

THE SOUTHERN PRESBYTERIAN REVIEW.

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ARTICLE I.

THE INTERNATIONALS.

"The Catechism of the International." Editorial—New York Journal of Commerce, Dec. 11, 1873.

No apology is needed for presenting this topic to the consideration of the Christian people of this land. The principles upon which Communism are builded, are very imperfectly understood; and the prominence given to the general subject by recent events, is due rather to a combination of circumstances that brought the Society itself into view, than to any change in or aggravation of those principles.

In all countries where Communism has obtained a foothold, the proceedings of the society have been secretly conducted. It is not possible to give any authentic or trustworthy account of the birth and growth of the theories of those misguided men, except so far as their public deliverances have revealed their true animus. The general statements they have promulgated are based upon worn-out proverbs, like that which declares that "the world owes every man a living," whereas no truth is clearer than that the world does not owe any man anything. Another favorite maxim asserts that "property is robbery," whereas none but robbers would dream of assailing the rights of property. Another proclaims the doctrine that labor, by some natural law, must be confined to so many hours of the twenty-four, and not only denounces the capitalist who requires more, but also the laborer who gives

every reason to believe. Faithful labor for this race has been rewarded heretofore, and will without doubt continue to be. That a Presbyterian Church among them would equal in numbers that of some of the other denominations, we do not expect. But that we may, under God, be the means of organising a Church which, in its material, its influence, and its relative position among the Churches for the colored people, will be both respectable and efficient, we have every reason to hope and believe. If the Presbyterian Church has a mission to perform in the world at all, it has a mission to perform for this race too, it would seem to us, and one which might be as easily indicated. Certainly we have no reason to say otherwise till we have made an honest effort. And if we propose to do this at all, we must do it soon, or the opportunity will be gone.

ARTICLE VI.

A FURTHER EXAMINATION OF CERTAIN RECENT
ASSAULTS ON PHYSICAL SCIENCE.

One of the chief characteristics of the last hundred years has been the amazing activity and diligence with which God's material universe has been studied, and the consequent wonderful increase in man's knowledge concerning the laws and the history of that universe. Doubtless the extent of this knowledge is still very narrow in comparison with what may hereafter be acquired; but it is very wide when compared with what had been gained a hundred years ago. This is so familiar a truth to even the moderately well-informed that it is not necessary to undertake to prove it by entering into details. School-boys' orations are filled with glowing periods setting forth the wonders of the chemistry of the earth and the stars, of the electrical current as it obeys man's bidding, of that history of our globe in which man's creation is one of the most recent modern events. And nearly all that is known

concerning these and kindred subjects has been discovered during the century which has elapsed since 1774. Many of the isolated facts embraced in these branches of science were known long before; and the fundamental principle which underlies all true science—the law of uniformity—has in a certain sense been known since the first day of Adam's life; for it is an essential part of man's nature that he shall believe in this principle. But these facts were only imperfectly understood, and this principle had been only partially applied; so that chemistry, geology, etc., could not in any proper sense be said to exist as *sciences*. The increase in the knowledge of the classical languages and literature which characterised the fifteenth and sixteenth centuries has properly been called the "revival of learning," notwithstanding the fact that there was an unbroken succession of learned men from the age of Pericles in Greece and that of Augustus in Rome to the Medicean age and the days of Bessarion, Agricola, and Reuchlin. With much better reason may it be said that the whole circle of the natural sciences and many departments of physical science have come into existence within a little more than the last century.

Knowledge is power; and when classical learning revived and increased the number of its votaries, it put new power into their hands—power for good or power for evil, according to the character of him who wielded it. In all ages and in all lands those whose minds are, in the language of the Sacred Scriptures, "carnal," and therefore "enmity against God," have far outnumbered those whose souls have been brought into willing subjection to the law of God. So it was when classical learning revived; and the power which it gave was by many turned against the most precious truth—though it was in itself an inestimable good, it was employed in doing the greatest evil. Hence many well-meaning persons, sincere friends of truth, but only imperfectly acquainted with that which they attacked, vigorously assailed classical learning as itself a terrible evil and necessarily opposed to the Christian religion. The name "Humanist"—for so the learned were called—came to be regarded by multitudes as synonymous with "unbeliever" and "scoffer." Human learn-

ing, these good people urged, was to be shunned as that whose tendency was evil and evil only. They overlooked the fact that it was not the learning which was evil, but only the evil use of the learning; that the evil tendency was not in the learning, but in the soul of him who gave it the evil direction. So it has come to pass that we look back at these earnest efforts which were intended to defend what we love most—the revealed truth of God—with pity which is kept from passing into contempt only by our appreciation of the pure intentions which prompted them.

Those who thought they were defending the faith when they attacked learning, were by no means without some appearance of right on their side; and it was just such an appearance as would mislead their pious followers, who knew even less than themselves of the exact meaning of language and the many sides of truth. They could quote God's own word as saying: "Of the tree of the knowledge of good and evil, thou shalt not eat of it; for in the day that thou eatest thereof thou shalt surely die." "Thy wisdom and thy knowledge, it hath perverted thee." "Knowledge puffeth up." "He that increaseth knowledge increaseth sorrow." "The wisdom of this world is foolishness with God." "Beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world." How easy to misunderstand these and similar passages as warnings against all human learning! Therefore we should not too sharply reproach these well-meaning men, or fail to give them due credit for their good intentions; though we should not the less deplore the effect of their erroneous teaching that learning and faith are antagonistic—that the friend of human knowledge must be the enemy of God's revealed truth.

In like manner there have been multitudes of good men who from a partial view of the truth have regarded riches as a great evil, and have denounced them accordingly. Many of these have proved their sincerity by literal obedience to the test applied by our Lord to the young man whom He loved: they have "sold all that they had, and have distributed unto the poor;" and then have joyfully spent the rest of their lives in abject poverty. They have failed to perceive that it is not money, but the love of money,

that is the root of all evil. They have heard the words, "How hardly shall they that have riches enter into the kingdom of heaven!" but have neglected to listen to the explanation of them which was at once graciously given: "Children, how hard is it for them that trust in riches to enter into the kingdom of God!"

After this sad history, it cannot surprise us that physical science has been similarly perverted and similarly denounced. As it is unhappily true that the majority of men, even in so-called Christian lands, have not been converted to faith in Christ, so doubtless the majority of those who cultivate physical science are unconverted men. And as some unconverted men have in their assaults upon the Holy Bible employed classical learning and genius and wealth and labor, which are all in themselves good things and to be very highly prized, so unbelieving men of science have sought in their science for weapons against that body of truth which infinitely transcends all other in value and importance.

This has been attended with the usual consequences: as some good men thought that they were verily doing God service by denouncing classical learning, wealth, and other such things, so now some good men are found who honestly think that they are contending earnestly for the faith once delivered to the saints when they raise the loud cry of warning against physical science as a whole or in its several parts. Like the worthy men before spoken of, they are perfectly sincere, and they mean well; and their pure aims should receive the just meed of commendation. But their aims, however pure and praiseworthy, do not make true that which is false; and even though good men, prompted by the best motives, shut their eyes to the truth, and diligently labor to destroy it, it is a happy thing that truth is of such a nature that it cannot be destroyed.

The conduct of men of science and learning, on the one hand, who contend that their learning and science are true, and that there is no other truth; and of believers in revelation, on the other, who contend that revelation is absolute truth, and that everything else is false or doubtful—must remind us of the trite but true illustration presented in the story of the contest between the two

noble knights before the shield of silver and gold. Those who open their eyes and are willing to see all that God's blessed light will show them, who walk around the shield and on all sides view its beauties, whether carved in shining silver or in resplendent gold, know that both are right in what they assert, both wrong in what they deny. Let us hope that the real combatants now contending for what each believes to be the truth in science and in religion—for what *is* truth, though only partial—may not have the discovery of the existence of both silver and golden sides postponed until, biting the dust, it shall be too late to use the perfect shield against a common foe.

The deplorable effects produced by these assaults on science are painfully manifest wherever they have been habitually made. Many are accustomed to refer to countries under Roman Catholic influence to illustrate this point. And it is true, as a general thing, that a larger proportion of the Romish priesthood than of the Protestant ministry have been strenuous opponents of learning. In Italy, France, and Spain, the fact that so large a proportion of men of learning during the last few generations have been infidels, may be fairly attributed, to a considerable degree, to this opposition on the part of the Romish Church. The inhabitants of these lands have been taught to regard science as infidelity, its principles as inconsistent with Christianity; hence, when any of them come to see clearly that science is truth, and that its principles are those which necessarily control every act of their lives, they are forced to reject as a fable whatever comes in conflict with it, as their religious teachers tell them Christianity does. This does not render guiltless their denial of the shield's priceless golden side, but it certainly palliates the guilt. But how unutterably sad is this spectacle—the professed guardians of the truth which reveals the way of life, driving to eternal death those who come asking them what they shall do to be saved!

