? Science must be no longer studied altogether as an amusement or a pastime, which has been too much the case hitherto; it must be brought forward to combat the superstitions, the vices, and the too long established depravities among mankind, whence all their present and past miseries have emanated, and unless the former can be destroyed, the latter will still ensue, as a regular cause and effect.

It is evident that Men of Science have hitherto too much crouched to the established tyrannies of Kingcraft and Priestcraft. Speaking generally they have adopted some of the aristocratical distinctions of the day, and have supported the frauds upon mankind, which it was their peculiar duty to expose. This has given room to the advocates of superstition, to put forward as an authority for their dogmas, the names of Bacon, of Newton, of Locke, and many others. They say that it is no disgrace even to err with such men, and thus, for the want of a more decided and determined character in the advocates of Science and Philosophy, the enemy has built a strong hold within our lines, and has taken an important advantage of our irresolution. I will not believe that Bacon, or Newton, or Locke, in the latter part of their life, had any other ideas of the Christian religion, or any other religion, than I have. In their days, the faggots had scarcely been extinguished, nor was the fuel which supplied them exhausted. They might therefore deem it prudent to equivocate as a matter of safety. Besides, the two former were in the employ of a court, and consequently under the trammels of Kingcraft, which ever has, and ever will find its interest in the support of Superstition and Priestcraft.

I would appeal to any man who calls himself a conscientious Christian, and ask him whether he thinks such a man as himself could write the following paragraph:

"Atheism leaves a man to sense, to philosophy, to natural piety, to laws, to reputation: all which may be guides to an outward moral virtue, though religion were not; but superstition dismounts all these, and createth an absolute monarchy in the minds of men: therefore Atheism did never perturb states; for it makes men wary of themselves, as looking no farther, and we see the times inclined to Atheism (as the time of Augustus Cæsar) were civil times: but superstition hath been the confusion of many states, and bringeth in a new *primum mobile*, that ravisheth all the spheres of government." This is Lord Bacon's apology for Atheism, and, in my humble opinion, he wrote it feelingly, conscientiously, and upon principle, as an Atheist, which word has no other meaning than a seceder from all mythologies, although the ignorant and interested make so much ridiculous clamour and fuss about it.

To shew that Newton was thoroughly ignorant of the chemical properties of matter, I will quote again a

paragraph, which I quoted in page 341, Vol. II. of "The Republican," in the answer to the Rev. Thomas Hartwell Home's pamphlet, entitled "Deism Refuted," &c. It is thus: "All things considered, it appears probable to me, that God in the beginning created matter in solid, hard, impenetrable particles; of such sizes and figures, and with such other properties, as most conduced to the end for which he formed them, and that these primitive particles, being solids, are incomparably harder than any of the sensible porous bodies compounded of them; even so hard as never to wear, or break in pieces: no other power being able to divide what God made in the first creation. While these corpuscles remain entire, they may compose bodies of one and the same nature and texture in all ages; but should they wear away or break in pieces, the nature of things depending on them would be changed: water and earth, composed of old worn particles, or fragments of particles, would not be of the same nature and texture now, with water and earth composed of entire particles at the beginning; and, therefore, that nature may be lasting, the changes of corporeal things are to be placed only in the various separations, and new associations of these permanent corpuscles." The Chemists of the present day must smile at this notion of Sir Isaac Newton, about what God did in the beginning: it is evident, that he knew but little about chemical analysis and composition; or, rather, that his ideas upon the subject were quite erroneous and hypothetical, when he might have obtained a demonstration quite conclusive, if he had studied Chemistry with other parts of his philosophy. Such, in my opinion, is the importance of the science of Chemistry in the pursuit of truth and in the investigation of Nature and her laws, that the first proper step towards philosophical studies must be an acquaintance with its elements and powers.

We need nothing further to convince us of the struggle which existed between science and superstition in the mind of Sir Isaac Newton than the following creed, which I have met with quite *a propos*, or in the midst of writing this address, in a weekly provincial paper, and which, I imagine, has been put forth at this moment as one of those little anxieties to prop the declining superstition of the age. It is thus headed, *Sir Isaac Newton's Creed*: "The Supreme Being governs all things, not as soul of the world, but as Lord of the Universe; and upon account of his dominion, he is stiled the Lord God, Supreme over all. The Supreme God is an eternal, infinite, absolutely perfect being; but a being, how perfect soever, without dominion, is not Lord God. The term God, very frequently signifies Lord; but every Lord is not God. The dominion of a spiritual being constitutes him God; true dominion, true God; supreme dominion, supreme God; imaginary dominion, imaginary God. He is not eternity and infinity, but eternal and infinite. He is not duration and space, but his duration of existence is present, and by existing always and every where, he constitutes duration and space—eternity and infinity. Since every part of space, and every indivisible moment of duration, is every where; certainly the Maker and Lord of all things, cannot be said to be in no time, and no place. He is omnipresent, not by his power only, but in his very substance; for power cannot subsist without substance. God is not at all affected by the motions of bodies, neither do they find any resistance from the omnipresence of God. He necessarily exists, and by the same necessity he exists always and every where. Whence also it follows, that he is all similar, all eye, all ear, all brain, all arm, all sensation, all understanding, all active power; but this, not in a human, or corporeal form, but in a manner wholly unknown to us, therefore not to be worshipped under a corporeal representation." Here is the creed of Sir Isaac Newton! and who can read this, and for a moment believe that he was a Christian when he wrote it? I am not about to approve all this jargon and contradiction; I despise it; I pity the Man of Science that could write such nonsense; and rather than I would be called the author of it, I would relinquish as much fame as Sir Isaac Newton obtained in other respects. The foregoing ideas of Sir Isaac Newton on the properties of matter are equally unintelligible, contradictory, and ridiculous. Lord Bacon's definition of Christianity, or the essentials of the Christian religion, which I have seen printed as a religious tract, but which I have not at hand for reference or quotation, is just of the same stamp, and rather than be called the author of such trash, I would consent to be considered an idiot. Yet Lord Bacon as a natural philosopher, and Sir Isaac Newton as a mathematician and astronomer, were eminent in the highest degree, when the age in which they lived is considered. The conduct of both evinces the mischievous effect of superstition on the human mind, particularly where that mind is brilliantly adapted for making a progress in science and scientific discoveries.

It is impossible to analyze the creed of Sir Isaac Newton relative to Deity, or found any one idea upon it. It is a string of words that have no application, and independent of their contradiction, all that can be said of them is, that they describe nothing. The writer of such a creed must have been an Atheist in disguise, or perhaps unknown even to himself. Its total amount implies that there is no God such as priests teach, and bigots and fools imagine and believe. Mirabaud, in his System of Nature, has brought forward several quotations from Newton's writings, and has commented on them to shew that he was what is vulgarly called an Atheist: that he was what every Man of Science must be, *a seceder from the idolatry of the ignorant*. Such I believe he was in his latter days, and in his private opinion, but he had not the honesty to avow himself such. It is unquestionable that Newton in his youth possessed much superstition, and it is equally unquestionable that the progress he had made in science in his advanced age, had entirely conquered that superstition and banished it from his mind, although, I am sorry to say, that he was not honest enough to make a full and conscientious confession of the change to which his theological opinions had been subjected. Perhaps I cannot make a deeper impression on the mind of the reader as to the real character of Newton, than by quoting an anecdote from William Whiston's Memoirs written by himself.

