

THE SOUTHERN REVIEW.

No. X.

APRIL, 1869.

ART. I.—*On Liberty*. By John Stuart Mill. People's Edition. London: Longman, Green, Longman, Roberts, and Green. 1865.

We have, more than once, been reminded of our promise to lay before the readers of the *Southern Review* our own definition of the nature of Liberty; a promise which, by the way, we have neither forgotten, nor intended to neglect. For, as we have said, 'Having examined, so freely, the notions of Mill, and Liéber, and Russell, as to the nature of Liberty, we may be reasonably expected to give our own views on the subject. We should be glad,' it is added, 'to do so in the conclusion of this article, [for July, 1867], if our space were not too limited; for we do not shrink from the severe ordeal of criticism to which we have subjected others. We should, on the contrary, court and covet its most searching scrutiny, as the best possible means to eliminate truth from the mass of error in which it is still embedded. . . There is, indeed, no subject under the sun, in regard to which mankind stand in greater need of clear and distinct knowledge, than the nature of Liberty. A work containing such knowledge is still a *desideratum* in English literature. Hence, no mean cowardice or fear of the critic's lash, shall keep us from the resolute endeavor, at least, to contribute our mite toward so great and desirable a work. Especially since no people on earth are more interested in the dissemination of real

to survive them. And then, it is there, sometimes, that mirrors are held before their eyes, in which they are made to behold in their own characters things that surprise and pain them; yet, by the sight of which, they are made humbler and better. This is, indeed, the true charity. To our minds this is the very exaltation of charity. The great fees come not from these silent labors. They come from those loud and fierce antagonisms which these silent labors often prevent, and are intended to prevent. This is the charity that is kind. And it is the more beautiful and blessed, in that it doth not behave itself unseemly, but performs its most benign work unnoticed by the world.

ART. V.—*Cours de Philosophie Positive.* Par M. Auguste Comte. 6v. 8o. Paris. 1830-42.

2. *History of Civilization in England.* By Henry Thomas Buckle. London: John W. Parker & Sons. 1858.
3. *A System of Logic, Ratiocinative and Inductive.* By John Stuart Mill. New York. 1846.
4. *An Historical and Critical View of the Speculative Philosophy of Europe in the Nineteenth Century.* By J. D. Morell, A. M. New York. 1848.

‘Positivism,’ says M. Guizot, in his *Meditations*, ‘is a word—in language, a barbarism; in philosophy, a presumption.’ Its genius is sufficiently indicated by its chosen name; in which it qualifies itself, not like other sciences, by its object, but by a boast. The votaries of physics have often disclosed a tendency to a materialism which depreciates moral and spiritual truths. The one-sidedness and egotism of the human understanding ever inclines it to an exaggerated and exclusive range. Man’s sensuous nature concurs with the fascination of the empirical method applied to sensible objects, to make him overlook the

spiritual. Physicists become so inflated with their brilliant success in detecting and explaining the laws of second causes, that they forget the implication of a first cause, which constantly presents itself to the reason in all the former; and they thus lapse into the hallucination that they can construct a system of nature from second causes alone. This tendency to naturalism, which is but an infirmity and vice of the fallen mind of man, no one has avowed so defiantly, in our age, as M. Auguste Comte, the pretended founder of the *Positive Philosophy*, and his followers. His founder is nothing less than to establish naturalism in its most absolute sense, to accept all its tremendous results, and to repudiate as a nonentity all human belief which he cannot bring within the rigor of exact physical science.

Although it is not just to confound the man and the opinions, we always feel a natural curiosity touching the character of one who claims our confidence. Guizot says of him, when he appeared before that statesman, with the modest demand that he should found for him a professorship of the *History of Physical and Mathematical Science*, in the College of France: 'He explained to me drearily and confusedly his views upon man, society, civilization, religion, philosophy, history. He was a man single-minded, honest, of profound convictions, devoted to his own ideas, in appearance modest, although at heart prodigiously vain; he sincerely believed that it was his calling to open a new era for the mind of man and for human society. Whilst listening to him, I could hardly refrain from expressing my astonishment, that a mind so vigorous should, at the same time, be so narrow, as not even to perceive the nature and bearing of the facts with which he was dealing, and the questions which he was authoritatively deciding; that a character so disinterested should not be warned by his own proper sentiments—which were moral in spite of his system—of its falsity and its negation of morality. I did not even make any attempt at discussion with M. Comte; his sincerity, his enthusiasm, and the delusion that blinded him, inspired me with that sad esteem that takes refuge in silence. Had I even judged it fitting to create the chair which he demanded, I should not for a moment have dreamed of assigning it to him.

‘I should have been as silent, and still more sad, if I had then known the trials through which M. Auguste Comte had already passed. He had been, in 1823, a prey to a violent attack of mental alienation, and in 1827, during a paroxysm of gloomy melancholy, he had thrown himself from the Pont des Arts into the Seine, but had been rescued by one of the King’s guard. More than once, in the course of his subsequent life, this mental trouble seemed upon the point of recurring.’

The reader, allowing for the courteous euphemism of Guizot, will have no difficulty in realizing from the above, what manner of man Comte was. His admiring votary and biographer, M. Littré, reveals in his master an arrogance and tyranny, which claimed every literary man who expressed interest in his speculations, as an intellectual serf, and which resented every subsequent appearance of mental independence as a species of rebellion and treachery to be visited with the most vindictive anger. That his mental conceit was, beyond the ‘intoxication’ which M. Guizot terms it, a positive insanity, is manifest from his own language. On hearing of the adhesion of a Parisian editor to his creed, he writes to his wife: ‘To speak plainly and in general terms, I believe that, at the point at which I have now arrived, I have no occasion to do more than to continue to exist; the kind of preponderance which I covet cannot henceforth fail to devolve upon me.’ . . . ‘Marrest no longer feels any repugnance in admitting the indispensable fact of my intellectual superiority.’ And to John Stuart Mill, at one time his supporter, he wrote of ‘a common movement of philosophical regeneration everywhere, when once Positivism shall have planted its standard—that is, its lighthouse I should term it—in the midst of the disorder and of the confusion that reigns; and I hope that this will be the natural result of the publication of my work in its complete state.’ (This work is his *Course of Positive Philosophy*, finished in 1842.)

Positivism takes its pretext from the seeming certainty of the exact sciences, and the diversity of view and uncertainty, which have ever appeared to attend metaphysics. It points to the brilliant results of the former, and to the asserted vagueness and barrenness of the latter. It reminds us that none of

the efforts of philosophy have compelled men to agree, touching absolute truth and religion ; but the mathematical and physical sciences carry perfect assurance, and complete agreement, to all minds which inform themselves of them sufficiently to understand their proofs. In these, then, we have a satisfying and fruitful quality, Positivism ; in those, only delusion and disappointment. Now, adds the Positivist, when we see the human mind thus mocked by futile efforts of the reason, we must conclude, either that it has adopted a wrong *organon* of logic for its search, or that it directs that search towards objects which are, in fact, inaccessible, and practically non-existent to it. Both these suppositions are true of the previous philosophy and theology of men. Those questions usually heated by philosophy and theology which admit any solution—which are only the questions of sociology—must receive it from Positivism. The rest are illusory. History also, as they claim, shows that this new philosophy is the only true teacher. For when the course of human opinion is reviewed, it is always found to move through these stages. In its first stage, the human mind tends to assign a theological solution for every natural problem which exercises it ; it resolves everything into an effect of supernatural power. In its second stage, having outgrown this simple view, it becomes metaphysical, searches in philosophy for primary truths, and attempts to account for all natural effects by *à priori* ideas. But in its third, or adult stage, it learns that the only road to truth is the empirical method of exact science, and comes to rely exclusively upon that. Thus, argue they, the history of human opinion points to Positivism, as the only teacher of man.

But Comte, while he denies the possibility of any science of psychology, save as a result of his Positivism, none the less begins with a psychology of his own. And this is the psychology of the sensationalist. He virtually adopts as an *à priori* truth (he who declares that science knows no *à priori* truths) the maxim of Locke, *Nihil in intellectu quod non prius in sensu*, and holds that the human mind has, and can have, no ideas save those given it by sensitive perceptions, and those formed from perceptions by reflexive processes of thought.

Science accordingly, knows, and can know, nothing save the *phenomena* of sensible objects, and their laws. It can recognize no cause or power whatever, but such as metaphysicians call second causes. It has no species of evidence except sensation and experimental proof. 'Positive philosophy is the whole body of human knowledge. Human knowledge is the result of the study of the forces belonging to matter, and of the conditions or laws governing those forces.'

'The fundamental character of the positive philosophy is that it regards all *phenomena* as subjected to invariable natural laws, and considers as absolutely inaccessible to us, and as having no sense for us, every inquiry into what are termed either primary or final causes.'

'The scientific path in which I have, ever since I began to think, continued to walk, the labors that I obstinately pursue to elevate social theories to the rank of physical science, are evidently, radically, and absolutely opposed to everything that has a religious or metaphysical tendency.' 'My positive philosophy is incompatible with every theological or metaphysical philosophy.' 'Religiosity is not only a weakness, but an avowal of want of power.' 'The "positive state" is that state of the mind, in which it conceives that *phenomena* are governed by constant laws, from which prayer and adoration can demand nothing.'