But while we recognise these facts in Romish lands, we cannot as Protestants thank God that in this respect we are not as other men are. We do not forget that it was a Romish court that condemned as infidel the teachings of Galileo; we do not forget that, during a visit to a college in Rome as late as 1856,

one of the professors held up his hands in holy horror when we inquired who was the Professor of Geology—with amazement (perhaps feigned) he asked how we could think that that infidel science could be taught in a college under the immediate control of the Papal government! But we remember also that the Protestant Luther bluntly pronounced Copernicus a fool; that Melancthon went as far as the Romish court in condemning infidel science—that is, the Copernican system; and that the great Presbyterian theologian, Turretin, in his teachings was not a whit behind either. That we may do no injustice, let us further remember that Copernicus dedicated his great work to Pope Paul III., who graciously accepted the dedication; that in later days, within forty years, but while the Papal temporal power was in full vigor, Cardinal Wiseman delivered in Rome his admirable lectures in which he earnestly maintains the truth of the Scriptures and the truth of modern science; and that to-day, in the famous Roman Catholic College at Maynooth in Ireland, the Professor of Theology, Dr. Molloy, does the same thing, showing “that the study of God’s works is not incompatible with the belief in God’s Word; and that it is quite possible to investigate the ancient history of the world we inhabit without forfeiting our right to a better.” While therefore we may on the whole claim for Protestantism some superiority in this matter, surely, in view of the facts just mentioned, that superiority is not so marked as to afford very good ground for vain-glorious boasting.

In Great Britain, in Switzerland, in North America, and in Germany, though perhaps to a more limited extent in the country last named when compared with the great number of its learned authors, there have been numerous writers, both ministers and laymen, who, after becoming acquainted with both sides of the question, have labored faithfully and successfully in showing that Christianity and modern science are not at variance. Some of these writers have no doubt pursued erroneous methods and reached untenable conclusions; but of what can this not be said? The general result of their labors has been most happy—directly, in promoting the reception of the truth; and indirectly, in removing obstacles which would prevent its reception.

But on the other hand, in all these Protestant lands there are not a few religious teachers who are continually bringing railing accusations against natural science—who habitually denounce it in the most sweeping manner as vain philosophy and science falsely so called, as utterly opposed to all the blessed truths made known to us in God's word. From what has been already said, the baleful influence of such teachings may be easily inferred. And the inference drawn is confirmed by facts which may be observed by any who may desire. As we need hardly say, many Christian pulpits are occupied by those who are too well-informed to have any disposition to attack any part of God's truth; but we must confess, from personal observation in this and other lands, that many others combine with the preaching of the gospel the indiscriminating denunciation of all modern science as infidel. Of course no single observer could determine the relative prevalence of such teachings in different lands; but it has been our lot to hear them most frequently from German pulpits; next in frequency come pulpits in the United States, North and South; occasionally we have heard them from the lips of Swiss pastors among their own mountains; and never in the churches of Great Britain. What are the inevitable effects produced by such preaching on all who know what modern science is, but who are seeking instruction as to the truth of the Christian religion? Here again observation would discover these effects to be most deplorable. We number not a few amongst our most honored friends whom nothing could induce to enter a church, because their experience has taught them that if they were to enter, they would not fail to hear themselves pronounced infidels or atheists, along with all others who accept scientific truth. As one of these friends once said to us, when justifying his refusal to attend church, he had not in former years found it beneficial to his moral character or in any way edifying to listen to such falsehood taught in the name of God.

It might be said that the errors thus proclaimed from the pulpit should be allowed to pass by unheeded, and the sound religious truth accepted. But every one knows that in most instances this is not done and cannot be expected. The hearer

will take it for granted that, however ignorant of science the preacher may be, he is at least acquainted with the religion of which he is a professed teacher. When this teacher, professing to speak as God's ambassador, solemnly pronounces religion and science inconsistent with each other, the hearer, knowing the truth of science, rejects religion—and, fearful consequence, loses his own soul. But though the preacher desires beyond all else the salvation of his hearers by bringing them to the knowledge of the truth as it is in Jesus, has he not in such a case helped to prevent the rescue of that soul from eternal death?

It is the truth involved in this terrible question which gives importance to the subject under discussion. It is not a difference about mere words, or a dispute on some doubtful point in science or philosophy, or even such matters as separate one evangelical denomination of Christians from another; all which may be quite important in a certain sense, but which dwindle into insignificance by the side of that with which we here have to do. Assuming, as must be done by all who care to engage in such a discussion, that faith in the Lord Jesus Christ and therefore in the Scriptures which testify of him, means salvation—life everlasting, bliss forever in the presence of God; and that the denial of the Scriptures and therefore the rejection of the crucified Messiah, means eternal death—weeping and wailing and gnashing of teeth, where their worm dieth not, and the fire is not quenched;—assuming this, and the appalling magnitude of the subject is at once seen. Who then can blame those who believe that modern science leads to the rejection of the Scriptures, for the most solemn and earnest warnings against science? And, on the other hand, since we know that these warnings and the teachings connected with them are certain to lead persons properly informed as to the truth of science, but who believe that such teachings fairly represent the Scriptures, necessarily to reject the Scriptures, should we be blamed for strenuously resisting these erroneous doctrines, and exposing their errors with unsparing hand, even though it should bring us into personal collision with those whom we most highly esteem? Should we not most earnestly strive to save all whom we can influence from the

fatal error that they must abandon the science they know to be truth in order to secure the salvation through the Saviour revealed in the Sacred Scriptures?

Under the influence of such feelings and motives as these, we undertook in the number of this journal for July, 1873, a careful examination of certain recent assaults on physical science. These assaults, as seen above, unhappily have not been confined to a single part of the world; but, as our object was wholly practical, we thought it was hardly worth while to examine them in the forms in which they have been presented on the other side of the Atlantic, or even in the remoter parts of the United States. Our hope was primarily to influence those who are connected with our own branch of the Church of Christ; and we therefore chose for examination the views earnestly and continuously set forth by one whom we regard as their ablest defender in our Church. As the promotion of truth was our only aim, we chose the publications of one who could most easily and successfully prove us in error, if we are in error. Most gladly would we accept defeat in all our arguments, if these are not in accordance with the truth of God. Such were our reasons for choosing for examination the numerous publications of the Rev. Dr. Dabney: a gentleman who for talent and zeal and earnestness and many estimable qualities deserves to be highly honored by all who know him; and who is capable of exposing our errors and saving others from injury by them, should we be resisting the truth and endeavoring to lead others astray.

In the article referred to, we attempted to prove that the objections which Dr. Dabney has for many years (in our opinion) been urging against physical science, are without foundation, and therefore that no one should be influenced by him to assume a hostile attitude towards that department of knowledge. We examined his arguments in detail, and think it was made clear that he has gravely erred. Since he is justly regarded as an accurate reasoner on many subjects, we deemed it proper to account for his errors by pointing out his want of acquaintance with science. If a writer is not acquainted with the subject he is discussing, it surely would be unwise to follow his lead—the ante-

cedent probability is that he will certainly go astray, however splendid his abilities or accurate his judgment when exercised upon matters with which he is conversant. Except for this reason, there would have been no propriety in calling attention to Dr. Dabney's want of familiarity with natural science. But when we had to choose between this course, and the giving up of a good reason for warning our readers against following his teachings on this subject, we could not hesitate. When in his "Memoir" published in 1866, he said, "The spirit of these sciences is essentially infidel and rationalistic; they are arrayed, in all their phases, on the side of scepticism;" (*Central Presbyterian*, Oct. 31, 1866;) and in his Lectures, that the "tendencies of geologists" are "atheistic," (Lectures, p. 178;) and when we saw that the general acceptance of these statements by teachers of Christianity, must inevitably drive multitudes to the very soul-destroying infidelity against which he raises the warning cry, we had no option. There could be no impropriety in calling general attention to what is so clear to every scientific reader of his writings—that he attributes "rationalistic," "infidel," and even "atheistic" tendencies to these sciences solely because he is imperfectly acquainted with their methods and aims.

To our examination of his long-continued and oft-repeated assaults, Dr. Dabney published an answer in the October number of this REVIEW. The main point of the answer is perhaps correctly condensed into this—that we misunderstood him; that it was not physical science that he assailed, but the infidel abuses of science, or science falsely so-called. Granting that this may be so, it does not set aside the necessity for our examination; for it was his published words as generally understood that we examined, and not his own conception of their meaning. We do not think we misunderstood* these published words; but if we

*However it may be as to the misunderstanding of his writings generally, we have to confess that we cannot possibly understand the first sentence of his answer, when he says: "In May, 1869, (not 1866,) I addressed a memorial on theological education, not to the General Assembly, but to the Committee on Theological Seminaries." S. P. R., p. 539. This seems to be a denial of something we had said; and yet it cannot

did, we furnished at every step the amplest means of correcting our misapprehensions, by full and fair quotations from the publications on which we were commenting.

We sincerely wish that Dr. Dabney was right when he says he "presumes Dr. Woodrow is the only reader who has so misconceived" his meaning; but he is not. We have conversed with a large number of intelligent persons who have read his various writings; and so far as we remember, all have understood him just as we do, whether agreeing with his views or ours. No doubt he himself believes that he does not oppose true science;

be; for every statement we made was strictly correct. Of course Dr. Dabney cannot mean to disown his "Memoir" on Theological Education which he published, as we stated, in the *Central Presbyterian* in October, 1866. We cannot tell what he does mean.

As to the modified form of this "Memoir" of 1866, namely, the "Memorial" presented to the General Assembly in 1869, we can hardly suppose it worth while to discuss the very minute question which the next seeming denial appears to raise. Rather than argue whether or not sending a document to the committee of a body is the same as sending it to the body itself, or whether or not a document can be sent to a committee except through the body which appoints it, we give up at once. If shelter is needed, we shelter ourselves behind the Minutes of the General Assembly, which show that that venerable body made the same mistake, in thinking the "Memorial" had been sent to it; for it took the liberty of referring it to its Committee, just as if the author had not already sent it there! (Minutes, Vol. II., p. 373.) But we cannot help wondering whether the author meant to deny anything in this first sentence; and if so, what?