"Sir Hans Sloane, Edmund Halley, and myself, were once together at Child's Coffee-house, in St. Paul's Church-yard, and Dr. Halley asked me, Why I was not a member of the Royal Society? I answered, because they durst not choose an heretic. Upon which Dr. Halley said to Sir Hans Sloane, that if he would propose me, he would second it: which was done accordingly. When Sir Isaac Newton, the President, heard this, he was greatly concerned; and, by what I then learned, closeted some of the members, in order to get clear of me; and told them, that if I was chosen a member, he would not be president. Whereupon, by a pretence of deficiency in the form of proceeding, the proposal was dropped, I not insisting upon it. Nay, as soon as I was informed of Sir Isaac's uneasiness, I told his bosom friend, Dr. Clarke, that had I known his mind, I would have done nothing that might bring that great man's 'grey hairs with sorrow to the grave:' Nor has that Society ever refused to let me come, and lay any of my papers or instruments before them, whenever I desired it; without my being an actual member: which, considering my small ability to pay the usual sums for

admission, and annual dues, was almost as agreeable to me, as being a constant member. Now if the reader desire to know the reason of Sir Isaac Newton's unwillingness to have me a member, he must take notice, that as his making me first his deputy, and giving me the full profits of the place, brought me to be a candidate, as his recommendation of me to the heads of colleges in Cambridge, made me his successor; so did I enjoy a large portion of his favour for twenty years together. But he then perceiving that I could not do as his other darling friends did, that is, learn of him, without contradicting him, when I differed in opinion from him, he could not, in his old age, bear such contradiction; and so he was afraid of me the last thirteen years of his life. See my Authentic Records, page 1070, 1071. He was of the most fearful, cautious, and suspicious temper, that I ever knew: and had he been alive when I wrote against his Chronology, and so thoroughly confuted it, that nobody has ever ventured to vindicate it, that I know of, since my confutation was published, I should not have thought proper to publish it during his life-time: because I knew his temper so well, that I should have expected it would have killed him. As Dr. Bentley, Bishop Stillingfleet's chaplain, told me, that he believed Mr. Locke's thorough confutation of the Bishop's Metaphysics about the Trinity, hastened his end also."

Whiston was the early friend of Newton and succeeded him at Cambridge in the professor's chair in the science of the Mathematics. Newton when young was a firm adherent to the ridiculous doctrine of the Christian Trinity, and so useful as figures were to him in his mathematical and astronomical discoveries, and to such an extent, beyond all predecessors, could he carry them, yet superstition could persuade him, that three could be explained to be but one; and one to comprise three! The science of Whiston in the Mathematics was almost equal to that of Newton, though I believe the former had not so fertile a genius as the latter, and was obliged to acquire by labour what to the other was natural. Yet Whiston, although he had superstition enough to make him a honest and conscientious Christian, knew the proper use of arithmetic, and would not allow three to be one, nor one to be three: he rejected the doctrine of the Trinity in the Godhead. Whiston honestly and openly combated this impossibility, and avowed himself an Arian, and contended under much persecution throughout his lifetime that such were the sentiments of the early Christians, and that the doctrine of the Trinity was but a corruption of the church after it had been long established. Such tenets were then called blasphemous, and Whiston was expelled from his professor's chair, and from the university of Cambridge altogether, and had to endure more clamour about blasphemy than ever I had, or have any reason to fear in future. This circumstance connected with a rivalry in the Mathematics occasioned the breach between Whiston and Newton, but ridiculous as even Whiston's superstition appears to me, I think him a much more honest man than ever was Newton, and as a member of society much more useful to the age in which they lived. Newton courted distinction and popularity by servilely succumbing to all the despotisms of the day: Whiston was a man of principle, and lived and died poor for the satisfaction of writing and speaking what he thought and believed. The one has been too much flattered and applauded; the other too much vilified and degraded, and the clamour by which both circumstances have been effected has been equally disgusting and disgraceful to the country.

I have contrasted the conduct of Whiston and Newton, and have made my observations on the latter to shew that even his name carries no weight with it in the support of superstition, I trust I have sufficiently shown that superstition and science can never amalgamate, which also justifies the inference that, morality and religion never can amalgamate. Superstition corrupts and deteriorates all the human passions: science alone is qualified to amend and moralize them. The Man of Science who knows his duty, and what is conducive to the interest of mankind, will ever boldly and openly set himself in opposition to the priest. This has not been sufficiently done hitherto, and I hope that even my appeal will not be altogether useless, but that, it will rouse some latent spirit among the Men of Science in this island to assert their own dignity and importance; and silence the foul, the wicked, and the mischievous clamour of Priestcraft.

It is beyond doubt that Locke was hostile to the system of Government, both in Church and State, and the odium which he incurred from a certain quarter, was quite equal to that which has fallen upon Thomas Paine, or those who, since the American and French revolutions, have travelled so much farther in their opposition. Opposition to ill-founded establishments, possessing power, must necessarily be progressive. Locke was thought to have gone to an extreme in his time, but I now consider his writings to be scarcely-worth reading, as far as they apply to toleration in matters of opinion, or to political economy and political government. The sentiments which I have put upon paper would have been called high treason a century ago, and the author hung, beheaded, embowelled, and quartered, with the general approbation of the people; and a person of the name of Thomas, Matthews was actually hung for writing and printing what was called a treasonable libel, in the reign of George the First; which libel, or a similar one, would not now be thought seditious by the Attorney General himself. Such is the effect of general instruction among the people—such is the progressive power of the printing press, that, I feel a moral conviction that the sentiments which I have avowed will become general in another generation. The circumstance is as sure as that no one will now condemn the political opinions of John Locke, as going too far, but rather as weak and insipid, and not going far enough in honest principle.

Then come forward, ye Men of Science, it is reserved for you to give the death blow, or the last blow to superstition and idolatry. Now is the time—you are safe even from momentary persecution, if you stand forward numerous and boldly. You will have a people, an all mighty people, with you, a circumstance which no philosopher could ever heretofore calculate upon. You have nothing to fear, and nothing to lose, but every thing to gain, even that which is most dear to you, the kind reception of your instructions, the adoption of your principles, founded in truth and the nature of things.

Kings and Priests have, in some cases, made partial pretensions to patronize the Arts and Sciences, as a cloak for their enmity towards them. They ever were, and ever will be, in reality, their direst foes. An advanced state of Science cannot benefit them. Their present distinctions, and misery-begetting splendour, could not be tolerated, when mankind shall so far be illuminated as to know the real cause and object of animal-existence. Common sense teaches us that good government requires none of those idle distinctions; for why should the servants, or the administrators of the laws of society, be distinguished above those whence those laws should emanate? It is the duty of the Man of Science to attack those distinctions, to combat all the established follies of the day, and endeavour to restore society to its natural state; to that state

which first principles will point out; the mutual support, the comfort, the happiness, and the protection of each other. At present we are but as so many beasts of prey, each strengthening himself by the destruction of his weaker fellow. The many unnatural distinctions which Kingcraft and Priestcraft have brought into society, have totally undermined the first object of the social state. In addition to this universal evil, those two crafts have set themselves up as a bar to all useful improvement. They countenance no change but that which swells the amount of their depredations, (for the manner in which their incomes are extorted deserves no other appellation.) Societies can obtain no real or lasting strength under the sway of those two crafts, for every improvement that has been made in their several conditions, has been evidently from the force of natural and scientific knowledge, and in an exact ratio with the diminution of kingly and priestly influence. This assertion is evident if we examine the decay of their influence for the last three centuries, in this or any other country. The printing press has come like a true Messiah to emancipate the great family of mankind from this double yoke. This Messiah is immortal, and its saving powers must be universal and perpetual. By this, and by no other Messiah, can man be saved from ignorance and misery; the only hell that he has to fear. It will prove the true Messiah of the Jew, of the Christian, of the Mahometan, and of the Pagan. It is a Messiah for all, and it will go on to unite under the name and title of Man and Citizen the whole human race, or all those animals who have the gift of speech, and its consequent, reason. I hope to see the day, or I fear not but it will arrive, when every man of property shall consider a printing-press, a necessary piece of furniture in his house; and prize it more than our present aristocrats prize their hounds and horses.