Such are some of the declarations of his chief principles made by Comte himself. They are perspicuous and candid enough to remove all doubt as to his meaning.

He also distributes human science under the following classes: It begins with mathematics, the science of all that which has number for its object; for here, the objects are most exact, and the laws most rigorous and general. From mathematics, the mind naturally passes to physics, which is the science of material forces, or dynamics. In this second class, the first subdivision, and nearest to mathematics in the generality and exactness of its laws, is astronomy, or the *mécanique céleste*. Next comes mechanics, then statics, and last chemistry, or the science of molecular dynamics. This brings us to the verge of the third grand division, the science of organisms; for the

wonders of chemistry approach near to the results of vitality. This science of organism then, is biology, the science of life, whether vegetable, insect, animal, or human. The fourth and last sphere of scientific knowledge is sociology, or the science of man's relations to his fellows in society, including history, politics, and whatever of ethics may exist for the Positivist. Above sociology there can be nothing; because, beyond this, sensation and experimental proof do not go, and where they are not, is no real cognition. Comte considers that the fields of mathematics and physics have been pretty thoroughly occupied by Positivism; and hence the solid and brilliant results which these departments have yielded under the hands of modern science. Biology has also been partially brought under his method, with some striking results. But sociology remains very much in chaos, and unfruitful of certain conclusions, because Positivism has not yet digested it. All the principles of society founded on psychology and theology are, according to him, worthless; and nothing can be established, to any purpose, until sociology is studied solely as a science of physical facts and regular physical laws, without concerning ourselves with the vain dreams of laws of mind, free agency, and divine providence.

Such, in outline, are the principles of Positivism. Let us consider a few of its corollaries. One of these, which they do not deign to conceal, is a stark materialism. Their philosophy knows no such substance as spirit, and no such laws as the laws of mind. For, say they, man can know nothing but perceptions of the senses, and the reflexive ideas formed from them. 'Positive philosophy,' which includes all human knowledge, is 'the science of material forces and their regular laws.' Since spirit, and the actings of spirit, can never be *phenomena*, properly so called, events cognizable to our senses, it is impossible that science can recognize them. This demonstration is, of course, as complete against the admission of an infinite spirit as any other; and the more so, as Positivism repudiates all absolute ideas. Nor does this system care to avail itself of the plea, that there may possibly be a God who is corporeal. Its necessarily atheistic character is disclosed in the declaration, that true

science cannot admit any supernatural agency or existence, or even the possibility of the mind's becoming cognizant thereof. Since our only possible knowledge is that of sensible *phenomena*, and their natural laws, nature must of course bound our knowledge. Her sphere is the all. If there could be a supernatural event, (to suppose an impossibility,) the evidence of it would destroy our intelligence, instead of informing it. For it would subvert the uniformity of the natural, which is the only basis of our general ideas, the norm of our beliefs. Positivism is, therefore, perfectly consistent in absolutely denying every supernatural fact. Hence the criticism of its votaries, when like Strauss and Renan, they attempt to discuss the facts of the Christian Religion, and the life of Jesus Christ. Their own literary acquirements, and the force of Christian opinion, deter them from the coarse and reckless expedient of the school of Tom Paine, who rid themselves of every difficult fact in the Christian history by a flat and ignorant denial, in the face of all historical evidence. These recent unbelievers admit the established facts; but having approached them with the foregone conclusion that there can be no supernatural cause, they are reduced, for a pretended explanation, to a set of unproved hypotheses, and fantastic guesses, which they offer us for verities, in most ludicrous contradiction of the very spirit of their 'positive philosophy.'

What can be more distinctly miraculous than a creation? That which brings nature out of *nihil* must of course be supernatural. Positivism must therefore deny creation, as a fact of which the human intelligence cannot possibly have evidence. As the universe did not begin, it must, of course, be from eternity, and therefore self-existent. But, being self-existent, it will of course never end. Thus matter is clothed with the attributes of God.

The perspicacious reader has doubtless perceived that these deductions, when stripped of their high-sounding language, are identical with the stupid and vulgar logic which one hears occasionally from atheistic shoemakers and tailors. 'How do you know there is a God? Did you ever see him? Did you ever handle him? Did you ever hear him directly making a

noise?' Those who have heard the philosophy of tap-rooms, redolent of the fumes of bad whiskey and tobacco, recognize these as precisely the arguments, uttered in tones either maudlin or profane. Is not the logic of Positivism, when stated in the language of common sense, precisely the same?

Once more, Positivism is manifestly a system of rigid fatalism; and this also its advocates scarcely trouble themselves to veil. Human knowledge contains nothing but *phenomena* and their natural laws, according to them. 'The positive state is that state of mind, in which it conceives that *phenomena* are governed by constant laws, from which prayer and adoration can demand nothing.' 'The fundamental character of positive philosophy is, that it regards all *phenomena* as subject to invariable laws.' Such are Comte's *dicta*. The only causation he knows is that of physical second causes. These, of course, operate blindly and necessarily. This tremendous conclusion is confirmed by the doctrine of the eternity and self-existence of nature; for a substance which has these attributes, and is also material, must be what it is, and do what it does, by an imminent and immutable necessity. Positivism must teach us, therefore, if it is consistent, that all the events which befall us are directed by a physical fate, that there is no divine intelligence, nor goodness, nor righteousness, nor will concerned in them; that our hopes, our hearts, our beloved ones, our very existence, are all between the jaws of an irresistible and inexorable machine; that our free-agency, in short, is illusory, and our free-will a cheat.

But the positive philosophy, with its sweeping conclusions, influences the science of this generation to a surprising degree. We are continually told that in France, in Germany, and especially in Great Britain, it is avowed by multitudes, and boasts of prominent names. The tendencies of physicists are, as has been noted, towards Naturalism: the boldness with which the school of Comte lifted up their standard, has encouraged many to gather around it. Its most deplorable result is the impulse which it has given to irreligion and open atheism. Thousands of ignorant persons, who are incapable of comprehending any connected philosophy, true or erroneous, are emboldened to

babble materialism and impiety, by hearing that the 'positive philosophy' knows 'neither angel nor spirit,' nor God. And this is one of those sinister influences which now hurries European and American society along its career of sensuous existence. We detect the symptoms of this error in the strong direction of modern physical science to utilitarian ends. Even Lord Macaulay, in his essay on Bacon, seems to vaunt the fact that the new *Organon* aimed exclusively at 'fruit.' He contrasts it in this respect, with the ancient philosophy, which professed to seek truth primarily for its intrinsic value, and not for the sake of its material applications. He cites Seneca, as repudiating so grovelling an end, and as declaring that if the philosopher speculated for the direct purpose of subserving the improvements of the arts of life, he would thereby cease to be a philosopher, and sink himself into an artizan, the fellow-craftsman of shoemakers and such like. And the witty essayist remarks that, for his part, he thinks it more meritorious to be a shoemaker, and actually keep the feet of many people warm, than to be a Seneca, and write the treatise *De Ira*, which, he presumes, never kept anybody from getting angry. The truth, of course, lies between the unpractical spirit of the ancient, and the too practical spirit of the modern philosophy. Man has a body, and it is well to study its welfare; but he also has a mind, and it is better to study the well-being of that nobler part. Truth is valuable to the soul in itself, as well as in its material applications. To deny this, one must forget that man will have an immortal, rational existence, without an animal nature, when truth will be his immediate and only *pabulum*. So that an exclusive tendency to physical applications of science savors of materialism. To represent the splendid philosophy of the ancients as nugatory, is also a mischievous extravagance. It did not give them all the mental progress of the moderns! True. Perhaps no philosophy, without revelation, could do this. But it gave them the ancient civilization, such as it was. And surely, there was a grand difference in favor of Pericles, Plato, and Cicero, as compared with Hottentots and Australians! Pagans who, like the Positivists, have neither a psychology nor a natural theology.

When we look into Great Britain, we see startling evidence of the power of the new philosophy. John Stuart Mill presents one of these evidences. He has long since (in his *Logic*) committed himself to some of its most fatal heresies; and these he reaffirms and fortifies in his more recent *Examination of Sir William Hamilton's Philosophy*. He holds in the main to the dogmas of the Sensualistic Philosophy. He flouts the primitive judgments of the human mind. He intimates, only too plainly, the ethics of utilitarianism. He disdains the idea of power in causation, and reduces man's intuitive judgment of adequate cause for every known effect, to an empirical inference. Matter he defines, indeed, as being known to the mind as only a possibility of affecting us with sensations; thus parting company, in a very queer way, with his natural kindred, the more materialistic positivists. While upon the subject of fatalism and free-will, his 'trumpet gives an uncertain sound,' he deserves the credit of correcting some of the errors of both the opposing schools, and stating some just truths upon these doctrines. His association with the anti-Christian school represented by the *Westminster Review* is well known. We are now told that Mill is quite 'the fashion' at one, at least, of the Universities, and is the admitted philosopher of Liberalism.