We are equally unable to comprehend what he means on page 542, when he says, "Dr. W.'s zeal could find but *three* blows in seven years." We had enumerated *four*. Now we would have to add another, making five, delivered through this REVIEW in July, 1861, in his article on "Geology and the Bible." But such points cannot be of the least consequence in any possible respect. Dr. Dabney could not intend to contradict the statements we made; for he is perfectly aware of their entire accuracy.

Another point which it seems best to speak of in a note, is the author's complaint (p. 540) that in the matter of the "Memorial" a hearing was refused him. We wish to say that we have done what we could to securing him a hearing. More than a year ago, one of our fellow-editors wrote to him, with our hearty concurrence, requesting him to send the "Memorial," that it might be published in the SOUTHERN PRESBYTERIAN REVIEW. To this request the author did not accede.

how could it be otherwise? No honest man can denounce as false what he believes to be true; and in his warfare Dr. Dabney is of course thoroughly honest. If opposition to true science had been attributed to the honored and learned Melancthon, would he not have repelled the charge? Would he not have said it was not the true science of astronomy that he attacked; it was only the infidel system of Copernicus which he "disallowed?" The error is as to what constitutes true science. We cannot but regard Dr. Dabney as erring when he thinks he avoided attacking "sound physical science." He has again and again attacked its objects, its methods, and its results. The very pages on which he exclaims against our misconception of his meaning, prove that we did not misconceive his language, however his language may have failed to set forth his meaning. He asks with some impatience, "Why may I not be credited as understanding and meaning what I said?" "Why may it not be supposed that I was not an ignoramus, and so, was consistent with myself, and knew what I was saying?" (P. 543.) Now, even if the word "ignoramus" were in our vocabulary, we have too high an appreciation of Dr. Dabney's varied learning and accomplishments to apply it to him. No human being can comprehend the whole circle of knowledge; and yet it does not follow that every human being is an "ignoramus." We ought not to be regarded as representing any one as an "ignoramus" when we point out that he is inconsistent with himself. Our whole argument against Dr. Dabney's opinions respecting physical science would be worthless if he is consistent with himself; for he undoubtedly maintains the truth with regard to many subjects, though, as we suppose, not with regard to all. Now, truth is always consistent with itself; error is not. Therefore error may be proved by pointing out inconsistency.

Let us compare a few of the positions maintained, and observe how they endure this test.

1. On pages 543 and 549 the author gives us the two following definitions of the object of his attack:

(a) "The anti-Christian science which I disallow was here expressly separated from this sound physical science. But again: In the introduction

of the Sermon I hasten to separate and define the thing I attack. On page 2, I tell my readers that it is the 'prevalent, vain,' physical philosophy. Now every one knows it is the materialistic philosophy of Lamarck, Chambers, ('Vestiges,') Darwin, Hooker, Huxley, Tyndall, Herbert Spencer, Buechner, which is now the 'prevalent' one." P. 543.

(b) "As I defined my meaning in the Sermon, page 2, these sciences of geology, natural history, and ethnology, now exciting so much popular attention, 'always have some tendency to become anti-theological.'" P. 549.

The author thus first defines the thing attacked as "anti-Christian science," and "materialistic philosophy;" then as "these sciences of geology, natural history, and ethnology." Is he here consistent or not? If he is, he pronounces "geology, natural history, and ethnology" "anti-Christian" and "materialistic philosophy"—that is, he attacks geology, etc., as false. The only escape from this conclusion is in admitting inconsistency, struggle as he may.

2. (a) As just seen, he attacks geology, natural history, and ethnology, because they are anti-Christian and materialistic—therefore not true sciences at all.

(b) He next condemns them as having a "tendency to become anti-theological" because of the success with which they have established their claims as true sciences. For he says, page 549, still speaking of geology, etc.:

"It is both the business and the boast of physical science to resolve as many effects as possible into their second causes. Repeated and fascinating successes in these solutions gradually amount to a temptation to the mind to look less to the great First Cause."

Which of these opposite views does he wish us to regard him as holding?

3. (a) He tells us on page 551 that his quarrel with Darwin and Huxley's natural science is that it "does not behave at all as Dr. Woodrow's behaves"—that is, in modestly keeping silent respecting questions beyond its province.

(b) He then at once says true natural science ought not to be silent about these questions: that it is "her duty to evolve, as the crown and glory of all her conclusions, the natural, teleiological argument for the being, wisdom, and goodness of a personal

God." Does there not seem to be some inconsistency here? If our silence is blameworthy, others ought not to be blamed for speaking, but for speaking wrong.

We do not intend here to repeat our demonstration (S. P. R., pp. 351—354,) that all such questions are beyond the province of natural science; but the last quotation shows the grave difficulty in the way of stating a proposition which Dr. Dabney and we could agree in maintaining—we understand language so differently. He supposes that these questions belong to natural science; we suppose that they belong to natural theology—an entirely distinct department of knowledge, in which the objects sought, the fundamental principles, and the methods of reasoning applied, are wholly different from those in natural science. He thinks they belong to some department of physics; we think they form a department of metaphysics. Thus we do not understand language in the same way; and therefore we must continually misunderstand each other.

This difference in the use of language has led to other serious misapprehensions on our part as to what Dr. Dabney meant to say, but did not, or at least did not in the ordinary language of mankind. One of these, which he terms (p. 544) "the most amazing misunderstanding," has reference to the meaning of the same passage of the Sermon (pages 2 and 3) spoken of above. We quoted the entire passage (pp. 334, 335); so that if we misrepresented it, we at the same time furnished the means of correcting the misrepresentation. We understood the passage as referring to physical science, because its author said "physical science"; and he now explains further, as we have just seen, that he meant "geology, natural history, and ethnology." In the Sermon, he proceeds (pages 3 and 4) to speak of "physicists," and to specify the evil things they are doing, namely, asserting the existence of a pre-Adamite earth, limiting the Noachian deluge, maintaining the nebular hypothesis, etc. We thought he thus left no shadow of doubt as to whom he meant; and we criticised this apparent meaning. But now he exclaims (page 544) that we had "wholly failed to apprehend what he was speaking of," and calls our criticism of what he says of physical science and

physicists an "astounding denial of the attempt made by the followers of Hume and of Auguste Comte to give a 'sensualistic' explanation of the 'mind's philosophy.'" He then proceeds to give an account of the mischievous metaphysical speculations of Hartley, Condillac, Hume, Comte, etc.; and ends with the expression of the "hope that Dr. Woodrow is now relieved, and begins to see what was the 'anti-Christian science' which he opposed in his Sermon and other writings." Well, yes; we are relieved—relieved to see that it was the frightful errors of metaphysicians that he was combating, and not physical science at all. But we never before heard these metaphysical speculations called physical science; nor did we before know that Hartley, Condillac, Hume, etc., were "physicists," or had applied themselves to the questions which Dr. Dabney specifies. But this relief does not set aside the necessity for our former criticisms. We criticised what he said, and not what it now turns out he meant. When he said "physical science," how could we tell that he meant metaphysics? When he attacked "physicists," how could we tell that he meant the metaphysicians Hartley, Hume, and their followers? The truth is, the difficulty is not that we did not understand what he said, but that he did not say what it seems he meant.

As to the influence of Comte's Positivism on physical science, the following is the testimony of Huxley, who supports his assertions by references to such men as Whewell and Herschel:

"Here are two propositions: the first, that the 'Philosophie Positive' contains little or nothing of any scientific value; the second, that Comtism is, in spirit, anti-scientific. I shall endeavor to bring forward ample evidence in support of both.

"I. No one who possesses even a superficial acquaintance with physical science can read Comte's 'Leçons' without becoming aware that he was at once singularly devoid of real knowledge on these subjects, and singularly unlucky. . . . Appeal to mathematicians, astronomers, physicists, chemists, biologists, about the 'Philosophie Positive,' and they all, with one consent, begin to make protestation that, whatever M. Comte's other merits, he has shed no light upon the philosophy of their particular studies." *Lay Sermons*, etc., pp. 154, 155.

Perhaps we ought here to speak of Dr. Dabney's allusion to our correspondence last April and May. We had supposed that

the correspondence was private; but of course we have no objection to its publication. Since, however, part of it has been published, it may not be amiss to publish all of it; so that if it has any bearing on the question under discussion, it may all be before the reader's mind.*

Here are the omitted parts of the correspondence:

"COLUMBIA, S. C., April 26, 1873.