In support of my assertion, that Men of Science have hitherto crouched too much to the established impostures of the day, I have merely to remark, that I am not aware of any one instance in which any Chemist of this country has made a public attack upon them, or called them in question in any public manner. Another proof of my assertion might be found in the Medical and Surgical professions. From the best information, I have learnt, that, with a very few exceptions, the whole body of those gentlemen in the Metropolis, have discarded from their minds all the superstitious dogmas which Priestcraft hath invented, and that they have adopted those principles which have a visible foundation in Nature, and beyond what is visible and comprehensible, their credence does not extend. Yet, when that spirited young man, Mr. Lawrence, having obtained a professor's gown in the College of Surgeons, shew a disposition in his public lectures to discountenance and attack those established impostures and superstitions of Priestcraft, the whole profession displayed that same cowardly and dastardly conduct, which hath stamped with infamy the present generation of Neapolitans, and suffered the professor's gown to be stripped from this ornament of his profession and his country, and every employment to be taken from him, without even a public remonstrance, or scarcely an audible murmur!

It is conduct such as this which gives courage and permanence to the despots who strive to enslave both our bodies and our minds. It is this base disposition of making truth crouch before established and antique error, which has hitherto characterized the searchers after and lovers of the former, that has given force and longevity to the latter. It is the bounden duty of every man openly to avow whatever his mind conceives to be the truth. If he shrinks from this he is a coward—a slave to the opinions, of other men. Shall the enemies of mankind boldly tell us that they perceive truth in their mysterious and incomprehensible dogmas, and shall we shrink from the publication and support of those truths which we perceive to have an evident foundation in Nature! Shall we shrink from the avowal of truths because despotism and ignorance have granted stipends to the propagators of falsehood, and because those stipends might be endangered? Forbid it, Nature! Let every lover of truth and the peace and happiness of the human race forbid it.

I may be told that the Man of Science had much better pursue his studies and experiments in silence and private, and not expose himself to the persecution of bigots. The idea is slavish—disgraceful. Science has made sufficient progress in this country, and has a sufficient number of followers and admirers, to enable them by a single breath to dissipate all the bigotry in the country, or, at least, to silence all the idle clamour of the bigoted and interested about blasphemy and atheism, or any of their nonsense. Is the progress of Science to be submitted to an Excise, and are all discoveries to be treated like contraband goods, lest the trade and the tithes of the priest be injured? Shame on that man who can tacitly submit to such a system. And yet this is just what we are called upon to submit to, and threatened with punishment, and even banishment, if we murmur. I, as an humble individual, have resolved to break through those trammels, to violate all those degrading and disgraceful laws, and shall the Man of Science be silent, and see all that he values most dear, persecuted in my person, just because he will not proclaim that I am right, and that my enemies, and his enemies, are wrong? Now is the time for him to speak out—now is the time when he can do it effectually. My humble efforts have alarmed the whole of Corruption and Falsehood's hosts, and half frightened them to death, let but a few eminent and distinguished Men of Science stand forward and support me, and I have no fear of finishing well, what I have endeavoured well to begin. I aspire to nothing more than to become the humble instrument of sounding and resounding their sentiments. I am anxious to sound a loud blast in the cause of Truth, of Reason, of Nature and her laws. I will give every Man of Science an opportunity of publishing his sentiments without any direct danger to himself: I will fill the gap of persecution for him, if a victim be still necessary to satisfy the revenge of dying Priestcraft.

This is an age of revolutions, and where those revolutions have not yet displayed themselves, it is not for want of the mind having been sufficiently revolutionized, but because it is kept down by a superior acting force in the shape of fixed bayonets and despotic laws. Throughout Europe the mind of the people has been long revolutionized from its wonted ignorance, and wherever it finds an opportunity, it displays itself. This march of the mind will be progressive, and it is evident that it has already begun to spread itself among the very instruments of those despots called Kings, by which they vainly hoped to have checked its course. Every march of the Russian troops into the south of Europe will but tend to enlighten them, and by and bye they will become wise enough to return and revolutionize their own country; by adopting the Representative System of Government, and by making their present Emperor what he is so well adapted for—a regimental tailor.

The horror which was so lately expressed by the Emperor of Austria at the progress of Science, and at the revolution which Sir Humphry Davy had made in the science of Chemistry, is a specimen of that feeling which pervades all such men. This imbecile idiot quivered at an observation of his own physician about the state of his own constitution, and forbade him ever to use the word in his presence again! Yet it is by such men as

this, that the inhabitants of Europe are held in a state of bondage and degradation!

Will ye, Men of Science, continue to truckle before such animals? Will ye any longer bend the knee to such Baals—to such Golden Calves as these? Will ye bend your aspiring minds to prop the thrones of such contemptible, such ignorant, such brutish despots? Shame on you, if you can so far debase yourselves! Up, and play the man, boldly avow what your minds comprehend as natural truths; and all the venom of all the Despots and Priests on the face of the earth, shall fly before you as chaff before the wind.

The science of Chemistry has so far explored the properties of matter in all its variety, and has so far ascertained all its powers, purposes, and combinations, as to banish the idea of its having been formed from any chaotic state into its present form and fashion. The Chemist would smile at such a notion in the present day, even if he feared to encounter the Priest and his dogmas about the world having been created out of nothing. Creation is an improper word when applied to matter. Matter never was created—matter never can be destroyed. It is eternal both as to the past and future. It is subject to a continual chemical analysis, and as continual a new composition. For a full comprehension of these assertions, it is necessary to have a knowledge of the elements of Chemistry: therefore, if any other person, but those to whom this letter is addressed, should read it, let him not hastily reject without a full consideration and enquiry. Mr. Parke's Chemical Catechism, or Dr. Ure's Chemical Dictionary, will explain all my assertions on the properties of matter. The elements of Chemistry have been published by a variety of other Chemists, to any of whom I would refer the reader, as it will not answer the purport of my address to enter into a fuller explanation on this important head, or to fill these pages with an elemental description of Chemistry.