Another of these evil portents in the literary horizon is Henry Thomas Buckle, in his *History of Civilization in England*. His theory of man and society is essentially that of the Positivist. He regards all religion as the outgrowth of civilization, instead of its root; and is willing to compliment Christianity with the praise of being the best religious effect of the British mind and character; (provided Christianity can be suggested without its ministers; whose supposed bigotry, ecclesiastical, and theological, never fails to inflame his philosophic bigotry to a red heat,) although he anticipates that English civilization will, under his teachings, ultimately create for itself a religion much finer than that of Christ. He, of course, disdains psychology; he does not believe a man's own consciousness a trustworthy witness; and he regards those general facts concerning human action which are disclosed, for instance, by statistics, the only materials for a science of man

and society. He commends intellectual skepticism, as the most advantageous state of mind. He is an outspoken fatalist, and regards the hope of modifying immutable sequences of events by prayer, as puerile. He regards 'positive' science as a much more hopeful fountain of well-being and progress, than virtue or holiness.

It is significant, also, to hear so distinguished a naturalist as Dr. Hooker, now filling the high position of President of the British Association, in his inaugural address, terming natural theology 'that most dangerous of two-edged weapons,' discarding metaphysics, as 'availing him nothing,' and condemning all who hold it as 'beyond the pale of scientific criticism,' and declaring roundly, that no theological or metaphysical proposition rests on positive proof.

As Americans are always prompt to imitate Europeans, (especially in their follies,) it is scarcely necessary to add, that the same dogmas are rife in our current literature. Even an Agassiz has been seen writing such words as these: 'We trust that the time is not distant, when it will be universally understood, that the battle of the evidences will have to be fought on the field of physical science, and not on that of the metaphysical.'

All these instances are hints of a tendency in English and American philosophy. We have referred to Positivism, as giving us their intelligible *genesis*. Our purpose is, in the remainder of this article, to discuss, not so much individual Englishmen, or their particular theories, as the central principles of that school of thought, from which they all receive their impulse. To debate details and corollaries is little to our taste; and such debate never results in permanent victory. He who prunes the offshoots of error has an endless task; a task which usually results only in surrounding himself with a thicket of thorny rubbish. It is better to strike at the main root of the evil stock, from which this endless outgrowth sprouts. Hence, we propose to examine a few of the general objections against the body of the system, rather than to follow, at this time, the special applications of one or another of the representative men named above.

Let us, then, look back again at Positivism fully pronounced. We have pointed to that gulf of the blackness of darkness, and of freezing despair, towards which it leads the human mind; a gulf without an immortality, without a God, without a faith, without a providence, without a hope. Were it possible or moral for a good man to consider such a thing dispassionately, it would appear to be odd and ludicrous to him, to witness the surprise and anger of the Positivists at perceiving, that reasonable and Christian people are not disposed to submit with entire meekness to all this havoc. There is a great affectation of philosophic calmness and impartiality. They are quite scandalized, to find that the theologians cannot be as cool as themselves, while all our infinite and priceless hopes for both worlds are dissected away under their philosophic scalpel! Such bigotry is very naughty in their eyes. Such conduct sets Christianity in a very sorry light, beside the fearless and placid love of truth, displayed by the apostles of science. This is the tone affected by the Positivists. But we observe, that whenever these philosophic hearts are not covered with a triple shield of supercilious arrogance, they also burn with a scientific bigotry, worthy of a Dominic, or a Philip II. of Spain. They also can vituperate and scold, and actually excel the bad manners of the theologians. The scientific bigots are fiercer than the theological, besides being the aggressors. We would also submit, that if we were about to enter upon an Arctic winter in Labrador, with a cherished and dependent family to protect from that savage clime, and if a philosopher should insist upon it that he should be permitted, in the pure love of science, to extinguish by his experiments, all the lamps from which we were to derive light, warmth, or food, to save us from a frightful death, and if he should call us testy blockheads, because we did not witness those experiments with equanimity, with any number of other hard names; nothing but our compassion for his manifest lunacy should prevent our breaking his head before his enormous folly was consummated. Seriously, the monstrous pretensions of this philosophy are not the proper objects of forbearance. We distinctly avow, that the only sentiment, with which a good and sober man ought to

resist these aggressions upon fundamental truths, is that of honest indignation. We pretend to affect no other.

The first consideration which exposes the baseless character of Positivism is, that we find it arrayed against the rudimental instincts of man's reason and conscience, as manifested in all ages. That the mind has some innate norms regulative of its own thinking; that all necessary truth is not inaccessible to it; that a universe does imply a Creator, and that nature suggests the supernatural; that man has consciously a personal will, and that there is a personal will above man's, governing him from the skies; these are truths which all ages have accepted, everywhere. Now, we have always deemed it a safe test of pretended truths, to ask if they contravene what all men have everywhere supposed to be the necessary intuitions of the mind. If they do, whether we can analyze the sophisms or not, we set them down as false philosophy. When Bishop Berkeley proved, as he supposed, that the man who breaks his head against a post has yet no valid evidence of the objective reality of the post, when Spinoza reasoned that nothing can be evil in itself, the universal common sense of mankind gave them the lie; there was needed no analysis to satisfy us that they reasoned falsely, and that a more correct statement of the elements they discussed would show it, as it has in fact done. This consideration also relieves all our fears of the ultimate triumph of Positivism. It will require something more omnipotent than these philosophers, to make the human reason deny itself permanently. Thank God, that which they attempt is an impossibility! Man is a religious being. If they had applied that 'positive' method, in which they boast, to make a fair induction from the facts of human nature and history, they would have learned this, at least as certainly as they have learned that the earth and moon attract each other. That there is an ineradicable ground in man's nature, which will, in the main, impel him to recognize the supernatural, is as fairly an established fact of natural history as that man is, corporeally, a bimanous animal. His spiritual instincts cannot but assert themselves, in races, in individuals, in theories, and even in professed materialists and atheists, whenever the hour of their

extremity makes them thoroughly in earnest. No; all that Positivism, or any such scheme, can effect is, to give reprobate and sensual minds a pretext and a quibble for blinding their own understandings and consciences, and sealing their own perdition, while it affords topic of debate and conceit to serious idlers, in their hours of vanity. Man will have the supernatural again; he will have a religion. If you take from him God's miracles, he will turn to man's miracles. 'It is not necessary to go far in time, or wide in space, to see the Supernatural of Superstition raising itself in the place of the Supernatural of Religion, and Credulity hurrying to meet Falsehood half-way.' The later labors of Comte himself give an example of this assertion, which is a satire upon his creed sufficiently biting to avenge the insults that Christianity has suffered from it. After beginning his system with the declaration that its principles necessarily made any religion impossible, he ended it by actually constructing a religion, with a calendar and formal ritual, of which aggregate humanity, as impersonated in his dead mistress, was the deity! 'He changed the glory of the incorruptible God into an image, made like to corruptible man.'

Here also it should be remarked, that it is a glaring misstatement of the history of the human mind, to say that when true scientific progress begins, it regularly causes men to relinquish the theory of the supernatural for that of metaphysics, and then this for Positivism. It was not so of old; it is not so now; it never will be so. It is not generally true either of individuals or races. Bacon, Kepler, Sir Isaac Newton, Leibnitz, Cuvier, were not the less devout believers to the end, because each made splendid additions to the domain of science. The 16th century in Europe was marked by a grand intellectual activity in the right scientific direction. It did not become less Christian in its thought; on the contrary, the most perfect systems of religious belief received an equal impulse. The happy Christian awakening in France, which followed the tragical atheism of the first Revolution, and which Positivism so tends to quench in another bloody chaos, did not signalize a regression of the exact sciences. The history of human opinion and progress presents us with a

chequered scene, in which many causes commingle, working across and with each other their incomplete and confused results. Sometimes there is a partial recession of the truth. The tides of thought ebb and flow, swelling from secret fountains of the deep, which none but Omniscience can fully measure. But amid all the uncertainties, we clearly perceive this general result, that the most devout belief in supernatural verities is, in the main, concurrent with healthy intellectual progress.