"Rev. Dr. R. L. DABNEY,

"Rev. and Dear Sir: As I promised during our conversation at Richmond last May, on the recovery of my health last winter I began a diligent examination of your views respecting Physical Science, as expressed in your various publications. I am sorry I am obliged to say that the more I studied the principles which you advocate, the more I became convinced that they are not well-founded; and not only so, but that very great evil must result from their general adoption. To such an extent did it seem to me certain that your assaults on Physical Science must do great harm to Christian belief, which we both regard as beyond all else

*With reference to our letter, Dr. Dabney says, page 545: "At the end of last April, (two months before the publication of Dr. Woodrow,) he did me the honor to write me very courteously, at the prompting of a good man, a friend of peace, notifying me of his intended critique." On this point we may be allowed to say we did not suppose we were doing anything "very courteous," as Dr. Dabney says we were, in giving him notice of our intended reply to his numerous (supposed) attacks on physical science. We thought it only fair to do as we did. If it were worth while discussing such a question, it might admit of debate how far true courtesy would allow one to attribute to us this commendable quality in one breath, and in the next breath seek to deprive us of the credit of it by saying that we wrote the "very courteous" letter, not of our own motion, not because we thought it right and fair, but "*at the prompting of a good man, a friend of peace.*" We shall not discuss this question; but we must say, while Dr. Dabney of course believed what he here asserts, that, courteous or not, he is in error as to the fact. If our writing the letter was very courteous, we are entitled to all the credit of it—it was written at the prompting of no one; though heartily approved by friends to whom we mentioned the intention. But in view of Dr. Dabney's closing paragraph, where he says, "If my haste or carelessness has let slip one word which to the impartial reader savors of aggression or retaliation, I desire that word to be blotted from memory"—we are not disposed to say more than that this is one point needing to be covered by it.

in importance and value, that I was constrained to write out some of my objections to your views, and to offer them to my fellow-editors for publication in the SOUTHERN PRESBYTERIAN REVIEW, in the hope of counter-acting, if I can, what appear to me the inevitable tendencies of your teachings on this subject. My article has been accepted, and will appear in the July number.

"Profoundly impressed with the magnitude of the evils I fear, I have attempted with the utmost plainness to prove you wrong; but not with the remotest intention of wounding you unnecessarily. And, as possibly may be the case, you will desire to prove me wrong, I am sure my fellow-editors will accord all to you that they have done to me.

"I have understood that you are expecting to go to Europe next month. If so, I would be glad to know what your address will be, in order that I may cause advance sheets to be forwarded to you. Of course, if you remain in Virginia, it will be a matter of no consequence, as you will receive the article in the REVIEW. I am expecting myself to sail on the 10th prox. I would be glad to take a few walks with you—say, in the Saarbrueck Coal basin or similar localities—that we might discuss together in presence of what we would see, the validity of your idea that immediate creative power may have produced such things.

"Yours very truly,

JAMES WOODROW."

The greater part of Dr. Dabney's reply to this letter is printed on pages 545—548; the following parts are given to complete it:

"I must, in candor, also preface what I have to say with the confession that, should I be convicted of 'lese-majeste' against your Queen science, Geology, I cannot palliate it by the plea of ignorance. I have read so many treatises by the leading authors of the different schools, examined so many points, pondered the showing of their exponents so carefully for at least twenty-five years, that I must presume I have the plain *data* before my mind; the only other supposition would be that their own advocates are most incompetent in stating them as they wish them to be apprehended; or that I am of defective intellect. . . .

"Now either that is a demonstration, or I am getting into my dotage. But, if I am, there are a good many more fools besides me. I have submitted this argument to some of the best trained minds in America, *on its own merits*; statesmen, University Masters of Arts, Professors. Dr. ———, for instance, says it is impregnable. I heard him enounce substantially the same conclusion, with that clear cut, yet abstract accuracy for which his mind is so admirable, in about these words: 'To the theist no *a posteriori* reasoning can reveal an *ἀρχή* for Nature.' Dr. ——— is with me, so Dr. ———.

"But I suppose you still suspect 'a cat in the meal bag,' and want to

know what it is. What use is to be made of this conclusion, if admitted? . . .

"The report of my journey to Europe is erroneous. I hope that your journey thence will prove a great benefit to your health as well as a great pleasure. I am just recovering from a severe spell of illness; for this reason I hope you will excuse the imperfections of this letter.

"Very faithfully yours,

R. L. DABNEY."

Dr. Dabney felicitates himself on page 548 on having in this letter chosen terms exactly adapted to remove the misapprehensions as to his meaning into which we had fallen, just as if he had "been prophet enough to foresee them." Now, we do not wish to disparage his prophetic foresight; but we cannot help saying he here furnishes no proof of it—all that was needed to "foresee" how we would understand him, was merely to consider how any one else (except himself it seems) would necessarily understand what he had published, and shape the *prophecy* accordingly. He next complains that his letter probably did not avail to change one word in our "Examination." He is quite right; it did not avail to change one word, and that for several reasons. Not to speak of the fact that, in consequence of our desire to see the article correctly printed, it was already in type when we received the letter—it reached us on Saturday, May 3d, and we left home on Tuesday, May 6th—it had no effect, and should have had none, because our object was not to change Dr. Dabney's views—we hardly dared to hope for that—but to protect from fatal error those who were in danger of being misled by them. Hence, if his private letter had contained a full and fair statement of what we regard as truth, it should not have affected in the least our published examination of his published writings. But the truth is, the letter contains much that it is impossible to receive, notwithstanding his more cautious manner of stating his position.

We ought to say, however, in all candor, that the letter was not wholly without effect on us. In one respect it relieved us no little. Necessary as it had been in the course of our argument to show that the writer was not very well-acquainted with natural science, we could hardly keep from blaming ourselves for having done so; especially in view of the admissions contained in the Lectures, p. 173, "Without presuming to teach technical geology,

for which I profess no qualification ;” and in the Sermon, p. 8, “ We have no occasion, as defenders of that word, to compare or contest any geologic or biologic theories. We may be possessed neither of the knowledge nor ability for entering that field, as I freely confess concerning myself.” We had had the uncomfortable feeling that, as he had himself thus proclaimed his want of acquaintance with the topics in question, it perhaps was hardly proper to prove this to be not merely a seemingly modest disclaimer. But when his statement reached us, that he could not “ palliate his ‘lèse-majesté’ against our queen-science, geology, by the plea of ignorance,” that he had “ read so many treatises of the leading authors of the different schools, examined so many points, pondered the showing of their exponents so carefully for at least twenty-five years”—when this reached us, we were comforted. We felt there could be no ruthlessness in our proving the confessed want of familiarity to be real ; but that with this vast amount of reading, and twenty-five years of careful study, Dr. Dabney must be abundantly able to take care of himself on the geological field. We were conscious of our own inability to profess anything like the same length of time devoted to careful examination of the topics in question.

As to the writer’s remark, that if he has not “ the plain data before his mind,” “ their advocates,” that is, geologists, “ are most incompetent in stating them as they wish them to be apprehended ; or that he is of defective intellect ;”—we have to say we have not observed this incompetence on the part of geologists generally ; students of geology usually have no difficulty in apprehending the exact meaning of the statements made by geological writers. But, if it were germane to the discussion, we would strenuously resist the conclusion to which he would drive us as the only possible one remaining, namely, that he is of “ defective intellect.” This, we insist, is not a necessary inference. As some of the readers of these articles may have experienced the same difficulty, we ought perhaps to point out two possible explanations. One is suggested by the doggerel lines,

“ He that’s convinced against his will
Is of the same opinion still.”

The other is that perhaps the respected writer has confined his study of geology to the reading of books. Now, it can never be learned in that way. Without some personal observation of the phenomena of physical science, the reasonings respecting such phenomena cannot be appreciated. The blind man, though of the highest intellectual capacity, can never understand the science of light, or the deaf man the science of sound; though the former may hear and the latter read masterly treatises on optics and acoustics for quarter of a century. It was the hope that this difficulty might be removed, if it exists, which led us to express the wish that we might last summer have the pleasure of Dr. Dabney's company in some of our walks, that we might together examine some of the facts in the case—as, for example, the mighty series of fossil-bearing beds around Saarbrück in the western part of Germany. As we were disappointed then, we now take the liberty of suggesting that a good beginning may be conveniently made in the study of some interesting dark shales within less than half an hour's walk from Union Seminary, which we examined more than twenty years ago with much satisfaction. We are confident that after a careful study of these and similar facts, he will cordially agree with us in maintaining that the “only point” he says he cares for, cannot have the slightest application to the greater part of geological phenomena; and further, that he will forever repudiate all thought of restricting to the period of “actual human history” the application of the principle that “like effects are produced by like causes.”

Dr. Dabney thus states in his letter the only point which he thinks it worth while to discuss:

“I conceive that there is but one single point between you and me, which is either worthy or capable of being made a subject of scientific discussion. It is this: I hold that to those *who honestly admit a Creator anywhere in the past, the a posteriori argument of naturalness of properties to a natural* (as opposed to a creative or supernatural) *origin of the structures examined, can NO LONGER BE UNIVERSALLY VALID.* That is, really, the only point I care for.” P. 546.

“*The proposition cannot hold universally true that an analogous naturalness of properties in a structure proves an analogous natural origin.*” P. 547.

He errs when he says that this point is "between" us; there is no dispute between us with reference to it. This is clear from what we said on page 359:

"Of course every believer in a personal God believes that he can produce in an extraordinary way just such effects as he ordinarily produces by the usual laws by which he governs his material universe—the laws of nature; and every believer of the Bible believes that he has often done so." *Southern Presbyterian Review*, p. 359.

We illustrated this principle by reference to the miracles recorded in the Scriptures, which we believe as firmly as we believe any observed facts in nature; and we proceeded to show the bearing it should have upon scientific reasoning. We then demonstrated that the test by which Dr. Dabney would determine when such reasoning is valid—namely, that we must be able to prove the "absence of the supernatural"—is utterly erroneous; and that the true principle is that we are "required by the very constitution of mind which God has given us, to believe that every effect we see has been produced by God's ordinary laws, until we have valid testimony to the contrary." P. 336.