I address myself to Men of Science, not as one of them, but as an individual who has obtained a sufficient insight into the various departments of Science, through the medium of books, to convince him that all the dogmas of the Priest, and of Holy Books, are false and wicked impostures upon mankind. He therefore calls upon Men of Science to stand forward and unfold their mind upon this important subject. He offers himself as a medium through which they might escape the fangs of the Attorney General, or the Society for propagating Vice, and pledges himself that there is no truth that any Man of Science will write, but what he will print and publish. He has a thorough contempt and indifference for all existing laws and combinations to punish him upon this score, and will set them all at defiance, whilst they attempt to restrain any particular opinions. He will go on to show to the people of this island, what one individual, and he a very obscure and bumble one, can do in the cause of propagating the truth, in opposition to falsehood and imposture.

I have now gone through the first part of my first head, and I should have been happy if I could have made an exception in the general conduct of the Chemists of this island. I am not aware that any one of them has ever made himself the public advocate of truth, of scientific philosophical truth, in opposition to the false and stupifying dogmas of Priestcraft or Holy Books. In the Medical and Surgical professions I have found one exception, and but one, although I almost feel myself justified in calling on many by name to come forward, and among them my namesake stands most conspicuous, in that cause which is nearest their hearts.

I have introduced the names of Bacon, Newton, and Locke, under this part of my address, not as practical Chemists, which I believe they were not, or if they knew any thing of the elements of Chemistry, that knowledge is not now worthy of mention, but because they are now claimed as the patrons of Superstition. Newton certainly deserves to be called a great astronomer, but as he endeavoured to make even his knowledge in Astronomy subservient to his bigotry, I have thought proper to treat him as a wavering and dishonest fanatic, rather than as a Man of Science. The theological and metaphysical writings of Bacon and Locke, are completely ambiguous, and form no key to the mind of the writer, or to any abstract and particular opinions. As I have said before, they equivocated as a matter of safety; whatever others might think of them, I feel no pride in saying they were Englishmen. Thomas Paine is of more value by his writings, than Bacon, Newton, and Locke together.

In calling upon the Astronomer to stand forward and avow his knowledge, that all the astronomical dogmas of Holy Books are founded in error and ignorance of the laws...

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...properly be termed a species of madness. Whatever opinions prevail in the minds of men which have no foundation in Nature, or natural laws, they can merit no other designation than insanity. Insanity, or madness, consists in unnatural or incoherent thoughts and actions, therefore, as no species of religious notions have any alliance with nature, it is but a just inference to say, that they individually or collectively comprise the term *madness*. In mild dispositions it may be but a harmless melancholy aberration; in the more violent it becomes a raging delirium, which destroys every thing that comes in its way, and for which it has sufficient strength. It destroys all moral and natural good which comes within its influence, and madly proclaims itself the *summum bonum* for mankind! As yet there is scarcely sufficient reason among mankind to restrain this madness. It has so mixed itself up with all political institutions that there is no separating the one without revolutionizing the other. This is the chief cause of the frequent convulsions in society, as this madness cannot possibly engender any thing but mischief, and it is well known, that, in madness, there is no rest; it is always in a state of motion, unless there be a sufficient power at hand to curb and restrain it. Reason, or a knowledge of nature, is the only specific for it, and he who can throw the greatest quantity into the social system will prove the best physician. Several quacks have made pretensions to give society relief from this madness but they have only tortured the patient without checking the disease. Thomas Paine, and a few American and French physicians, have been the only ones to treat it in an effectual manner, and by the use of their recipes, and the assistance of Men of Science, I hope at least effectually to destroy the contagious part of the disease.

Mathematics, magic, and witchcraft, were formerly denounced by superstition as synonymous terms, and the mathematical student has been often punished as a conjuror! Astronomy and Astrology were also considered one and the same thing. Such were the fantasies and delusions which superstition could raise in the minds of men, and such has been the wickedness of priests, who could always perceive and even acknowledge that human reason was inimical to their views, and whoever possessed or practised it ought to

be destroyed as the enemy not only of themselves but of their God too! As Philosophy has left us no doubt that their interest was and still is their God, they have so far acted consistently, but it is now high time that Philosophy should triumph over Priestcraft. It is now evident that Philosophy has sufficient strength on her side for that purpose, as her supporters are now more numerous than the supporters of Priestcraft. Let Men of Science stand forward and shew the remaining dupes of Priestcraft, that the Mathematics are nothing more than a simple but important science, and that Astronomy has no affinity to that bugbear called Astrology.

The Priests and Judges of the present day are men of the same disposition as the Priests and Judges of the seventeenth century, who imprisoned Galileo for asserting the sphericity of the earth, and its revolution round the sun, contrary to the tenets of the Holy Bible, and who burnt old women as witches because they might have had the misfortune to be old, ugly, or deformed. Such is the power and progress of truth, that those very men are brought to confess that Galileo asserted nothing more than an important philosophical fact. On this point I will briefly notice the misgivings of one of our living judges. Mr. Justice Best in his judicial circuit through the northern district, at the late Lent assizes for Cumberland, on a trial for libel, made the following assertion, after attempting to contrast the state of freedom in this country at this time, with what existed at Rome when Galileo was imprisoned in the Inquisition, for stating "a great philosophical truth," his Judgeship observed: "now in this country any philosophical truth, or opinion, might be stated and supported without its being considered libellous."

This is a most glaring and a most abominable falsehood, when the quarter from which it came is considered.

Mr. Justice Best in the month of November 1819, sat as a judge in the Court of King's Bench, and advised the sending me to the gaol of Dorchester for three years and the imposing a fine upon me of fifteen hundred pounds for stating and supporting a great philosophical truth. Not content with the imposition of this enormous fine and tremendous imprisonment, he also immediately sanctioned the issuing of a writ of *levari facias*, on the very same day, by which my business and my property was destroyed, and by which: cause I am at present deprived of all visible means of making up that fine. Yet, Mr. Justice Best, had the effrontery to say from the bench, which should ever be sacred to truth and justice, that no philosophical truth stated and supported in this country, would be considered libellous! I do aver, and I challenge any Man of Science to contradict me publicly, if he dares, that the two volumes, for the publication of which I am now suffering imprisonment, and for which I have been so excessively fined and robbed, contain nothing more than philosophical truths, as plain, as, simple and as important, as those for which Galileo was imprisoned by the Christian Inquisition, about two hundred years since. I appeal to Mr. Justice Best himself—he knows the truth of what I now write—yet he has had the effrontery, in contempt of the good sense and discernment of the whole country, to put forth this vile falsehood—still more vile, because he himself partook in the order for my punishment, Galileo was told in the seventeenth century by the Magnificent Inquisitor General that, his astronomical ideas were not in unison with the Holy Scriptures, and that he must not promulgate them. Mr Justice Best told me in November 1819, that he would not sit on the bench as a judge and hear a particle of the Bible called in question. Then where is the difference in the conduct of those two Magnificent Inquisitors General, and between my case and that of Galileo? The Judges who condemned Galileo were quite mild and humane when compared with mine, they did not rob him of all his property and fix a fine with a hope that he would never be able to pay it: they merely, in addition to his imprisonment, ordered him to repeat, aloud the seven penitential psalms once a week! Canst thou Mr. Justice Best read this statement and these observations, and again take thy seat as a judge in a Court of law or what ought to be a Court of Justice? Blush! Best! blush! Every Man of Science—every lover of great philosophical truths, will proclaim thee a liar for thy assertion on the bench at Carlisle in Cumberland. The very name of the place might have reminded thee of the grossness of that assertion!