2. We have seen that fatalism is a clear corollary of the positive philosophy. It avows its utter disbelief of a personal and intelligent will above us; yea it is glad to assert the impossibility of reconciling so glorious a fact with its principles. It makes an impotent defence of man's own free-agency. But our primitive consciousness demands the full admission of this fact. If there is anything which the mind thinks with a certainty and necessity equal to those which attend its belief in its own existence, it is the conscious fact of its own freedom. It knows that it has a spontaneity, within certain limits; that it does itself originate some effects. No system then, is correct, which has not a place for the full and consistent admission of this primitive fact. But this fact alone is abundant to convince the Positivist that he is mistaken in declaring the supernatural impossible, and in omitting a Divine will and first Cause from his system. Nature, says he, is the all: no knowledge can be outside the knowledge of her facts and laws; no cause, save her forces. These laws, he asserts, are constant and invariable. But, remember, he also teaches, that science knows nothing as effect, save sensible *phenomena*, and nothing as cause, save 'the forces belonging to matter.' Now, the sufficient refutation is in this exceedingly familiar fact; that our own wills are continually originating effects, of which natural forces, as the Positivist defines them, are not the efficient; and that our wills frequently reverse those forces to a certain extent. Let us take a most familiar instance, of the like of which the daily experience of every working-man furnishes him with a hundred. The natural law of liquids requires water to seek its own level: requires this only, and always. But the peasant, by the inter-

vention of his own free will, originates absolutely an opposite effect: he causes it to ascend from its level in the tube of his pump. He adopts the just empirical and 'positive' method of tracing this *phenomenon* to its true cause. He observes that the rise of the water is effected by the movement of a lever; that this lever, however, is not the true cause, for it is moved by his arm; that this arm also is not the true cause, being itself but a lever of flesh and bone; that this arm is moved by nerves; and finally, that these nervous chords are but conductors of an impulse which his consciousness assures him, that he himself emitted by a function of his mental spontaneity. As long as the series of *phenomena* were affections of matter, they did not disclose to him the true cause of the water's rise against its own law. It was only when he traced the chain back to the mind's self-originated act, that he found the true cause. Here then, is an actual, experimental *phenomenon*, which has arisen without, yea, against, natural law. For, according to the Positivist, it discloses only the forces of matter; this cause was above and outside of matter. It was, upon his scheme, (not ours,) literally supernatural. Yet, that it acted, was experimentally certain; certain by the testimony of consciousness. And if her testimony is not experimental, and 'positive,' then no *phenomenon* in physics is so, even though seen by actual eyesight; because it is impossible that sensation can inform the mind, save through this same consciousness. But now, when this peasant is taught thus 'positively,' that his own intelligent will is an original fountain of effects outside of, and above, nature, (the Positivist's nature,) and when he lifts his eyes to the orderly contrivances and wonderful ingenuity displayed in the works of nature, and sees in these the 'experimental' proofs of the presence of another intelligence there, kindred to his own, but immeasurably grander, how can he doubt that this superior mind also has, in its will, another primary source of effects above nature? This is as valid an induction as the physicist ever drew from his maxim, 'Like causes, like effects.' We thus see, that it is not true that the 'positive method' presents any impossibility, or even any difficulty, in the way of admitting the supernatural. On the contrary, it requires the

admission; that is to say, unless we commit the outrage of denying our own conscious spontaneity.

3. The positive philosophy scouts all metaphysical science, namely, psychology, logic, morals, and natural theology, as having no certainty, no Positivism, and as being, therefore, nothing worth. These fictitious sciences, as it deems them, have no *phenomena*, that is, no effects cognizable by the senses, and therefore it deems that they can have no experimental proofs, and can be no sciences. But we assert, that it is simply impossible that any man can construct any other branch of knowledge, without having a science of psychology and logic of his own. In other words, he must have accepted some laws of thought, as sufficiently established, in order to construct his own thoughts. This he may not have done in words, but he must have done it in fact. What can be more obvious, than that the successful use of any implement implies some correct knowledge of its qualities and powers? And this is as true of the mind as of any other implement. When the epicure argues, (in the spirit of Positivism,) 'I may not eat stewed crabs to-day with impunity, because stewed crabs gave me a frightful colic last week,' has he not posited a logical law of the reason? When the mechanic assumes without present experiment, that steel will cut wood, has he not assumed the validity of his own memory concerning past experiments? These familiar instances, seized at hap-hazard, might be multiplied to a hundred. Every man is a psychologist and logician; (unless he is idiotic;) he cannot trust his own mind, except he believes in some powers and properties of his mind. These beliefs constitute his science of practical metaphysics.

We urge farther, that the uniformity of men's convictions concerning *phenomena* and experimental conclusions thereupon, obviously implies a certain uniformity in the doctrines of this common psychology. For, whenever one accepts a given process of 'positive' proof, as valid, this is only because he has accepted that function of the mind as valid, by which he apprehends that proof. Unless he has learned to trust the mental power therein exercised, he cannot trust the conclusion. If, then, physics do not possess the glory (claimed for this science

by the followers of Comte) of 'positivity;' if their evidence are so exact that all men accept them, when understood, with confidence, this is only because they have all accepted with yet fuller confidence, those mental laws by which the physicist thinks. So that the very Positivism of the positive philosophy implies that so much, at least, of metaphysics is equally 'positive.'

The Positivist, of course, has a psychology, although he repudiates it. 'If he had not ploughed with our heifer, he had not found out our riddle.' And this psychology, so far as it is peculiar to him, is that of the *sensualistic* school. The partial inductions, errors, and natural fruits of that school, are well known to all scholars. This is not the first instance, in which it has borne its apples of Sodom, materialism and atheism. Hume, starting from the fatal maxim of Locke, very easily and logically concluded that the human reason has no such intuition as that of a cause for every effect, and no such valid idea as that of power in cause; for in a causative (so called) sequence, is anything else seen by the senses, than a regular and immediate consequent after a given antecedent? Hence he deduced the pleasant consequences of metaphysical scepticism. Hence he deduced that no man could ever believe in a miracle. Hence he inferred, that since world-making is a 'singular effect,' of which no one has had ocular observation, all the wonders of this universe do not entitle us to suppose a first Cause. Hence Hartley and Priestly, in England, deduced the conclusion that the mind is as material as the organs of sense, and perishes with them, of course. Hence the atheism which in France prepared the way for the Reign of Terror, and voted God a nonentity, death an eternal sleep, and a strumpet the Goddess of Reason. We do not wonder that the Positivist, viewing psychology through this school, should have a scurvy opinion of it; indeed, we quite applaud him for it. The fact that he still employs it, notwithstanding his ill opinion, only proves how true is the assertion that no man can think without having a psychology of his own.

The relationship of the positive philosophy to these mischievous and exploded vagaries, appears especially in its argu-

ment against the credibility of supernatural effects or powers. Thus, says the Positivist, since our only knowledge is of the *phenomena* and laws of nature, the supernatural is to us inaccessible. Let us now hear Hume: 'It is experience only which gives authority to human testimony, and it is the same experience which assures us of the laws of nature. When, therefore, these two kinds of experience are contrary, we have nothing to do but subtract the one from the other, and embrace an opinion either on the one side or the other, with that assurance which arises from the remainder. But according to the principles here explained, this subtraction, with regard to all popular religions, amounts to an entire annihilation; and, therefore, we may establish it as a maxim, that no human testimony can have such force as to prove a miracle, and make it a just foundation for any such system of religion.'

The only true difference here is, that the recent Positivist is more candid; instead of insinuating the impossibility of the supernatural in the form of the exclusion of testimony, he flatly asserts it. 'The supernatural,' says he, 'is the *anti-natural*.' In reply, we would point to the obvious fact, that this view can have force only with an atheist. For, if there is a Creator, if He is a personal, intelligent, and voluntary Being, if He still superintends the world he has made (the denial of either of these postulates is atheism or pantheism,) then, since it must always be possible that He may see a moral motive for an unusual intervention in his own possessions, our experience of our own free will makes it every way probable, that He may, on occasion, intervene. No rational man who directs his own affairs, customarily on regular methods, but occasionally, by unusual expedients, because of an adequate motive, can fail to concede the probability of a similar free-agency to God, if there is a God. This noted demonstration of Positivism is, therefore, a 'vicious circle.' It excludes a God, because it cannot admit the supernatural; and lo! its only ground for not admitting the supernatural is the gratuitous assumption, that there is no God. But, in truth, man's reliance on testimony is not the result of experience; the effect of the latter is not to produce, but to limit, that reliance. The child be-

lieves the testimony of its parent, before it has experimented upon it; believes it by an instinct of its reason. How poor, how shallow, then, is the beggarly arithmetic of this earlier Positivist, Hume, when he proposes to strike a balance between the weight of testimony for the supernatural, and the evidence for the inflexible uniformity of nature! The great moral problems of man's thought are not to be thus dispatched, like a grocer's traffic! The nature of the competing evidence is also profoundly misunderstood. Our belief in the necessary operation of a cause is not based on simple experience, but on an intuition of the reason. The Positivist sees in the natural flora of England and France only exogenous trees. May he, therefore, conclude that nature has no forces to produce endogenous? The testimony of those who visit the tropics would refute him. The truth is, (and none should know it so well as the physicist, since it is taught expressly by the great founder of this inductive logic—Bacon,) a generalization simply experimental can never demonstrate a necessary tie of causation, between a sequence of *phenomena*, however often repeated before us. It can suggest only a probability. We must apply some canon of induction, to distinguish between the apparently immediate antecedent and the true cause, before the reason recognizes the tie of causation as permanent. If, therefore, reason (not empiricism,) suggests from any other source of her teachings, that the acting cause may be superseded by another cause, then she recognizes it as entirely natural to expect a new effect, although she had before witnessed the regular recurrence of the old one a million of times. If, therefore, she learns that there may, even possibly, be a personal God, she admits just as much possibility that His free will may have intervened, as a superior cause.

The truth is, nature implies the supernatural. Nature shows us herself, the marks and proofs that she cannot be eternal and self-existent. She had, therefore, an origin in a creation. But what can be more supernatural than a creation? If it were indeed impossible that there could be a miracle, then this nature herself would be non-existent, whose uniformities give the pretext for this denial of the miraculous.