Here, then, is where we agree and where we differ: We agree in believing that which above is called "the only point cared for;" we differ as to its application—Dr. Dabney insisting that the "absence of the supernatural" (Sermon, p. 13; Lectures, p. 177,) must be proved before the law of uniformity may be applied; we insisting that the *presence* of the supernatural must be proved before we are debarred from applying it. We maintain that the former principle leads inevitably to universal scepticism, and that the latter leads inevitably to the knowledge of truth.

This difference is so fundamental that it may be proper to consider it more fully; since it involves the very possibility of natural science, and indeed of almost every kind of knowledge. It is true that Dr. Dabney denies this; for he says, "Within the domain of time, the known past of human history, where its testimony proves the absence of the supernatural, the analogical induction is perfectly valid. And *there* is the proper domain of natural science." Lectures, p. 177. But its foundation principles recognise no such limitations; they do not depend on human

history ; they do not stand doubting until the impossible feat of proving the absence of the supernatural shall have been performed. These principles involve the belief that the laws of God are like their Author, who changes not ; that the manifestations of His will are like the Father of lights himself, with whom there is no variableness, neither shadow of turning. Those who receive them have gone forward boldly, fearlessly yet cautiously, wherever they have led ; and the result is the grand body of natural science which is the glory of the present age. These principles are in no way responsible for the wild rash speculations as to beginnings in which many, both physicists and metaphysicians, have vainly indulged ; for it is only by abandoning the safe ground which they afford that the question of origins, of an ἀρχή, can be discussed. The true student of natural science utterly repudiates the idea that such speculations belong to his domain, or that his science can be held responsible for them. Natural science humbly confesses that it cannot find out God, cannot find out the Almighty unto perfection ; it does not claim to know who hath laid the measures of the earth, ~~or the corner-stone thereof ;~~ or who hath given understanding to the heart—such knowledge is too wonderful for it. But our Father in heaven has graciously communicated to us this knowledge in his Holy Word. And now, thus taught, the believing student lovingly traces his Father's handiwork in every fact and every law made known to him by his science.

Let us test the "only point," on which so much stress is laid, by observing the results to which it leads, when taken in connexion with the other equally insisted on, that "analogical induction is perfectly valid" only where the "absence of the supernatural" can be proved. We examine the partially exhumed cities of Pompeii and Herculaneum ; we observe certain structures that seem to be houses built by human hands for human habitation ; lines of stones with grooves in them that seem to be paved streets with ruts worn by carriage wheels ; shapes which seem to be human skeletons. From this "naturalness of properties" we infer "naturalness of origin ;" we say we believe—we *know*—that these are houses built by human hands ; that these

are paved streets and that the grooves are ruts worn by carriage wheels ; that these shapes were once parts of living men. We no more doubt all this than if we had seen the builders at work or had ourselves driven the carriages that made the ruts. Yet at the same time we "honestly admit a Creator anywhere in the past;" and we further admit His power to create Pompeii. Now, as we wander through the deserted streets, Dr. Dabney meets us, and gravely bids us exercise more "modesty in constructing hypotheses;" telling us that our "*a posteriori* argument *can NO LONGER BE UNIVERSALLY VALID*;" and that we may not rely with absolute confidence upon it until we have "proved that no other cause capable of producing B" [Pompeii, etc.,] "was present in any case, save A" [man]." "Now, no man who is unwilling to take the blank atheistic ground, can deny that in the cases in hand, another adequate cause may have been present, as soon as we go back prior to historical testimony, namely, *almighty, creative power*." Lectures, p. 175.

But perhaps he may allow us to feel certain in this case, because we have "historical testimony" that these cities were built and inhabited by man. To this we would reply by asking whether our belief is in the slightest degree affected by that fact. Let the reader ask himself whether he believes any more firmly that the Pompeian houses were built by man because we have historical testimony to the existence of that city. He perceives that this testimony does not in the very least strengthen his previous belief, or his knowledge rather.

Should doubt still rest on any mind, however, we may take as test examples the ruined cities of Central America; or the lake dwellings in Switzerland and elsewhere, concerning which we have no historical testimony. Every one perceives that his conclusions can no more be doubted in these cases than in those of which we have the history written with human pen. We *know* how the foundations of the Swiss houses were constructed, what domestic animals lived with their human inhabitants, what weapons and household utensils they used, as certainly as if we had lived amongst them—Dr. Dabney's principle to the contrary notwithstanding.

But it may still be urged that we have not touched the point—that it is natural properties and natural structures which are under discussion, and not the productions of men. We reply that the principles and mode of reasoning are precisely the same, and the certainty of our conclusions is precisely as strong, whether we are examining a man's house or a beaver's house; whether at Pompeii we are examining charred books or a human skull or a lamp, or a dog's skeleton or the products of the neighboring sea; whether in the Swiss lakes we are examining the cloth made by the lake-dwellers, or the wood forming the piles on which their houses were built, or the shells of the shell-fish which lived in the waters around them. Any one who will bring the phenomena before his mind will perceive that he reasons about all in the same way, and that he receives the carefully-reached result with unwavering confidence. He will not and cannot yield himself to the hopeless scepticism which must flow from his waiting to prove the absence of the supernatural—which scepticism would be exercised equally in the case of the houses, charred manuscripts, and woven cloth, and of the bones and skulls of the lower animals.

It is clear, therefore, that the principle which leads to despairing doubt has no application in such cases as we have now considered. It is equally inapplicable in the study of "musty" fossils in "rotten" strata. In his private letter, Dr. Dabney repels with what we admire as just indignation the belief that the "older fossil remains of animal life never were alive." As to this horrible thought, he says with proper emphasis, "he does not believe it." Now, the geologist reasons in exactly the same way respecting these fossil remains that the archæologist does respecting the fossil cities of which we have spoken, and his conclusions are not more doubtful, and cannot be so regarded by any who are acquainted with the facts on which they are based. Besides the undoubted truths thus reached, there are many problems left unsolved; but this admission no more affects the truths established by geology or archæology, than the same admission respecting mathematics or theology, which must be made by every fair mind, affects the truths taught by those sciences.

Among the geological truths established beyond doubt is one which gives Dr. Dabney much concern, and leads him often to apply his favorite epithet "atheistic" to this class of students of God's works—we mean that this world is more than a week older than Adam. Instead of admitting that some of the "rotten fossils" are very ancient, he speaks of the "unbelieving geologist thrusting at him his difficulty about the seemingly ancient fossils." P. 585. He says—not that he does believe, but—that he could believe, that "it might be, for instance, that this Omnipotent and Infinite Wisdom, working during the six days, and during the long antediluvian years, during the flood, and during the years succeeding, in times and places where there was no human witness, saw fit to construct these *strata*, and to sow them with vegetable and animal life with a prodigal profusion now unknown; and to hurry the maturing of the *strata*, and the early death and entombment of these thronging creatures, with a speed very different from the speculations of geology; and all for profound motives good to His infinite wisdom, but beyond my weak surmises." P. 585. Now to any one who has studied the mighty succession of events recorded by God's hand in the fossil-bearing strata, it would sound just as reasonable to say, when speaking of Pompeii, that "it might be that this Omnipotent and Infinite Wisdom, working during fifteen minutes before noon, and during the long sultry hours of a summer afternoon, and during the twilight, and during the few minutes succeeding, through human instrumentality, saw fit to construct these cities, and to fill them with inhabitants with a prodigal profusion now unknown; and to hurry the completion of the houses and the wearing of ruts in the paved streets, and the early death and entombment of the thronging population, with a speed very different from the speculations of archæology; and all for profound motives good to His infinite wisdom, but beyond my weak surmises." This is no exaggerated comparison. It would require the same credulity, both as to amount and kind, to believe that the fossil-bearing strata have been formed since a week before Adam, as to believe that the history of Pompeii may have been compressed into a single afternoon.

Only a few words more are needed to set before the reader the real value of this "only point" in its application to natural science. The amount of doubt thrown on scientific deductions by the admission that the reasoning in question is not *universally* valid, may be seen from the following parallel cases. It is equally true that our inferences from our mental impressions as to external existence and external changes are not *universally* valid. For we see, we hear, we taste, in our dreams, when no external objects are present to be seen, heard, or tasted, though we believe them to be present. What then? Does this fact throw a pall of doubt over all our knowledge obtained through the senses? Do we wait until it is proved that we are not dreaming, or that our senses are not otherwise deceiving us? No; we believe in the knowledge obtained through these mental impressions not the less firmly because we know that they are not to be *universally* trusted. So in mathematics, which is generally regarded as the most certain of all sciences, it can easily be proved that no confidence is to be placed in its processes and results, provided it is enough to effect this object to prove the absence of *universal* validity. Let $a^2 - b^2$ be divided by $a - b$; the result is $a + b$. Now let a and b each be equal to 10; then we have 100 less 100, or 0, divided by 10 less 10, or 0; which is of course equal to 0. But we had previously found that the result is $a + b$, or $10 + 10$, or 20. That is, 0 is equal to 20, according to mathematics! Surely whatever leads to such an apparent absurdity must seem to some minds utterly unworthy of confidence. Away with mathematics then! Does any one reason thus? If not, let us not reason thus as to the fundamental principle in natural science. Let us not be induced by Dr. Dabney's "only point" to shut in our own faces the gate which leads to knowledge of God's works. This "only point" on which he lays so much stress is of no consequence in natural science. If scientific reasoning were restrained by such a mere puzzle, the result would be universal scepticism; just as the mathematical example given above would lead us to doubt whether two and two are four; and the psychological puzzle would make us doubt whether we ever see or hear anything. Therefore, if this was all that Dr. Dabney cared for, it was not

worth his while to spend so much time upon it, or to publish so many treatises attempting to explain and defend it. The game was not worth the candle. The principle is true; but it has no proper application in scientific reasoning; and if improperly applied, so to exclude all reasoning except in the impossible case where the "absence of the supernatural" is proved by "historical testimony," it must lead to universal despairing doubt.