Neither will it become me here to lay down the elements of Astronomy, my appeal is to the Astronomer, and I have merely to remind him, that, if he supports the dogmas of the Priest, or the astronomical blunders of any holy book, he is a corrupt and wicked hypocrite, and a disgrace to the science which he studies, practises, or teaches. Science and truth ought to be synonymous terms, and neither the one or the other ought, upon any consideration whatever, to pay the least respect or deference to established error. To those same persons whom I have given a reference for the elements of Chemistry, I would also refer to other works for the elements of Astronomy. They are now published in a variety of shapes and forms, and I am much pleased to see that a number of gentlemen are giving lectures on Astronomy in all our towns and cities of any note. Such men are worthy of support in preference to the Priest, and although they may jointly, from fear, or other motives, attempt to mix up religious dogmas with their scientific lectures, I know that it must tend to a due enlightenment of the public mind. An Eidouranian or Orrery to have been displayed a few centuries ago would have gathered a pile of faggots for the lecturer, and he would have been burnt as a daring blasphemer, and his machine with him, as the devil's workmanship. Such is the rapid progress of natural knowledge, that I almost doubt whether the person, that shall now stand forward and publish Thomas Paine's Age of Reason, and Elihu Palmer's Principles of Nature, in the same open and determined manner as I published them, would find even imprisonment for it, let him do it openly and I will commend him, and be almost answerable for him in point of loss or suffering.

It is not a sufficient excuse for Men of Science to plead established institutions, or to say that Priestcraft is powerful because six millions of money is wrung from the people in the shape of direct taxes to support it, and about as much more levied in the shape of voluntary contributions upon that class of people called Dissenters. Shew the people that they are imposed upon, and they will no longer be robbed and laughed at, they will soon perceive that the money which this Priestcraft takes from their pockets would be sufficient for a splendid execution and administration of the laws and government of the country. Abolish Priestcraft, and the expense which now attends it will cover all the other necessary expences of the state. This twelve millions of money is spent for the very worst of purposes, for it does not civilize society, but rather brutalizes it, by setting its members one against the other, upon different points of belief, all of which are proved to be erroneous and to have no foundation in Nature.

The Man of Science ought not to look at, or respect, any thing but the discovery and propagation of truth. Instead of respecting mischievous and erroneous establishments, he, of all men, is bound, by every honourable tie, to make an exposure of them, and to teach the people right from wrong. His knowledge and discoveries should be like the benefits of Nature dispensed alike to all without price or reward. He ought to be the patron of truth, and the enemy of error, in whatever shape it might appear, or whatever effect it might produce. Like Nature herself, he should be no respecter of persons or of things individually but collectively.

I have now gone through the first head of this Address, and I trust that I have performed what I promised under it. I have shewn that Men of Science, either from having their minds tinged with superstition, or from the fear of offending those who might labour under that malady, have deprived society of many of those benefits which it was their bounden duty to have conferred upon it. They have withheld from the public the most important discoveries, because, as the Christian Inquisition said to Galileo, such discoveries, or such doctrines, were contrary to those of the Holy Bible. Shame upon such dastardly principles, say I—they are a disgrace to mankind, which assumes a superiority over all other animals. We had better never have possessed the gift of speech, and its consequent reason, if we are only to use it for the propagation of falsehood, and the production of misery, to the majority of the species. I have broken through the trammels of Priestcraft publicly, I bid defiance to all the persecution it can inflict upon me, and I now call upon the Men of Science in this island to stand forward and support me. However it might affect the momentary interest of individuals, ought not to be a question, it is certain that superstition would not linger another year, if the Philosophers of the country would stand forward and make war upon it: they would then find that the extortions of the Priesthood would be willingly given for the erection of Temples of Science, and the support of competent professors in the Arts and Sciences; and that a mutual instruction in every thing that can benefit a society would be the first and last object in view, both individually and generally.

I come now to the second head of my address, in which I have undertaken to shew, that, all existing systems of education are imperfect and improper, and further, to give a sketch of a system that shall be more proper. In the first place I would remark that, in all the schools of this country, or with scarce an exception worthy of mention, the youth are subjected to a certain system of religious study and exercise. They have to attend certain ceremonies called public worship or prayers—they have to get those prayers by heart, and also a catechism of religious belief, or I should rather say religious dogmas, as there can be no real belief where there is no comprehension of the object in contemplation or discussion; however, altogether, about these religious ceremonies, one half of the time of youth is wasted; for the lessons in reading, lessons in grammar, copies for writing, and even those lessons in which foreign languages are taught, have their subject matter founded upon religious dogmas, either ancient or modern. Here and there a moral precept is thrown in, but the dogmas of religion have a decided preponderance, and more than half of the time of youth is wasted upon them. It is evident that these religious dogmas make not the least impression upon the minds of youth, further than to stupify them by so dull and so constant a repetition, and the reason of this is, that these religious dogmas have no foundation whatever in Nature. They neither instruct, amuse, interest, or delight, because the youthful mind has no comprehension of their object, and can perceive no real utility arising from them. They are viewed but as a matter of school discipline, and the youth returns to them with a loathing. Still they are continually pressed upon him as long as he remains under parent or tutor, and he grows up with a mind soured by an habitual distaste of that which he is told to venerate. If you were to instruct a child in the elements of Chemistry, you would find that it would be constantly amusing itself with such simple chemical experiments as its childhood could practise and comprehend: it would feel an interest in all the little experiments it could make, and that interest would lead on to a self-importance, to industry, to a knowledge and due comprehension of the value of time, about which children think so little, or rather think nothing at all, under the present system of education. They are exhorted to set a value on their time by written precepts, but they have no inducements to that object, owing to their system of education being one dreary monotony. No part of it is calculated to kindle the fire of genius, or to cherish the aspiring spirit of youth. It is from such a system of education that true genius has become so very scarce, and is so seldom seen: it blunts and stupifies the mind, and obscures that radiance to which the system I now propose would have given energy and opportunity to display itself. Many of Nature's Nobles have passed through life unknown and unheeded entirely from the influence of a superstitious and genius-destroying education!

From the evident disposition of children to imitate all the actions of grown persons, from their little scientific propensities to produce in miniature what they see in magnitude, from the delight which they feel, and the deep interest which they take in all their little works and playful amusements, it is certain that nothing more is required to put them in the channel of correct ideas than to give them such instruction, and to bend their minds to such objects as shall at once employ, amuse, and delight, and at the same time form a playful and healthful exercise for them; whilst it is calculated to expand their minds in the knowledge and comprehension of those objects which are above all things conducive to the interests of society, and which relate to the progressive improvement and advancing state of the Arts and Sciences.

The objects to which I allude, are chemical experiments, and experiments in every other branch of Natural Philosophy: and a study of Natural History by observation and examination of natural subjects. I need not enumerate the various branches of Natural History, suffice it to say, that I would have a system of education that should embrace the whole successively; and here a wide field would be open for the conversion of priests to professors in the various departments of this science; and this science alone is so far infinite as to make the life of man a continual system of education and research. Independent of the foregoing sciences there are Geography, Astronomy, Mechanics, and all the lesser branches which are commonly and necessarily taught to youth in the present system of education. This I consider would be a natural and proper system for the education of youth, and this system has all the degrees which are as well adapted to the comprehension of infants or children of three and four years old, as to the most mature age and knowledge.