Nature tells us, that her causes are second causes; they suggest their origin in a first cause. Just as the river suggests its fountains, so do the laws of nature, now flowing in so regular a current, command us to ascend to the Source who instituted them.

4. We carry farther our demonstration of the necessity of practical physics to physical science, by an appeal to more express details. We might point to the service done to the sciences of matter by the *Novum Organum* of Bacon. What physicist is there, who does not love to applaud him, and fondly to contrast the fruitfulness of his inductive method, with the inutility of the old dialectics? But Bacon's treatise is substantially a treatise on this branch of logic. He does not undertake to establish specific laws in physical science, but to fix the principles of reasoning from facts, by which any and every physical law are to be established. In a word, it is metaphysics; the only difference being, that it is true metaphysics, against erroneous. So, nothing is easier to the perspicuous reader than to take any treatise of any Positivist upon physical science, and point to instances upon every page, where he virtually employs some principle of metaphysics. Says the Positivist, concerning some previous solution offered for a class of *phenomena*: 'This is not valid, because it is only hypothesis.' Pray, Mr. Positivist, what is the dividing line between hypothesis and inductive proof? And why is the former, without the latter, invalid? Can you answer without talking metaphysics? Says the Positivist: 'The *post hoc* does not prove the *propter hoc*.' Tell us why? We defy you to do it without talking metaphysics.

The Positivist fails to apply his own maxims of philosophy universally; his observations of the effects in nature are one-sided and fragmentary. He tells us that philosophy must be built on facts; that first we must have faithful and exact observation of particulars, then correct generalizations, and last, conclusive inductions. Right, say we. But the primary fact, which accompanies every observation which he attempts to make, he refuses to observe. When it was reported to the great Leibnitz, that Locke founded his Essay on the maxim,

Nihil in intellectu quod non prius in sensu; he answered: *Nisi intellectus isse*. These three words disclose, like the spear of another Ithuriel, the sophism of the whole *sensualistic* system. In attempting to enumerate the affections of the mind, it overlooked the mind itself. At the first fair attempt to repair this omission, Positivism collapses. Does it attempt to resolve all mental states into sensations? Well, the soul cannot have a consciousness of a sensation, without necessarily developing the idea of conscious self, over against that of the sensuous object. 'As soon as the human being says to itself "I," the human being affirms its own existence, and distinguishes itself from that external world, whence it derives impressions of which it is not the author. In this primary fact are revealed the two primary objects of human knowledge; on the one side, the human being itself, the individual person that feels and perceives himself; on the other side, the external world that is felt and perceived; the subject and the object.' That science may not consistently omit or overlook the first of these objects, is proved absolutely by this simple remark, that our self-consciousness presents that object to us, as distinct, in every perception of the outer world which constitutes the other object; presents it even more immediately than the external object, the perception of which it mediates to us. We must first be conscious of *self*, in order to perceive the *not self*. Whatever certainty we have that the latter is a real object of knowledge, we must, therefore, have a certainty even more intimate, that the former is also real. Why, then, shall it be the only real existence, the only substance in nature, to be ostracised from our science? This is preposterous. Is it pleaded, that its affections are not *phenomena*, not cognizable to the bodily senses? How shallow and pitiful is this; when those bodily senses themselves owe all their validity to this inward consciousness!

We now advance another step. Every substance must have its attributes. The ego is a real existence. If our cognitions are regular, then it must be by virtue of some primary principles of cognition, which are subjective to the mind. While we do not employ the antiquated phrase, 'innate ideas,' yet it

is evident that the intelligence has some innate norms, which determine the nature of its ideas and affections, whenever the objective world presents the occasion for their rise. He who denies this must not only hold the absurdity of a regular series of effects without a regulative cause in their subject, but he must also deny totally the spontaneity of the mind. For, what can be plainer than this: that if the mind has no such innate norms, then it is merely passive, operated on from without, but never an agent itself. Now, then, do not these innate norms of intelligence and feeling constitute primitive facts of mind? Are they not proper objects of scientific observation? Is it not manifest that their earnest comprehension will give us the laws of our thinking, and feeling, and volition? Why have we not here a field of experimental science, as legitimate as that material world, which is even less certainly and intimately known?

Dr. Hooker would discard natural theology as entirely delusive. But now we surmise that this science has some general facts which are as certain as any in physics, and certain upon the same experimental grounds. He believes in the uniformity of species in zoology. If one told him of a tribe of one-armed men in some distant country, he would demur. He would tell the relator that experimental observation had established the fact, that members of the same species had by nature the same structure. He would insist upon solving the myth of the one-armed nation, by supposing that the witness was deceived, or was endeavoring to deceive him, or had seen some individuals who were one-armed by casualty, and not by nature. But psychologists profess to have established by an observation precisely like that of the naturalist, this general fact, that all human minds have those moral intuitions, which we call 'conscience.' The utmost that science can require of them is, that they shall see to it, that their observations are faithful to fact, and their generalization of them is correct. When they submit the result to this test, why is not the law of species as valid for them as for Dr. Hooker? Why shall he require us to be any more credulous concerning the natural lack of this moral 'limb,' than he was of the story of the one-armed tribe?

But if conscience is an essential, primitive fact of the human soul, then it compels us to recognize a personal God, and his moral character, by as strict a scientific deduction as any which the physicist can boast. For, obligation inevitably implies an obligator; and the character of this intuitive imperative, which speaks for Him in our reason, must be a disclosure of His character, since it is the constant expression of his moral volition.

5. This instance suggests another capital error of Positivism, in that it proposes to despise abstract ideas, and primitive judgments of the reason; and yet it is as much constrained as any other system of thought, to build everything upon them. Mathematics, the science of quantity, is the basis of the positive philosophy, according to M. Comte; for it is at once the simplest and most exact of the exact sciences. Now when we advert to this science, we perceive at once, that it deals not with visible and tangible magnitudes, and quantities of other classes, but with abstract ones. The point, the line, the surface, the polygon, the curve, of the geometrician, are not those which any human hand ever drew with pen, pencil, or chalk line, or which human eye ever saw. The mathematical point is absolutely without either length, breadth, or thickness; the line absolutely without thickness or breadth; the surface absolutely without thickness! How impotent is it for M. Comte to attempt covering up this crushing fact, by talking of the *phenomena* of mathematics! In his sense of the word *phenomena*, this science has none. The intelligent geometrician knows that, though he may draw the diagram of his polygon or his curve with the point of a diamond, upon the most polished plane of metal which the mechanic arts can give him; yet is it not exactly that absolute polygon or curve of which he is reasoning! How then can he know, that the ideas which he predicates, by the aid of his senses, of this imperfect type, are exactly true of the perfect ideal of figures? He knows that the true answer is this: abstract reasoning assures him that the difference between the imperfect visible diagram, and the ideal absolute figure, is one which does not introduce any element of error, when the argument taken from the diagram is applied to the ideal. But, on the contrary, the reason sees that the more

the imperfection of the diagram is abstracted, the more does the argument approximate exact truth. But we ask, how does the mind thus pass from the *phenomenal* diagram to the conceptual; from the imperfect to the absolute idea? Positivism has no answer. So, the ideas of space, time, ratio, velocity, momentum, substance, upon which the higher *calculus* reasons, are also abstract. Positivism would make all human knowledge consist of the knowledge of *phenomena* and their laws. Well, what is a law of nature? It is not itself a *phenomenon*; it is a general idea which, in order to be general, must be purely abstract. How preposterously short-sighted is that observation, which leaves out the more essential elements of its own avowed process? These instances (to which others might be added) show that the admission of some *à priori* idea is necessary to the construction of even the first process of our *phenomenal* knowledge.

But the most glaring blunder of all is that which the Positivist commits, in denying the prior validity of our axiomatic beliefs, or primitive judgments, and representing them as only empirical conclusions. That psychology and logic of common sense, in which every man believes, and on which every one acts, without troubling himself to give it a technical statement, holds, that to conclude implies a premise to conclude from; and that the validity of the conclusion cannot be above that of this premise. Every man's intuition tells him, that a process of reasoning must have a starting point. The chain which is so fastened as to sustain any weight, or even sustain itself, must have its first point of support at the top. That which depends, must depend on something not dependent. But why multiply words upon this truth, which every rational system of mental science adopts as a part of its alphabet? It can scarcely be more happily expressed than in the words of a countryman of Comte's, M. Royer Collard: 'Did not reasoning rest upon principles anterior to the reason, analysis would be without end, and synthesis without commencement.' These primitive judgments of the reason cannot be conclusions from observation, for the simple ground, that they must be in the mind beforehand, in order that it may be able to make conclusions.

Here is a radical fact which explodes the whole 'positive' philosophy.