There is, then, no reason why we should be disturbed in our examination of God's material universe by the "only point cared for." As we said before, the point is true; but it has no application in natural science. For we are entitled to assume that all natural structures have been produced by God's ordinary laws until the contrary is proved in any particular case. And the burden of proof always rests on those who maintain the supernatural origin. When such origin has been proved in any case, it is thereby put beyond the range of physical science. It is no part of the physicist's business to explain miracles: the natural philosopher cannot tell how Elisha made the axe swim; the archæologist cannot determine the character of the writing on the Tables of the Law; the astronomer cannot explain how the sun and moon stood still in the valley of Ajalon, or how the shadow went back ten degrees on Hezekiah's dial-plate—it is folly to make the attempt. All these miracles, like creation itself, are outside and above all natural science, which studies God's ordinary methods of operation alone. We believe, without the least doubt, that these miracles occurred as stated in the Bible. We have the amplest testimony to the truth of the Bible, and no more doubt its statements than we doubt the intuitive beliefs which its Author has implanted in our minds. We do not perceive any inconsistency in this position. We confess our inability to understand why we should refuse to believe in miracles—effects produced by God outside of His ordinary laws—because we firmly believe in the law of uniformity in all cases where He has given us no reason to think He is acting in an extraordinary manner; nor, on the other hand, can we understand why we should refuse to trust unwaveringly in our intuitive belief in the same law, because we believe that God can work miracles and

has worked them. We believe both equally; just as we believe that God is sovereign and man free. If it is objected that it is logically impossible to believe both the former, we reply we do not find it so any more than to believe both the latter. We do believe *all*, without hesitation or doubt. We have not yet reached that stage of progress which leads us to refuse to believe everything we cannot understand.

In justice to Dr. Dabney, we ought to state that in one passage of his reply (page 579, line 23 *et seq.*) he correctly states the true position as to when the argument from naturalness of qualities is not valid—when there has been “first proved the PRESENCE of God’s intervening power.” And he evidently thinks this is what he has always been maintaining, instead of the dangerous error we have been exposing. We shall not further discuss this point; but in order to allow the reader to judge for himself whether he is right as to what his teaching has been, we give a few more quotations from his writings:

“Hence, third, it follows that, if once a creative act is admitted to have occurred somewhere in the past, it may have occurred anywhere in the past, so far as the deductions of natural science from the marks of natural law upon its products go. In other words, the value of all these analogical inferences as to the date at which, and the mode by which, these objects of nature came into being, are worthless just so soon as they attempt to pass back of the earliest historical testimony. For the creative act, wherever it has intervened, (and who can tell, when testimony fails, where it may have not intervened?) has utterly superseded and cut across all such inferences. Nor can these natural analogies prove that the creative act has not thus intervened at a given place in the past, because the whole validity of the analogies depends on the supposed absence of the creative act. Hence, all the reasonings of geologists seem to us utterly vitiated in their very source, when they attempt to fix, from natural analogies, the age and mode of production of the earth’s structures.” *Southern Presbyterian Review*, vol. xiv., (1861,) pp. 267, 268.

“Wherever the inquirer into nature is certain that the facts he investigates are truly under the dominion of natural law, so far such reasonings are valid. As to the origin and history of nature in the past, they are valid no farther back than we can be assured of the absence of the supernatural; and we know not how such assurance can be gained by us, save by the testimony of human experience and history, or of inspiration.” *Ibid.*, p. 270.

“And that is the sphere of practical inquiry, within the historical past, the present, and the finite, terrestrial future; where we can ascertain the absence of the supernatural.” *Sermon*, p. 13.

“Unless you are an Atheist, you must admit that another cause, *creative power*, may have been present; and present anywhere prior to the ages of authentic historical testimony. Thus, the admission of the theistic scheme actually cuts across and supersedes all these supposed natural arguments for the origin and age of these structures.” *Lectures*, p. 176.

But it is needless to multiply such quotations.

Dr. Dabney decidedly objects to being represented as hostile to physical science; but inasmuch as that which would be left after applying his limitations would be so extremely diminutive, it cannot be of much importance whether he is friendly or hostile to the little remnant he would recognise as *true science*. He tells us plainly he is “jealous of geology,” (p. 548,) and seeks to manifest his contempt for this sublime branch of knowledge by speaking of his “smaller admiration for the fascinating art of the mineralogist.” (P. 546.) The only explanation of this jealousy and contempt is found in the misapprehension of the real character of geology betrayed by speaking of it as the “art of the mineralogist.” Those who know what it is say of it, with Sir John Herschel: “Geology, in the magnitude and sublimity of the objects of which it treats, undoubtedly ranks in the scale of the sciences, next to astronomy.” Or with Principal Dawson: “The science of the earth, as illustrated by geological research, is one of the noblest outgrowths of our modern intellectual life. Constituting the sum of all the natural sciences in their application to the history of our world, it affords a very wide and varied scope for mental activity, and deals with some of the grandest problems of space and time and of organic existence.” Or with Prof. Dana: “Every sphere in space must have had a related system of growth, and all are, in fact, individualities in this Kingdom of Worlds. Geology treats of the earth in this grand relation. It is as much removed from Mineralogy as from Botany and Zoology. It uses all these departments; for the species under them are the objects which make up the earth, and enter into geological history.” Such are the words of these eminent men,

all of them sincere Christians, to whom the Sacred Scriptures as the very word of God are as dear as they are to Dr. Dabney.

We do not think it needful to apologize for our love of geology and the constant delight we find in it. The learned Roman Catholic divine, Prof. Molloy, exactly expresses our views when he says: "Among the various pursuits that engage the human mind there are few so attractive as geology, none so important as Revelation." We do not feel called on to resist this attraction, or to reject or look with cold suspicion on the great body of truth which has been gathered by the earnest labors of thousands of diligent inquirers; whose devotion and heroism in searching after it is second only to that of the pioneer missionaries of the Cross. To attain it they have spared no sacrifices, they have shunned no toil, they have often braved death itself. We are not ashamed to admit that it is fascinating to us, notwithstanding the contempt any one may attempt to cast upon it by professing his "jealousy," his "smaller admiration" of it, or by scornfully speaking of its study of "musty" and "rotten fossils." It is to us inconceivable how an ingenuous mind, open to the reception of all God's truth, should be able to spend long years in studying it, without sharing in the delight we have experienced. God forbid that while we gaze rapturously upon the ineffable glory of the Most High as it shines in the face of His Anointed, we should shut our eyes to the glory—lesser indeed, but glory still—which is reflected from the works of His hands.

In connexion with professions of "high respect for all true physical science," Dr. Dabney justifies and defends his assertions that "these sciences are arrayed in all their phases on the side of scepticism;" he still insists that "these statements are all true." Page 548. His defence is that "all of them are arrayed, by some of their professed teachers, on the side of scepticism"! In his estimation, this latter expression is equivalent to his sweeping denunciation of geologists and the physical sciences contained in the statements just quoted! Does any reader agree with him, or think he has succeeded in his defence? Let the assertions be made, "The tendencies of writers of books are atheistic;" "The art of writing is arrayed in all its phases on

the side of scepticism." Would it be a sufficient justification of these assertions to say: "These statements are all true, and consistent with our high respect for all true authorship. The art of writing is arrayed, by some of its professed masters, on the side of scepticism." Yet this would be exactly parallel with Dr. Dabney's defence.

The use of such misleading language by a single writer, however distinguished, might do no great amount of harm; but these terrible accusations against science are made so often from many of our pulpits and in so many religious writings, that we should not hastily dismiss this point. It is painfully common in these quarters to hear such expressions as "infidel science," "scientific infidels," "atheistic geology," etc., where it is clear that the speaker does not mean the infidel perversion of science, but science itself. And even in cases where one means by "anti-Christian science," as Dr. Dabney says he does, that something "separated from sound physical science" is anti-Christian, such careless and misleading language should be avoided as certain to do harm. We know that these inaccurate expressions—to use the mildest word—in the pulpit and in religious writings, do much to promote infidelity; and therefore one cannot be too guarded in always explaining exactly what he means every time he refers to infidelity and science as in any way connected.

Let the tables be turned, that we may the more easily see how far such language is really justifiable, remembering that it is a poor rule that will not work both ways; or rather remembering the words of our Lord and Master: "All things whatsoever ye would that men should do to you, do ye even so to them."

Let these statements, then, be made: "Christianity always has some tendency to oppose and destroy the truth." "The tendencies of Christians are bloodthirsty and murderous." "The spirit of Christianity in all its phases is essentially promotive of lying, fraud, and gross immorality;" "it is arrayed in all its phases on the side of ignorance, superstition, folly, and vice." The perpetual *animus* of Christianity, especially in our day, is to insist on the belief of puerile falsehoods and the rejection of all valuable truth." Now, would any amount of explanation

justify these horrible assertions? Let the reader judge whether they are not true in exactly the same sense in which the following assertions made by Dr. Dabney are true:

"We find that physical science always has some tendency to become anti-theological." Sermon, p. 2. "The tendencies of geologists are atheistic." *So. Pres. Review*, vol. xxiv., p. 549; Lectures, p. 178. "The spirit of these sciences is essentially infidel and rationalistic; they are arrayed, in all their phases, on the side of scepticism." Memoir in *Central Presbyterian*, Oct. 31, 1866; reaffirmed, *So. Pres. Review*, pp. 548, 549. "This is the *eternity of Naturalism—it is Atheism*. And such is the perpetual *animus* of material science, especially in our day." Lectures, p. 179.