The beauty of scientific pursuits is, that there is always a novelty in them—that discoveries in them will ever be infinite, and that the further you proceed the more you see before you, and the more ardour you feel in those pursuits. It is the best of all amusement and pastime, because, it produces universal advantage and universal satisfaction, whilst it neither fatigues the follower nor injures his neighbour. Other amusements and pastimes are apt to occasion individual injury and even misery, but this cannot. The sportsmen cannot hunt or

shoot, without damaging the cultivated property of others, and whilst in the pursuit of his game his mind allows no obstacles to be just. With the Man of Science the case is different, his amusements and experiments are made within a narrow sphere, and the result is calculated to benefit all without injury to any.

Chemistry I deem to be the foundation of all other science, and in a manner of speaking to comprise all other branches of science. As matter and motion comprise everything we can behold or conceive, and as Chemistry is an investigation of the properties of matter, with the causes and effects of its various combinations, it is evidently the most important part of science, or rather, the first and last part of it. The cultivation of the earth—the cookery of our food—its quantity and quality, and every thing connected with feeding the body—the preservation of our health, and the very preparation of our clothing, may be said to be comprised in the terms chemical analysis and composition. There is no one part of the Arts and Sciences, but to which Chemistry has relation, and even the most important relation. In all manufactures, whether wood or metal—clay or stone—wax or glass—paper or cloth, or what not, the knowledge of Chemistry is essential. It is to the science of Chemistry that we owe all our artificial productions, it is to the science of Chemistry that we owe all our knowledge and comprehension of natural productions, and their adaptation to our several uses. It is therefore of the first consequence that we should commence our studies in this all important science, even in our infancy. As the Science of Chemistry embraces so extensive a variety of objects, it is not without a class simple enough for the comprehension of children. The burning of a candle is a chemical experiment for the production of light—the burning of the fuel which keeps up our fires, is but a chemical experiment for the production of heat; to which a thousand might be added equally simple, a definition of which could not fail to be of the greatest importance in the education of children. And why might not even the first lessons of children be comprised of these and similar simple chemical experiments, which beyond every other subject must instruct and amuse, attract the child's particular attention, and expand its mind by filling it with correct ideas?

I would banish from our school-books every word about God or Devil—Heaven or Hell, as hypocritical and unmeaning words, mere words of sound, and confine the attention of children and youth to such subjects, as an every day's experience shall evince to them to have a foundation in Nature. Moral precepts might, be necessary and useful but even morality might, in my opinion, be taught much better by example than by precept. Therefore, I would say, that the books of children had better be filled with scientific subjects than with moral precepts, as the former are infinite and cannot be too early entered upon, or too closely studied, whilst the latter might be comprised in a few expressions, and taught better, and with more impression by colloquy and example, than in lessons for reading and writing. However, lessons on moral virtue might be most appropriately mixed up with lessons on scientific subjects. They lead to one common end—the happiness and welfare of the human race in society.

Let no one imagine that I hold moral virtue in light esteem, or that I deem it a secondary object, No, the possession of moral virtue with the grossest ignorance on every other subject, is preferable to the most extensive knowledge connected with an immoral and vicious character. Moral virtue should form the foundation of every motive, and every action in life. It is from the conviction that scientific pursuits, or a scientific education, must naturally lead to the extension of moral virtue, that I have been induced to submit this sketch to Men of Science. Moral virtue is with me a *primum mobile* in all things. It forms the beginning and the end of all my views, and, according to my conceptions, of all the principles I advocate and teach. But I would most strenuously exhort the reader to abandon the idea, if he does hold it, that morality is dependent on religion, or that the former cannot exist without the latter. I solemnly and deliberately assert, that religion is rather the bane than the nurse of morality. I have imbibed this impression from the deepest reflection and the closest observation of mankind. To those who think Lord Bacon an authority worth notice, for what I assert, I would refer them to a quotation from his writings on a former page. However, I want no written authority, nor no name, to convince me of the truth of my assertion; we have but to look around us with an impartial eye, and we might read it in the every day actions of the majority of mankind.

I would also banish from our schools Homer, Hesiod, Horace, Ovid, and Virgil, and every volume that makes the least allusion to the mythologies of Greece or Rome, or any-other part of what have been called the Pagan mythologies. If such books are amusing or instructive in ancient history, it will be time enough to read them after having gone through a scholastic education. They should make, no part of the school routine. I do not here mean to dispute the propriety of children been taught the dead languages, although I must confess, that I consider them no farther useful than to teach the etymology of our own language. Paine, Franklin, and Cobbett, are powerful instances that they are by no means essential to an enlarged mind. However, if the dead languages continue to be taught in our schools, I could wish them to be taught through a different medium than at present. Those languages might be taught on other subjects than wars, famines, and massacres, immoral mythologies and the history of base and vicious characters. It has been the common misfortune of historians to take especial notice of base and vicious characters. Hitherto profligacy has been the chief passport to immortality, and the virtuous few have passed through life unheeded before or after death with but very few exceptions. The very books which are called holy and divine are filled with descriptions of human monsters, and scarce any set off or contrast to exhibit the benefits and beauties of moral virtue among mankind.

I am sensible that at present no books exist, such as I point out for the use of schools, embracing the elements of the Arts and Sciences, and free from allusion to all kinds of mythology and superstition, among which I wish to be understood as including the mythology and superstition of the Christians, but no task can be more simple than for a few Men of Science to compile them. Of late some brief and partial descriptions of the Arts and Sciences have been introduced into school-books, but it has been mingled with so much trash about religion and superstition, as to render it of no avail, and but as a secondary or useless object. It is high time that the subject was taken in hand by Men of Science, and that such books, in the various departments of science, should be compiled, as to be adapted for all the different stages of education. None but he who is skilled in any particular science can be equal to the task of compilation. He alone can judge of the best method of introducing that particular science to the youthful mind. It will not be necessary that I should here draw out any specific plan for this system of education; I submit the outline to the judgment of Men of Science. My meaning is too clearly stated to be misunderstood or cavilled with. The subject is a proper one to

attract the attention of any legislature that emanates from, and legislates for, the benefit of the people, and he that shall move it as an amendment to Mr. Brougham's proposed system, which has no other object than to become a new prop for decaying superstition, will at least deserve well of his country and every lover of science and real liberty, whether he succeeds or not. It is a subject that no honest man need be ashamed of. It is by no means a theoretical subject; if it be a novel one, its practicability, and its importance, must reach every mind that has the least idea about Science, and its utility. I break in upon the present system of education no further than that I would change the medium through which the lessons for reading, exercises in grammar, copies for writing, and that in which the dead, or even living foreign languages are taught: the medium which I would substitute, should treat exclusively of scientific subjects, so as to leave the mind in a continual state of exercise upon the subject of Science, and that alone. Unlike religion, Science can never weary the mind: the dreary monotony of the former is a perfect contrast to the life-inspiring power of the latter. Every step you take in Science, stimulates you to further pursuit. The vast volume of nature, that book of books, that only revelation worthy the attention of man, is always open to the Man of Science; and in this book the child can find a language that shall be intelligible, and adapted to his youthful capacity. He can read here without stupifying his senses, and gain useful information without corrupting his manners.