Its advocates cannot but see this; and hence they labor with vast contortions, to make it appear that these primitive judgments are, nevertheless, empirical conclusions. Comte's expedient is the following: 'If,' says he, 'on the one side, every positive theory must necessarily be founded upon observation, it is, on the other side, equally plain that to apply itself to the task of observation, our mind has need of some 'theory.' If, in contemplating the *phenomena*, we do not immediately attach them to certain principles, not only would it be impossible for us to combine these isolated observations, so as to draw any fruit therefrom; but we should be entirely incapable of retaining them, and in most cases, the facts would remain before our eyes unnoticed. The need at all times of some 'theory' whereby to associate facts, combined with the evident impossibility of the human mind's forming, at its origin, theories out of observations, is a fact which it is impossible to ignore.' He then proceeds to explain, that the mind, perceiving the necessity of some previous 'theories,' in order to associate its own observations, *invents them*, in the form of theological conceptions. Having begun, by means of these, to observe, generalize, and ascertain positive truths, it ends by adopting the latter, which are solid, and repudiating the former, which its developed intelligence has now taught it to regard as unsubstantial. His idea of the progress of science, then, seems to be this: the mind employs these assumed 'theories' to climb out of the mire to the top of the solid rock, as one employs a ladder; and having gained its firm footing, it kicks them away! But what if it should turn out, that this means of ascent, instead of being only the ladder, is the sole pillar also, of its knowledge? When it is kicked away, down tumbles the whole superstructure, with its architect, in its ruins. And the latter is the truth. For if these 'theories' are prior to our observation, and are also erroneous, then all which proceeded upon their assumed validity is as baseless as they. It is amusing to note the simple effort of Comte to veil this damning chasm in his system, by calling these assumed first truths 'theories.' They are, according to

his conception, manifestly nothing but *hypotheses*. Why did he not call them so? Because then, the glaring solecism would have been announced, of proposing to construct our whole system of demonstrated beliefs upon a basis of mere hypothesis. Nobody could have been deceived. Nor does the subterfuge avail which his follower, Mill, in substance proposes. It is this: that as the sound physicist propounds an hypothesis, which at first is only probable, not to be now accepted as a part of science, but as a temporary help for preparing the materials of an induction; and as this induction not seldom ends by proving that the hypothesis, which was at first only a probable guess, was indeed the happy guess, and does contain the true law; so the whole of our empirical knowledge may be constructed by the parallel process. In other words, the pretension of Mill is, in substance, that all our primitive judgments are at first only the mind's hypothetical guesses; and that it is empirical reasoning constructed upon them afterwards, which converts them into universal truths. Now, the simple and complete answer is this: That this proving or testing process, by which we ascertain whether our hypothesis is a true law, always implies some principle to be the *criterion*. How, we pray, was the test applied to the first hypothesis of the series, when, as yet, there was no ascertained principle to apply, but only hypothesis? *Quid rides?* Mr. Mill's process must ever be precisely as preposterous as the attempt of a man to hang a chain upon nothing! No; the hypothetical ladder is not the foundation of our scientific knowledge. Grant us a foundation, and a solid structure built on that foundation, the ladder of hypothesis may assist us to carry some parts of the building higher; that is all. And the parts which we add, carrying up the materials by means of the ladder, rest at last, not on the ladder, but on the foundation.

The accepted tests of a primitive intuition are three: that it shall be a first truth, i. e., not learned from any other accepted belief of the mind; that it shall be necessary, i. e., immediately seen to be such that it not only is true, but must be true; and that it shall be universal, true of every particular case always and everywhere, and inevitably believed by all sane men, when

its enunciation is once fully understood. The sensualistic school seem all to admit, by the character of their objections, that if the mind have beliefs which do fairly meet these three tests, then they will be proved really intuitive. But they object, these beliefs do not meet the first test, for they are empirically learned by every man, in the course of his own observation, like all inductive truths. And here they advance the plea of their amiable founder, Locke, (who little dreamed, good man, what dragon's teeth he was sowing.) It is this: that the formal announcement of sundry axioms, in words, to unthinking minds, instead of securing their immediate assent, would evoke only a vacant stare. We have to exhibit the application of the axioms in concrete cases, before we gain an intelligent assent. Very true; but why? It is only because the concrete instance is the occasion for his correctly apprehending the abstract meaning of the axiomatic enunciation. Is not the argument preposterous, that because the reason did not immediately see, while as yet the verbal *medium* of intellection was darkness, therefore the object is not an object of direct mental vision? Because a child is not willing to affirm which of 'two pigs in a poke' is the bigger, it shall be declared forsooth, that the child is blind, or that pigs are not visible animals!

Now, against all this idleness of talk, we demonstrate by proof both as empirical and deductive as that of the Positivist for any law in physics, that observation and experience are not, and cannot be, the source of intuitive beliefs. Let us grant just such a case as Locke claims against us. We meet an ignorant, sleepy, heedless servant, and we ask: 'My boy, if two magnitudes be each equal to a third magnitude, must they, therefore, be necessarily equal to each other?' We suppose that he will, indeed, look at us foolishly and vacantly, and, if he says anything, profess ignorance. Our words are not in his vocabulary; the idea is out of his ordinary range of thought. We say to him: 'Well, fetch me three twigs from yonder hedge, and we will explain. Name them No. 1, No. 2, No. 3. Take your pocket knife, and cut No. 1 of equal length to No. 3. Lay No. 1 yonder, on that stone. Now cut No. 2 exactly equal to No. 3. Is it done?' 'Yes, sir.' 'Now, boy,

consider; if you should fetch back No. 1 from the stone yonder, and measure it against No. 2, do you think you would find them equal in length?' If you have succeeded in getting the real attention of his mind, he will be certain to answer with confidence: 'Yes, sir, they will be found equal.' 'Are you certain of it?' 'Yes, sir, sure.' 'Had you not better fetch No. 1 and try them together?' 'No, sir, there is no need; they are obliged to be equal in length.' 'Why are you sure of it, when you have not actually measured them together?' 'Because, sir, did I not cut No. 1 equal to No. 3, and is not No. 2 equal to No. 3? Don't you see that No. 1 and No. 2 cannot differ?' Let the reader notice here, that there has been *no experimental trial* of the equality of the first and second twigs in length; hence it is simply impossible that the servant's confidence can result from experiment. It is the immediate intuition of his reason, because there is, absolutely, no other source for it. Obviously, therefore, the only real use for the three twigs, and the knife, was to illustrate the terms of the proposition to his ignorant apprehension. Let the reader note, also, that now the servant has got the idea, he is just as confident of the truth of the axiom, concerning all possible quantities of which he has conception, as though he had tested it by experiment on all. This suggests the farther argument, that our intuitive beliefs cannot be from experiment, because, as we shall see, we all hold them for universal truths; but each man's experience is limited. The first time a child ever divides an apple, and sees that either part is smaller than the whole, he is as certain that the same thing will be true of all possible magnitudes, as well as apples, as though he had spent ages in dividing apples, acorns, melons, and everything which came to his hand. Now, how can a universal truth flow experimentally from a single case? Were this the source of belief, the greatest multitude of experiments which could be made in a lifetime could never be enough to demonstrate the rule absolutely, for the number of possible cases still untried would still be infinitely greater. Experience of the past by itself does not determine the future.

Moreover, several intuitive beliefs are incapable of being experimentally inferred, because the cases can never be brought under the purview of the senses. 'Divergent straight lines,' we are sure, 'will never enclose any space, though infinitely produced.' Now, who has ever inspected an infinite straight line with his eyes? The escape attempted by Mill, with great labor, is this: One forms a mental diagram of that part of the pair of divergent lines which lies beyond his ocular inspection, (beyond the edge of his paper, or black-board,) and by a mental inspection of this part, he satisfies himself that they still do not meet. And this mental inspection, of the conceptual diagram, saith he, is as properly experimental as though it were made on a material surface. On this queer subterfuge we might remark, that it is more refreshing to us than consistent for them, that Positivists should admit that the abstract ideas of the mind can be subjects of experimental reasoning. We had been told all along that Positivism dealt only with *phenomena*. It is also news to us, that Positivism could admit any power in the mind of conceiving infinite lines! What are these, but those naughty things, absolute ideas, which the intelligence could not possibly have any lawful business with, because they were not given to her by sensation. But, chiefly, Mill's evasion is worthless in presence of this question. How do we know that the straight lines, on the conceptual and infinite part of this imaginary diagram, will have the identical property possessed by the finite visible parts on the black-board? What guides and compels the intelligence to this idea? Not sense, surely; for it is the part of the conceptual diagram, which no eye will ever see. It is just the reason's own *à priori* and intuitive power. Deny this, as Mill does, and the belief (which all know is solid,) becomes baseless.

In a word, this question betrays how inconsistent the sensualistic philosopher is, in attempting to derive first truths from sensational experience, and ignoring the primitive judgments of the reason. How has he learned that sensational experience is itself true? Only by a primitive judgment of the reason! Here, then, is one first belief, which sense cannot have taught us, to wit: that what sense shows us is true. So impossible is

it to construct any system of cognitions, while denying to the reason all primary power of judgment.