In justification of the above assertions respecting Christianity, it would be of no avail to recount the efforts made by multitudes of Christians during eighteen centuries to destroy the truth; or to portray the horrors of the Inquisition, or the slaughter of the "saints whose bones lie scattered on the Alpine mountains cold," or the bloody persecutions in Holland or in Scotland, or any or all of the murderous tragedies enacted by the Romish and other Christian Churches; or to narrate the history of Ignatius Loyola and his followers who profess to be the servants of Jesus beyond all other men; or to point to monkery as it has existed almost from the times of the Apostles; or to hold up to view that Church which contains the major part of all who are called Christians, with its determined resistance to the entrance of light, and its new dogma of Infallibility. All this would be of no avail in justifying or even palliating the enormity of these expressions. No more can all his apologies serve to justify or palliate Dr. Dabney's sweeping assertions respecting that grand body of truth, which is only second, though separated by a long interval, to the body of inestimably more precious truth graciously bestowed upon us in the Bible. We know—we do not merely suppose, but we know—that multitudes of upright men, sincere lovers of the truth, are driven from our sanctuaries, and kept from ever returning—alas, to their own undoing—by just such sweeping denunciations of science. We beg, we implore, any minister of the glad tidings of salvation who may read what we are now writing, never again to mingle these cruel and baseless

attacks with the blessed offer of life, and thereby drive to ruin those whom he might otherwise save. Preach the WORD; and do not make it of none effect by joining with it anathemas of that which your most enlightened hearers know to be true.*

* The following points cannot be passed by without notice, and yet they do not directly affect the general discussion; therefore it seems best to dispose of them in a note.

We regret that Dr. Dabney has neither substantiated nor withdrawn the charge which he introduced into his Sermon against the "great majority of members from the Northern States" who were present at the Scientific Association at Indianapolis. The charge was that, although many of them were ministers and elders, yet they confessed that they were hypocrites and liars—that they "professed a religion which they did not believe." Sermon, p. 6. Instead of either withdrawing or proving it, as we had hoped he would do, he tells us "he finds his conscience very obtuse on this point," and calls our remarks "an attempt to veil the prevalence of unbelief in America"! P. 552. He did not inquire into the truth of the statement; he says he found it going the rounds of the newspapers, and therefore was entitled to use it, because it had already been given "*to the public*"! We shall not discuss the propriety of such a course; but merely call attention to the fact that when in a sermon Dr. Dabney states a proposition and introduces evidence to support it with the preface, "We have the explicit testimony of an eye-witness," the evidence he thus introduces may be nothing more than a wandering newspaper slander, which the slightest examination would show could not possibly be true, picked up from the columns of the "mighty Northern press." P. 552. We trust that this practice may not become common amongst our ministers; we trust that they will not think themselves justified in quoting, as conclusive in an argument in defence of Scripture truth, a slander culled from the *New York Herald* or other representative of this "mighty Northern press."

We are sorry we cannot pass by wholly without criticism the remarks on pages 569—571, in connexion with the reference to the union between the Old School General Assembly and the United Synod. We certainly shall not discuss that union. We loyally accepted the decision of the General Assembly of 1864; and nothing from our lips or pen has done aught to weaken it. But we must say a few words as to the intimation that we have wished to cast doubt upon Dr. Dabney's theological soundness. For this intimation there is not the slightest foundation. So far as we are acquainted with his theological views, we agree with him; and we only wish he could equally agree with us in our scientific views, and help us to stem the tide of error instead of himself swelling it. Of

The next point is one which we had not supposed it would be necessary to discuss further ; for we thought Dr. Dabney would at once accept our views. In his Lectures, Sermon, etc., he seeks to cast doubt on physical science by speaking of it as "human and uninspired," contrasting it with theology as the "divine

the discussion in the *Southern Presbyterian* between the lamented Dr. A. A. Porter and himself, to which he refers, we read scarcely anything on either side ; and this attempt to connect us with it should not have been made. Dr. Dabney further says that we would be understood as "insinuating" that "the leading Presbyterian theologian, 'personally known to Dr. Dabney,' was no other than Dr. Dabney himself." As to this, we say, first, the author should not have spoken of us as "insinuating" anything. Even if he had not been prevented by the general laws of propriety, he must have known that we express plainly whatever meaning we wish to convey—we never "insinuate." For example, when it was necessary to point out his want of acquaintance with certain branches of science, we did it so clearly that we could not be misunderstood—we did not "insinuate" it. Of his statement that we would be understood not only as insinuating, but "insinuating" what we knew to be false—namely, that he was the author of the quotation we made—we have nothing to say except that we think too highly of him to believe that he will not reproach himself far more bitterly than we could wish him to do, when he properly reflects on this intimation. But, in the next place, we cannot comprehend how any one could so misunderstand us. Here is Dr. Dabney's language :

"And the clerical readers of the *Review* have doubtless, almost as naturally, understood him as insinuating that 'the leading Presbyterian theologian, personally known to Dr. Dabney,' was no other than Dr. Dabney himself. If the words bear this construction, all I have to say is, that I never wrote or uttered the statements enclosed in the quotation marks." P. 570.

Our difficulty is increased by the fact that Dr. Dabney immediately afterwards, on the same page, shows that he knew whom we meant, by saying that the words we quoted were the Rev. Dr. A. H. H. Boyd's. We described the author of these words by three marks : 1. That he had used the words we quoted. 2. That he was personally known to Dr. Dabney, and therefore not Dr. Dabney himself, unless we intended to deceive. 3. That he was included among "leading theologians." Now, although the writer knew that the first mark did not apply to him, and that the second should not, it seems he regards the third as so exclusively applicable that the "clerical readers of the *REVIEW* have doubtless almost as naturally understood us to mean himself"! Now, we do not think the clerical or other readers would misunderstand us as the writer has

science." We showed that the writer in such cases confounds things which are different. We said:

"It is to be observed that Theology is as much a human science as Geology or any other branch of Natural Science. The facts which form the basis of the science of Theology are found in God's word; those which form the basis of the science of Geology are found in his works; but the *science* in both cases is the work of the human mind. The Bible was indeed given specifically for the instruction of man, while the material universe was not so directly created for this purpose; and the lessons taught in the Bible are of infinitely higher value than those which we learn from nature; but still the science of Theology as a science is equally *human* and *uninspired* with the science of Geology—the facts in both cases are divine, the sciences based upon them human." P. 331.

We further showed that we gain a knowledge of Theology just as we do of Physical Science—by the use of our natural reason.

done—that because we said "leading Presbyterian theologians," we could mean no other than Dr. Dabney. Dr. Dabney is certainly a leading theologian; but we did not say "the leading theologian," as he quotes us, in applying it to himself; we said "leading theologians"—and surely there are several others to whom this description applies. •

We employed the illustration with no such motives as are ascribed to us. We were illustrating (page 335) the statement that physical science ought not to be held responsible for everything done by its students, just as Presbyterianism cannot be held responsible for everything done by Presbyterian theologians. Writing in this journal, we drew our illustration from its pages, as likely to be most familiar to its readers; for most of its present readers were its readers in 1864. We therefore quoted from Volume XIV., pp. 302 and 303, doctrinal statements which had two years before been published in a Richmond (Va.) journal by the distinguished Dr. Boyd, which we felt sure must be rejected by Dr. Dabney, who would utterly refuse to allow Presbyterianism to be held responsible for them. We were not in quest of anything "far-fetched," but the most familiar possible illustration of the following argument: If Dr. Dabney and all right-thinking men refuse to hold Presbyterianism responsible for all the teachings of so distinguished and justly esteemed a Presbyterian theologian as Dr. Boyd, then Dr. Dabney and all right-thinking men ought to abstain from holding physical science responsible for all the teachings of distinguished scientific men like Tyndall, La Place, etc. This illustration was surely neither "far-fetched," "peculiar," nor "remote;" if it was "biting," as Dr. Dabney says it was, it was the truth of it alone that bit.

We are disappointed to find that Dr. Dabney has not accepted these distinctions. Instead of doing so, he says :

"But from Dr. Woodrow's next step I must solemnly dissent. It is that in which he degrades our knowledge of God and redemption through revelation to the level of our fallible, human knowledge of the inexact physical sciences. . . . The grave error of this is unmasked by a single question: Is then the work of the geologist, in constructing hypotheses, inductions, inferences, merely hermeneutical? All that the student of the divine science properly does, is to interpret God's words, and compare and arrange his teachings. Is this all that geology undertakes? . . . The 'facts of geology' are simply phenomenal, material substances. The facts of theology, which Dr. Woodrow admits to be divine, are *didactic propositions*, introducing us into the very heart of divine verities. . . . The critic's view, whether right or wrong, is unquestionably condemned by his Confession of Faith and his Bible. The former, Chap. I., § 5, says: 'Our full persuasion and assurance of the infallible truth and divine authority thereof is from the inward work of the Holy Spirit, bearing witness by and with the Word in our hearts.'" Pp. 556, 557.