I would even exclude all historical subjects from our schools, as very little of what is left us can be relied on as true, and such as is true, is of very little consequence to a rising generation. However far it might be useful in the shape of example, or amusing and instructive to grown persons, it forms but a waste of time with children at school. General History is but ill adapted to correct the bad or stimulate the better passions of mankind. It displays scarce any thing but the ignorance and brutality, the massacres and superstitions, which have been so common to mankind hitherto. It is rare indeed to find a sketch of a virtuous character. I am of opinion that we could not do better than draw a veil as close as possible over the past, and endeavour to start upon a system that our posterity shall not blush to read when impartially stated. Who can read the history of the past, without blushing and pitying the madness of that animal man, for making so bad a use of his gift of speech and its consequent reason? I must confess that I cannot.

In teaching Geography it is by no means necessary to describe the ancient division of the earth into Empires, Kingdoms, Principalities, &c, or the customs of their former several inhabitants, as they have been subject to a continual change, to trace which, serves but to distract the mind without filling it with any useful information: it would be sufficient for all purposes in studying this science, to become acquainted with the present divisions of the earth, and the present customs, manners, and distinctions of its inhabitants. The same rule applies to Astronomy, it is by no means necessary, but as a matter of curiosity, to trace and study its history: it is sufficient to acquire all the present information that can be obtained in that science, and to stand prepared to make further discoveries or to receive the discoveries of others. By cutting off all that part of the present system of education which forms but a waste of time, you will gain so much the more time for making fresh advances in the various Arts and Sciences. Of course, I do not expect that under my proposed system, one individual can become an adept in all the various branches of all the sciences—no—it would be still necessary that some individuals should confine themselves to one particular science, and some to another, as their peculiar abilities and dispositions might suggest, as the best means for a further and a quicker improvement and advance in the whole. It is sufficient that they all begin right, and waste no time about unmeaning and useless trash; but, by an assiduous application to their several branches, make the farthest possible progress.

That infinity of experiments which Chemistry opens to our view, and that infinity of subjects for examination in Natural History, makes it necessary to begin at those two sciences as early as possible. The elements of Chemistry, a knowledge of which is so essential in all the relations of life, might be simplified for an adaption to the meanest capacity, and even to that of children beginning to read, of which I have before pointed out two familiar instances, upon which a more enlarged explanation might be made, and to which a thousand others equally simple and instructive might be added. In Natural History what a vast field is open? wherein

"To teach the young idea how to shoot."

Here every thing both in the animal and vegetable world, which comes under the every day observation of the child, or even the grown person, might be familiarly described and explained in our school-books by a regular classification and arrangement. By such a system of education as this, the youth would instinctly and involuntarily read a useful lesson in every object that came within his view; his mind would be incessantly led to a contemplation of Nature, a knowledge of which can alone lead a man to true and substantial happiness. No part of matter would then escape the scrutinizing disposition of man, he would explore the ocean and the rivers, the mountain and the valley, the forest and the plain, the bowels of the earth and its atmosphere, and even the surface and atmosphere of other orbs to gratify his scientific and laudably insatiate curiosity. The blade of grass, the leaf, the tree, its fruit, the flower-bed with all its vivid tints and animating effluvia, with all the infinite variety both in the vegetable and animal world, would alike form matter for his scientific research, and objects for him to explore. Here in contemplating the stupendous organization which constitutes animal and vegetable life in Nature's infinite variety, all varying, yet all connected by one common link, operating by one common cause, and to one common end, a successive production and decay, decay and production, the human mind might find an exercise as infinite, and have ideas stirred up equally stupendous. I cannot help exclaiming: This is the path of Nature: tread here, O Man! and be happy.

The works of Nature though infinite are strictly analogous, and human reason is produced by the same laws as every other natural product. The culture of the mind, by which human reason is produced, bears a strict analogy to the culture of the soil, by which we subsist. In each Nature will produce to a certain degree, but the aid of art is necessary to produce a sufficiency, and to reach refinement and perfection. It is therefore of the utmost importance that we begin right, that all the ideas of our infancy and youth be founded in Nature, and that the poisonous effusions of Priestcraft be carefully weeded, and kept from our minds. We should guard our minds against those destructive enemies of human reason, the priests, as we would our fields and gardens against the destructive powers of the locusts, or similarly destructive insects and animals. Our interest and happiness is as much at stake in the one instance as the other, for the Priest is not content with

destroying our happiness, but he must be also fed by our labour. He takes on an average an eighth of all our produce.

The children or the man might here learn that the organization of the vegetable is not less stupendous than that of the animal—that the life and the death of the vegetable is as near alike the life and the death of the animal as that the life and the death of any two animals of a different species are alike each other—that there are animal-vegetables and vegetable-animals, or living substances, in life and vegetation, that partake both of the properties of animals, and vegetables—that this is an evident link between animals and vegetables which unites them in the great chain of nature—that they exist by the same cause, for the same purpose, and to the same effect, He might also learn, that the organization of the smallest insect and animalcule is equally stupendous with the organization of man himself; that it is alone from a peculiar organization that the different animals have the power of uttering so many different sounds, and that man is indebted to the power of uttering a greater variety of sounds for his gift of speech, and for a greater degree of reason, than any other animal possesses, as its consequent. Let the child, or the man even, be taught to reason in this manner, and he will soon feel himself humbled down into his proper sphere in the scale of Nature. He will leave off all the mad tricks which now daily and hourly occupy his time, he will occupy his time by a self and social improvement, and will perceive that a study of Science can alone lead him to true happiness.

Why might not the Linnean system of classification, arrangement, and description, both of animals and vegetables, with all the improvement which has already been made, or which might be made in future, upon that system, be taught in our schools to children? What can be more simple, more amusing, or more useful, and more instructive? What other system of education can be so well calculated for a proper expansion of the juvenile mind? How much more advantageous to society would such a system of education be, connected with a knowledge of Chemistry, Astronomy, Geography, Geometry, and the Mathematics, than all that lying and stupifying lore about religion and its offspring; for the support of which mankind are so excessively robbed? If religion be a word that has any substantial definition, or if it be a proper word, and can be made applicable to Nature in its meaning, or the action it indicates, I have no hesitation to say, that the System of Education which I now propose forms the basis of the only true, the only rational religion. The word religion implying a fixed faith or belief, and having its etymology in the Latin verb *religo*, to bind fast, there can be no true, no just, no rational religion, but that which applies to something we can comprehend, and which has its foundation in Nature and her laws. We cannot strictly speaking fix our faith on a phantom, unless we admit faith itself to be but a phantom of the mind, yet such is the pretence of all those who make so much clamour about the word religion. A study of Nature and her laws, alone forms any substantial faith or religion. This study I would make the basis of all education, to the exclusion, or explosion, of all the remaining mythological nonsense of the day.