When we propose the second test, that intuitive judgments must be 'necessary,' Positivism attempts to embarrass the inquiry by asking what is meant by a necessary truth. One answers (with Whewell, for instance,) it is a truth, the denial of which involves a contradiction. It is, of course, easy for Mill to reply to this heedless definition, that then every truth may claim to be intuition, for is not contradiction of some truth the very character of error? If one should deny that the two angles at the base of an isosceles triangle are equal, he could soon be taught, that his denial contradicted an admitted property of triangles. (And this, indeed, is the usual way we establish deduced truths, which are not intuitive.) We affirm the definition of common sense, that a necessary truth is one, the denial of which is immediately self-contradictory. Not only does the denial clash with other axioms, or other valid deductions, but it contradicts the terms of the case itself, and this, according to the immediate, intuitive view which the mind has. Does not every one know that his mind has such judgments necessary in this sense? When he says, 'the whole *must be* greater than either of its parts,' his mind sees intuitively that the assertion of the contrary destroys that feature of the case itself which is expressed in the word 'parts.' Who does not see, that this axiom is inevitable to the reason, in a different way from the proposition? 'The natives of England are white, those of Guinea, black.' The latter is as true, but obviously, not as necessary, as the former.

Or, if Whewell answers the question, what is meant by a truth's being 'necessary,' that it is one the falsehood of which is 'inconceivable,' Mill attempts to reply, that this is no test of the primariness of a truth, no test of truth at all, because our capacity of conceiving things to be possible, or otherwise, depends notoriously upon our mental habits, associations, and acquirements. He points to the fact that all Cartesians, and even Leibnitz, objected against Sir Isaac Newton's theory of gravitation and orbital motion, when first propounded, that it was 'inconceivable' how a body propelled by its own *momentum*

tum should fail to move on a tangent, unless connected with its centre of motion by some substantial bond. There is a truth in this and similar historical facts. It is that the antecedent probability of the truth of a statement depends, for our minds, very greatly upon our habits of thought. And the practical lesson it should teach us is moderation in dogmatizing, and candor in investigating. But for all this, Mill's evasion will be found a verbal quibble, consisting in a substitution of another meaning for the word 'inconceivable.' We do not call a truth necessary, because, negatively, we lack the capacity to conceive the actual opposite thereof; but because, positively, we are able to see that the opposite proposition involves a self-evident, immediate contradiction. It is not that we cannot conceive how the opposite comes to be true, but that we can see, that it is impossible the opposite should come to be true. And this is wholly another thing. The fact that some truths are necessary in this self-evident light, every fair mind reads in its own consciousness.

As the third test of first truths, that they are universal, the sensualists ring many changes on the assertion, that there is debate what are first truths; that some propositions long held to be such, as: 'No creative act is possible without a pre-existent material;' 'Nature abhors a vacuum;' 'A material body cannot act immediately save where it is present;' are now found to be not axiomatic, and not even true. The answer is, that all this proves, not that the human mind is no instrument for the intuition of truth, but that it is an imperfect one. The same line of objecting would prove with equal fairness, (or unfairness,) that empirical truths have no inferential validity; for the disputes concerning them have been a thousand-fold wider. Man often thinks incautiously; he is partially blinded by prejudice, habit, association, hypothesis, so that he has blundered a few times as to first truths, and is constantly blundering, myriads of times, as to derived truths. What then? Shall we conclude that he has no real intuition of first truths, and by that conclusion compel ourselves to admit (by a proof reinforced a thousand-fold) that he certainly has no means, either intuitive or deductive, for ascertaining derived truths? This is blank

skepticism. It finds its practical refutation in the fact, that amidst all his blindness, man does ascertain many truths, the benefits of which we actually possess. No; the conclusion of common sense is, that we should take care, when we think. But the fact remains, that there are axiomatic truths, which no man disputes or can dispute; which command universal and immediate credence when intelligently inspected; which, we see, must be true in all possible cases which come within their terms. For instance: Every sane human being sees, by the first intelligent look of his mind, that any whole must be greater than one of its own parts; and this is true of all possible wholes in the universe which come within the category of quantity, in any form whatsoever. Is it not just this fact which makes the proposition a general one, that man is a reasoning creature? What, except these common and primitive facts of the intelligence, could make communion of thought, or communication of truth from mind to mind, possible? It is these original, innate, common, primary, regulative laws of belief.

The most audacious and the most mischievous assertion of Mill against absolute truths, is its denial to the mind of any intuitive perception of causation and power. The doctrine of common sense here is, that when we see an effect, we intuitively refer it to a cause, as producing its occurrence. And this cause is necessarily conceived as having power to produce it, under the circumstances. For it is impossible for the reason to think that nothing can evolve something. Nothing can result only in nothing. But the effect did not produce its own occurrence, for this would imply that it acted before it existed. Hence, the reason makes also, this inevitable first inference, that the power of that cause will produce the same effect which we saw, if all the circumstances are the same. But the sensualistic school asserts that the mind is entitled to predicate no tie between cause and effect, save immediate invariable sequence, as observed; because this is all the senses observe, and *Nihil in intellectu quod non prius in sensu*. The inference, that the like cause will in future be followed by the like effect, is, according to them, an empirical result only of repeated observations, to which the mind is led by habit and association.

Now our first remark is, that only a sensualistic philosopher could be guilty of arguing that there can be no real tie of causation, because the senses see only an immediate sequence. The absurdity (and the intended drift also) of such arguing appears thus: that by the same notable sophism, there is no soul, no God, no abstract truth, no substance, even in matter, but only a bundle of properties. For did our senses ever see any of these? How often must one repeat the obvious fact, that if there is such a thing as mind, it also has its own properties; it also is capable of being a cause; it also can produce ideas according to the law of its nature, when sense furnishes the occasion? Sensation informs us of the presence of the effect; the reason, according to its own imperative law, supposes power in the cause.

It is extremely easy to demonstrate, and that by the Positivist's own method, that mental association is not the ground, but the consequence, of this idea of causation. We all see certain 'immediate, invariable sequences' recurring before us with perfect uniformity; yet we never dream of supposing a causative tie. We see other sequences twice or thrice, and we are certain the tie of power is there. Light has followed darkness, just as regularly as light has followed the approach of the sun. Nobody dreams that darkness causes light; everybody believes that the sun does cause it. It thus appears experimentally, that association has not taught us the notion of cause; but that our knowledge of cause corrects our associations and controls their formation.

The experience of a certain *phenomenon* following another a number of times can never, by itself, produce a certainty that under similar circumstances it will always follow. The mere empirical induction gives only probability. The experience of the past, were there no intuition of this law of causation by which to interpret it, would only demonstrate the past; there would be no logical tie entitling us to project it on the future. We ask our opponents, if it be the experience of numerous instances which give us certainty of a future recurrence, how many instances will effect the demonstration? Is their answer, for instance, that one hundred uniform instances, and no fewer,

would be sufficient? What then is the difference between the ninety-ninth and the hundredth? According to the very supposition, the two instances are exactly alike; if they were not, the unlike one could certainly contribute nothing to the proof, for it would be excluded as exceptional. Why is it, then, that all the ninety-nine do not prove the law; but the hundredth instance, exactly similar to all the rest, does? There is no answer. The truth is, the reason why an empirical induction suggests the probability that a certain, oft-repeated sequence contains the true law of a cause, (which is all it can do,) is but this: Intuition has assured us in advance, that the second *phenomenon* of the pair, the effect, must have some cause, and the fact observed, that the other is its seeming next antecedent may be as yet undetected. We, therefore, resort to some test grounded on the intuitive law of cause, to settle this doubt. Just so soon as that doubt is solved, if it be by the second observation, the mind is satisfied; it has ascertained the causative antecedent; it is now assured that this antecedent, if arising under the same conditions, will inevitably produce this consequent, always and everywhere; and ten thousands of uniform instances, if they do not afford this test, generate no such certainty. Yea, there are cases in which the conviction of causative connection is fully established by one trial, when the circumstances of that one trial are such as to assure the mind that no other undetected antecedent can have intervened, or accompanied the observed one. For instance, a traveller plucks and tastes a fruit of inviting color and odor, which was wholly unknown to him before. The result is a painful excoriation of his lips and palate. He remembers that he had not before taken into his mouth any substance whatever, save such as he knew to be innocuous. The singleness of the new antecedent enables him to decide that it must have been the true cause of his sufferings. That man thenceforward knows just as certainly, that this fruit is noxious, whenever he sees it, to the millionth instance, without ever tasting it a second time, as though he had tasted and suffered nine hundred thousand times.

Indeed, as Dr. Chalmers has well shown, experience is so far from begetting this belief in the law of cause, that its usual effect is to correct and limit it. A child strikes its spoon or knife upon the table for the first time; the result is sound, in which children so much delight. He next repeats his experiment confidently upon the sofa-cushion or carpet; and is vexed at his failure to produce sound. Experience does not generate, but corrects, his intuitive confidence, that the same cause will produce the same effect; not by refuting the principle, but by instructing him that the causative antecedent of the sound was not, as he supposed, simple impact, but a more complex one, namely, impact of the spoon, and elasticity of the thing struck.