Arithmetic, Geometry, and the Mathematics, being taught in figures, admit no change in the system of teaching, or at least in the medium: the same might be said of Algebra, which has the simplicity of the alphabet for its medium for instruction and practice. This forms the only part of education that the priests have not corrupted, and the reason is because they could not; and these figures being above their reach to corrupt or destroy will prove their overthrow. The science of the Mathematics has given a fatal blow to Priestcraft, and this science, connected with Astronomy, was the first which, began to undermine the dogmas of all priests. The science of Chemistry has come to its aid, by proving that matter is indestructible and imperishable, and must have existed as it now is, to all eternity as to the past, and will exist as it now is, to all eternity as to the future. The sciences of Physiology and Zoology have convinced us that the organization of the animal called man, is not more wonderful than that of every other animal and vegetable, nor is he of more importance in the scale of Nature. All that can be said of him is, that he is superior in mental strength to any other animal, and his superiority over the lion, the tiger, or the elephant, is not more than the superiority of those animals over the lesser beasts of the forest. Man only possesses the highest degree in the rank of animals. It is high time to teach man what he really is in the scale of Nature, and no longer allow him to play such fantastic tricks as he does play, by pretending to be something beyond other animals, and to possess supernatural and immortal powers of existence. Man has nothing but the dogmas of superstition in support of his future sensible existence—these dogmas are false and wicked impostures. No appeal can be made to Nature in support of them. Man, as a part of a whole, or as an atom of matter, is immortal, but with whatever he might amalgamate after his frame has passed its dissolution, and has evaporated like a dunghill, or a bed of rotten vegetables, that atom can retain no sense of a former existence. The system of Pythagoras would have been strictly true and rational, if he or his disciples had not imagined a sense of former existence, or that an animal under one shape could retain a sense of his existence under a former shape, although the two might form two distinct animals of a different species. Pythagoras, and his followers, have erred only on this point. I would bring the whole race of mankind back to a conviction that they exist to no other purpose, and by no other cause than every other animal and vegetable. Let mankind be once sensible of this important fact, and they will cease to persecute, to harass, to rob, and to destroy each other. They would then make the best use of their time, and view their animal existence but as a moment in the space of eternity. They would sedulously endeavour to increase the sum of human happiness, and lessen the sum of human misery, and this alone would form the first and the last object of their wish and existence. Let our youth be educated upon this basis, and let even grown persons, re-educate themselves in the same manner, and we shall soon see mankind in its proper character. That character will be the opposite of what it is at present. The representative system of government will be found to be the only necessary government amongst them, and the chief part of legislation will consist in an advancement of the Arts and Sciences.

I have now completed the task which I set out by promising, and whatever reception my address might find among Men of Science, I feel assured that I have misstated nothing, and that nothing which it contains can bear contradiction. I neither fear the critic or the caviller upon the ground-work of my address. I have performed a task which I have many months had in view, and the more I have considered the subject, the more I have felt its importance. I submit the whole, not to the prejudices of the bigot or the priest, but to the clear impartial judgment of Men of Science. I have kept much within bounds in noticing the advanced state of Science, and I feel assured that what I have recommended can be easily and immediately reduced to practice. The breath of Philosophy is now sufficiently strong to puff out the glimmering superstition of Priestcraft. The

Philosopher should no longer bend the knee to this or any other corrupt power. There is a keen public appetite for philosophical truths. I feel satisfied that I have the daily thanks of thousands for rescuing their minds from the horrible dogmas of Superstition and Priestcraft. I have so strong an assurance of the rapid decay of superstition, and the powerful effect of the books and pamphlets which I have thrown into the social system, that no persecution, no punishment, no fines, shall deter me from proceeding to the utmost of my power and abilities. I am happy to see others following in the same path, as I rather court assistance and emulation than dread it. I am ever pleased at the extensive circulation of those publications to which mine are exposed, as it is of the first consequence to stimulate mankind to read, to examine, and to discuss the pretensions of all principles. The Bible Society might circulate its millions of books, and not a member of that society shall feel more pleasure at the circumstance than myself. I do not wish that any of my publications should fall into the hands of any individual, but he who can read the Bible, and who is fully acquainted with its contents, and all the dogmas which the priests of this country teach. It is on this ground that I wish to try the force of those principles which I advocate and no other. I feel assured that no impartial and disinterested man ever read a copy of

Thomas Paine's Age of Reason without having his faith shaken in the Christian religion, and if ever he has read Mirabaud's System of Nature he will find his faith shaken on the subject of all religion. He will see that the whole has arisen from one common fault—the ignorance and credulity of mankind.

For instance, when the use of the telescope and the advanced state of the science of Astronomy has given us ocular and mathematical demonstration, that every orb we see revolving in the wide and infinite expanse of space, and that each of that infinite number of orbs, which something more than hypothesis convinces us do revolve in space, corresponds with a portion of that solar system, of which our parent earth is a part, that they are guided by the same laws and composed of the same species of matter, by which we infer that they bear the same productions, does not the query arise in our minds, which must inevitably strike down the fabric of the Christian religion, that if it was essential for a Jesus Christ, the only begotten son of God, as old as his father, to pass through the virgin-womb of a woman, to be buffeted, scourged, and put to an ignominious death by a sect of superstitious bigots, who have constantly for the space of eighteen hundred years denied all knowledge of such a person, for the purpose of procuring the future happiness of those animals on this orb whom we call human, and their salvation from the eternal torments which he and his father had prepared for those who should reject them; was it not also essential, that this same Jesus Christ, this only begotten son of God, as old his father, should have submitted to a similar incarnation in a virgin-womb, and have been buffeted, scourged, and executed, as a criminal malefactor, according to the respective customs of treating such characters on the several orbs, or the peculiar part of them on which he might chance or choose to inhabit; was it not essential that he should have performed a similar mission for the similar salvation and future happiness of the several inhabitants or animals denominated human on each and every one of those orbs? Can any priest answer this question? The Man of Science I know will smile at it, and pity the credulity and ignorance of all who have believed, who do believe, or who may believe, such ridiculous nonsense. Then let him come forward and preach up his scientific knowledge, and silence the dogmas of the priest. It is reserved for the Man of Science to rid mankind of this horrid ignorance and credulity, and to impress upon their minds the all-important subject of scientific knowledge. Man does not naturally delight in ignorance and credulity, but he naturally strives to free himself from those vices. There is no truth that you can impress upon the mind of man, but what he will rejoice at feeling it to be truth, and himself undeceived as to former error. It is the interested hypocrite alone, that is alarmed at the progress and power of truth, he whose very trade is the known propagation of falsehood and delusion, the tyrants tool and scourge. All tyranny, oppression, and delusion, have been founded upon the ignorance and credulity of mankind. Knowledge, scientific knowledge, is the power that must be opposed to those evils, and be made to destroy them. Come forward, ye Men of Science, ye must no longer remain in the back ground as trembling cowards, ye must no longer crave protection from, and creep at the pleasure of, your direst foes; grasp at tyranny, at oppression, at delusion, at ignorance, and at credulity, and you shall find yourselves sufficiently powerful to destroy the whole, and emancipate both the mind and the body of man from the slavery of his joint oppressors.

The latter of the before-mentioned works is a most important one, and has hitherto passed through several editions without molestation by the Attorney General, or the Society for propagating Vice. Whatever they may attempt, it will defy the malice of either. Many other very important publications are now in full sale, and from the appetite which I find still exists for them, I have been induced to make this bold appeal to Men of Science, calling upon them to stand forward and vindicate the truth, from the foul grasp and persecution of Superstition; and obtain for the island of Great Britain, the noble appellation of the focus of truth; whence mankind shall be illuminated, and the black and pestiferous clouds of persecution and superstition be banished from the face of the earth; as the only sure prelude to universal peace and harmony among the human race.

DORCHESTER GAOL, MAY 1821.

Eighteenth Month of the Author's Imprisonment, and the Fourth Month of the Imprisonment of his Wife.

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