Mill himself admits expressly, what Bacon had so clearly shown, that an induction merely empirical, gives no demonstration of causative tie. To reach the latter, we must apply some canon of induction, which will discriminate between the *post hoc*, and the *propter hoc*. Does not Mill himself propose such canons? It is obvious that the logic of common life, by which plain people convert the inferences of experience into available certainties, is but the application of the same canons. Let us now inspect an instance of such application, and we shall find that it proceeds at every step on the intuitive law of cause as its postulate. Each part of the reasoning which distinguishes between the seeming antecedent, and the true cause, is a virtual syllogism, of which the intuitive truth is major premise. Let us select a very simple case; the reader will see, if he troubles himself to examine the other canons of induction, that they admit of precisely the same analysis. We are searching for the true cause of an effect which we name D. We cannot march directly to it, as the traveller did in the case of the poisonous strange fruit; because we cannot procure the occurrence of the *phenomenon* D, with only a single antecedent. We must therefore reason by means of a canon of induction. First we construct an experiment in which we contrive the certain exclusion of all antecedent *phenomena* save two, which we name A and B. It still remains doubtful which of these produced the effect D, or whether both combined to do it. We contrive a second experiment, in which B is excluded, but

another *phenomenon*, which we call C, accompanies A, and the effect D again follows. Now we can get the truth. Here are two instances. In the first, A and B occurred, and D follows immediately; all other antecedents being excluded. Therefore the cause of D is either A or B, or the two combined, (thus the inductive canon proceeds.) But why? Because the effect D *must* have had its immediate cause, which is our *à priori* and intuitive postulate. In the second instance, A and C occurred together, and D followed. Here again, the true cause must be either A or C, or the combined power of the two. Why? For same intuitive reason. But in the first instance C could not have been the cause of D, because C was absent then; and in the second instance, B could not have been cause, for B was then absent. Therefore A was the true cause all the time. Why? Because we know intuitively that every effect has its own cause. And now we know, without farther experiment, that however often A may occur under proper conditions, D will assuredly follow. Why? Only because we knew, from the first, the general law, that like causes produce like effects.

It thus appears, that the intuitive belief in this law of cause, is essential beforehand, to enable us to convert an experimental induction into a demonstrated general truth. Can any demonstration be clearer, that the original law itself cannot have been the teaching of experience? It passes human wit to see how a logical process can prove its own premise, when the premise is what proves the process. Yet this absurdity Mill gravely attempts to explain. His solution is, that the law of cause is 'an empirical law coextensive with all human experience.' In this case he thinks an empirical law may be held as perfectly demonstrated, because of its universality. May we conclude, then, that a man is entitled to hold the law of cause as perfectly valid, only after he has acquired 'all human experience?' This simple question dissolves the sophism into thin air. It is experimentally proved, that this is not the way in which the mind comes by the belief of the law; because no man ever acquires all human experience, to the day of his death; but only a part, which, relatively to the whole, is exceedingly minute; and because every man believes the general law of

cause as soon as he begins to acquire experience. The just doctrine therefore is, that experimental instances are only the occasions upon which the mind's own intuitive power pronounces the self-evident law.

John Stuart Mill is both a Positivist in his logic, and the accepted philosopher of English Radicalism. The reader has in the above specimens, a fair taste of his quality. With much learning and labor, he combines subtlety and dogmatism. His style, like his thoughts, is intricate, ill-defined, and ambiguous, having a great air of profundity and accuracy, without the real possession of either. When one sees the confused and mazy involutions in which he entangles the plainest propositions that are unfriendly to his sensualistic principles, he is almost ready to suppose him the honest victim of those erroneous postulates, until he observes the astute and perspicacious adroitness with which he wrests the evidences of the truth which he dislikes.

But we return, and conclude this branch of the discussion by resuming the points. Positivism denies all primary and absolute beliefs. We have now shown that in this it is inconsistent; because such beliefs are necessary premises to those experimental processes of proof, which alone it affects to value. It is by these primitive truths of the reason, that the soul reaches a realm of thought above the perception of the senses, and ascends to God, to immortality, to heaven.

6. Comte and his followers claim that the physical sciences have the most fruit, and the most satisfying certainty, because they have received the 'positive' method. Metaphysics, including psychology, ethics, and natural theology, had remained to his day, worthless, and barren of all but endless differences and debates, because they had attempted a different method, and refused Positivism. But he undertook to reconstruct so much of these as he did not doom to annihilation, upon the strict basis of the observation of the bodily senses, and experimental reasoning, under the name of 'sociology.' In this instance, with the help of biology, he proposed to deduce all the laws of mind from physical experiments and observations upon its organs, the brain, and nervous apparatus; and from the visible acts of men's bodies as moved by the mind. Then, from the laws of

mind, with the facts of human history, he professed to construct an experimental and positive science of ethics and government. It is instructive to notice that the Positivists, just so soon as they approach these sciences of mind, morals, human rights, and government, disagree with each other as much as the rest of us unpositive mortals. The Priest of Humanity has been compelled to expel many of his earliest admirers from his Church. Somehow, Positivism itself, when it approaches these topics, is no longer 'positive;' it guesses, dogmatizes, dreams, disputes, errs, fully as much as its predecessors. What, now, does this show? Plainly that the experimental methods of the physical sciences are incapable of an exact and universal application, in this field of inquiry. The objects are too immaterial; they are no longer defined, as in physics, by magnitude, or figure, or quantity, or duration, or ponderosity, or velocity. The combinations of causation are too complex. The effects are too rapid and fleeting. The premises are too numerous and undefined, for our limited minds to grasp with uniform exactness and certainty. If Positivism, with all its acknowledged learning, and mastery of the sciences of matter, with its boasts and its confidence, has failed to conquer these difficulties in the little way it professes to advance in the science of the human spirit, shall we not continue to fail in part? 'What can he do that cometh after the king?'

Let us couple this fact, that the sciences of psychology, morals, and natural theology have ever been, and are destined to remain, the least exact and positive of all the departments of man's knowledge, with this other, that they are immeasurably the most important to his well-being and his hopes. The latter statement commends itself to our experience. It is far more essential to a man's happiness here, that he shall have his rights justly and fairly defined, than his land accurately surveyed. It is far more interesting to the traveller to know whether the ship-captain to whom he entrusts his life has the moral virtue of fidelity, than the learning of the astronomer and navigator. It is more important to us to have virtuous friends to cherish our hearts, than adroit mechanics to make our shoes. It is more momentous to a dying man to

know whether there is an immortality, and how it may be made happy, than to have a skilful physician, now that his skill is vain. We see here, then, that human science is least able to help us where our need is most urgent. M. Comte reprehends the human mind, because 'questions the most radically inaccessible to our capacities, the intimate nature of being, the origin, and the end of all *phenomena*, were precisely those which the intelligence propounded to itself, as of paramount importance, in that primitive condition; all the other problems, really admitting of solution, being almost regarded as unworthy of serious meditation. The reason of this it is not difficult to discover, for experience alone could give us the measure of our strength.' Alas! the reason is far more profound. Man has ever refused to content himself with examining the properties of triangles, prisms, levers, and pulleys, which he could have exactly determined, and has persisted in asking whence his spiritual being came, and whither it was going, what was its proper rational end, and what its laws; not merely because he had not learned the limits of his power, but because he was, and is, irresistibly impelled to these inquiries by the instinctive wants of his soul. His intuitions tell him that these are the things, and not the others, which are of infinite moment to him. It appears, then, that it is unavoidable for man to search most anxiously where he can find least certainty. His intellectual wants are most tremendous, just in those departments where his power of self-help is least. To what should this great fact point us? If we obey the spirit of true science, it will manifest to us the great truth, that man was never designed by God for mental independence of Him; that man needs, in these transcendent questions, the guidance of the infinite understanding; that while a 'positive philosophy' may measure and compare his material possessions, the only 'exact science' of the spirit is that revealed to us by the Father of Spirits. This, we assure the Positivist, is the inevitable conclusion to which the sound and healthy reason will ever revert, as the needle to its pole, despite all his dogmatism and sophistry. If there were nothing else to ensure it, the intolerable miseries, crimes, and despair, into which Positivism

will ever plunge the societies which adopt it, will always bring back this result. He may draw an augury of the destiny of his wretched creed from the parsimony of its present followers. M. Comte drew up a scheme for the support of the ministers of his new 'Worship of Humanity,' under which the 'High Priest of Humanity' was to receive a salary of about \$12,000 a year, and four national superintendents about \$6,000 each. It appears from the newspapers, that only forty-six persons contributed in 1867, and the total was \$750. But meantime the votaries of that Lord Jesus Christ whom he despises, in the conquered South, though 'scattered and peeled' by their enemies, contribute annually some millions of dollars, and are sending their best intellects and hearts to propagate their faith at the antipodes. Let the Positivist judge which system has the conquering vitality!

ART. VI.—1. *Memoirs of Service Afloat, during the War between the States.* By Admiral Raphael Semmes. Baltimore: Kelly, Piet & Co. 1868. Pp. 833.

2. *A Lecture delivered by Silas Bent, Esq., before the Missouri Historical Society of St. Louis.* The subject: 'Thermometric Gateways to the Poles.'

When we look abroad upon the face of our beautiful country, and behold it teeming with an abundant and varied flora; the mountains and hill-sides clothed with forests centuries old; our fields rich with abundant harvests, at the proper seasons of the year, and our lawns adorned with a beautiful and variegated shrubbery, and reflect that all this store of wealth and beauty are the results of certain atmospheric phenomena, our curiosity is awakened, and we desire to inquire into the agencies which produce such phenomena. In the beginning of our inquiries