From these passages the reader will perceive that certain obvious distinctions have been overlooked by the writer. The first relates to the nature of theology; the second, to the way we become acquainted with it. He here as elsewhere confounds the Holy Bible and the science of Theology, speaking of them as if they were identical. He fails to see that the truths of the Bible are not the science of Theology, but merely the materials which are used by human uninspired man to construct that science. As we before said, "the Bible was given specifically for the instruction of man," to teach "lessons of infinitely higher value than those which we learn from nature;" and happily we may profit by these lessons, without knowing even the first principles of the human science of theology. We do not need the science of Botany to enable us to derive profit from the trees of the orchard and the forest: their fruit cheers and nourishes us; their shade refreshes us; with wood from their trunks we build houses to shelter us, and make fires to warm us and prepare our food. So we do not need the science of Theology to enable us to derive profit from that garden of the Lord—the Sacred Scriptures: its leaves are for the healing of the nations; we directly

draw from it the highest nourishment for the mind and the heart; we need no analysis to obtain its richest spiritual food and shelter from all that can harm here and hereafter; it immediately makes known to us the love of God the Father, the grace of the Lord Jesus Christ, the renewing of God the Holy Ghost; the salvation from sin, and the gift of eternal life—all without waiting for the relations between these precious truths to be pointed out by the uninspired science of Theology. But just as the botanist constructs his science by interpreting relations between the different trees and their different parts, just so the theologian constructs his science by interpreting the relations between the various truths in the Bible. The trees are divine; the Bible truths are divine; but the science of Botany is human and the science of Theology is human. Does this “degrade” theology or the Bible? It is not said, or remotely hinted, that natural science is not infinitely inferior in importance to theological science; but only that in both the facts are divine, the sciences human. Surely this is too plain to need further argument.

There is nothing new to theologians in our views on this point, and we expected them to be adopted as soon as stated. Since, however, they are so solemnly dissented from by a Professor of Theology, it may not be amiss to quote at some length the views of that Nestor of American theologians, who certainly knows the nature of the science which he has for more than fifty years been teaching with such distinguished ability and success:

“The Bible is no more a system of theology than nature is a system of chemistry or of mechanics. We find in nature the facts which the chemist or the mechanical philosopher has to examine, and from them to ascertain the laws by which they are determined. So the Bible contains the truths which the theologian has to collect, authenticate, arrange, and exhibit in their internal relation to each other.”

“What is true of other sciences is true of theology. We cannot know what God has revealed in his Word unless we understand, at least in some good measure, the relation in which the separate truths therein contained stand to each other. It cost the Church centuries of study and controversy to solve the problem concerning the person of Christ; that is, to adjust and bring into harmonious arrangement all the facts which the Bible teaches on that subject.”

“God does not teach men astronomy or chemistry, but he gives them

the facts out of which those sciences are constructed. Neither does He teach us systematic theology, but He gives us in the Bible the truths which, properly understood and arranged, constitute the science of theology. As the facts of nature are all related and determined by physical laws, so the facts of the Bible are all related and determined by the nature of God and of his creatures. And as he wills that men should study his works and discover their wonderful organic relation and harmonious combination, so it is his will that we should study his Word, and learn that, like the stars, its truths are not isolated points, but systems, cycles, and epicycles, in unending harmony and grandeur."

"The inductive method is so called because it agrees in everything essential with the inductive method as applied to the natural sciences.

"First. The man of science comes to the study of nature with certain assumptions. (1.) He assumes the trustworthiness of his sense perceptions. Unless he can rely upon the well-authenticated testimony of his senses, he is deprived of all means of prosecuting his investigations. The facts of nature reveal themselves to our faculties of sense, and can be known in no other way. (2.) He must also assume the trustworthiness of his mental operations. He must take for granted that he can perceive, compare, combine, remember, and infer; and that he can safely rely upon these mental faculties in their legitimate exercise. (3.) He must also rely on the certainty of those truths which are not learned from experience, but which are given in the constitution of our nature. That every effect must have a cause; that the same cause under like circumstances, will produce like effects; that a cause is not a mere uniform antecedent, but that which contains within itself the reason why the effect occurs.

"Second. The student of nature having this ground on which to stand, and these tools wherewith to work, proceeds to perceive, gather, and combine his facts. These he does not pretend to manufacture, nor presume to modify. He must take them as they are. He is only careful to be sure that they are real, and that he has them all, or at least all that are necessary to justify any inference which he may build upon them.

"Third. From facts thus ascertained and classified, he deduces the laws by which they are determined. That a heavy body falls to the ground is a familiar fact."

"The Bible is to the theologian what nature is to the man of science. It is his store-house of facts; and his method of ascertaining what the Bible teaches, is the same as that which the natural philosopher adopts to ascertain what nature teaches. In the first place, he comes to his task with all the assumptions above mentioned. He must assume the validity of those laws of belief which God has impressed upon our nature."

"In the second place, the duty of the Christian theologian is to ascertain, collect, and combine all the facts which God has revealed concerning himself and our relation to Him." These facts are all in the Bible.

"In the third place, the theologian must be guided by the same rules in the collection of facts, as govern the man of science.

"1. This collection must be made with diligence and care. It is not an easy work. There is in every department of investigation great liability to error. Almost all false theories in science and false doctrines in theology are due in a great degree to mistakes as to matters of fact. A distinguished naturalist said he repeated an experiment a thousand times before he felt authorised to announce the result to the scientific world as an established fact.

"2. This collection of facts must not only be carefully conducted, but also comprehensive, and if possible, exhaustive. An imperfect induction of facts led men for ages to believe that the sun moved round the earth, and that the earth was an extended plain. In theology a partial induction of particulars has led to like serious errors."

"We must be honest here, as the true student of nature is honest in his induction. Even scientific men are sometimes led to suppress or to pervert facts which militate against their favorite theories: but the temptation to this form of dishonesty is far less in their case, than in that of the theologian.

"In the fourth place, in theology as in natural science, principles are derived from facts, and not impressed upon them."

"It is the fundamental principle of all sciences, and of theology among the rest, that theory is to be determined by facts, and not facts by theory. As natural science was a chaos until the principle of induction was admitted and faithfully carried out, theology is a jumble of human speculations, not worth a straw, when men refuse to apply the same principle to the study of the Word of God."

"The true method of theology is, therefore, the inductive, which assumes that the Bible contains all the facts or truths which form the contents of theology, just as the facts of nature are the contents of the natural sciences. It is also assumed that the relation of these Biblical facts to each other, the principles involved in them, the laws which determine them, are in the facts themselves, and are to be deduced from the facts of nature. In neither case are the principles derived from the mind and imposed upon the facts, but equally in both departments, the principles or laws are deduced from the facts and recognised by the mind."

"If the views presented in the preceding chapter be correct, the question, What is Theology? is already answered. If natural science be concerned with the facts and laws of nature, theology is concerned with the facts and the principles of the Bible. If the object of the one be to arrange and systematise the facts of the external world, and to ascertain the laws by which they are determined; the object of the other is to systematise the facts of the Bible, and ascertain the principles or general truths which those facts involve." *Hodge's Systematic Theology*, pp. 1—18.

The next thing which Dr. Dabney overlooks is the distinction between the knowledge of Bible truth and the saving knowledge of that truth. The first we obtain by the use of our natural reason; the second by means of the enlightening power of the Holy Spirit. Dr. Dabney must be aware of this distinction; he must know that the passages which he quotes from the Bible and the Confession of Faith relate exclusively to the second and not at all to the first. The distinction is set forth with admirable clearness in the Lectures on Theology which have been left to us as so precious a legacy by that master in Israel, Dr. Thornwell:

"I accept the definition now generally given, that Theology is the science of religion; that is, it is the system of doctrine in its logical connection and dependence, which, when spiritually discerned, produces true piety. There is a twofold cognition of Divine truth—one natural, resulting from the ordinary exercise of our faculties of knowledge, and the other supernatural or spiritual, resulting from the gracious illumination of the Holy Ghost. The habit which corresponds to the first, like every other habit of science, is mere speculative knowledge. The habit which corresponds to the other is true religion. The doctrine, to use the expressive analogy of St. Paul, (Rom, vi. 17,) is the mould, and religion the image that it leaves upon the heart, which the Spirit has softened to receive the impression. There is, first, the truth, and that is theology; there is next the cordial and spiritual apprehension of it, and that is the obedience of faith, which is synonymous with true religion. In other words, the truth objectively considered is Theology; subjectively received, under Divine illumination, it is religion. In relation to religion, therefore, Theology is a science only in the objective sense."

"In the next place, it is not to be overlooked that there is a natural knowledge of theology which is pure science; which rests in speculation; which knows, according to the familiar adage, only that it may know. This natural knowledge is the instrument of spiritual cognition. It is the seed which the Holy Spirit quickens into vital godliness. We must first know as *men* before we can know as *renewed* men. Theology, as thus ending in speculation or in theory, can be taught, but religion must be implanted." *Thornwell's Collected Writings, Vol. I., pp. 36, 37.*

We confess we were greatly surprised that these obvious distinctions in the department of theology should have escaped Dr. Dabney's attention; we were better prepared for his misapprehension of geology which is betrayed by his question which we have quoted above. He is quite right in regarding this question as decisive, "Is the work of the geologist, in constructing hy

potheses, inductions, inferences, merely hermeneutical?" To this no one acquainted with natural science could hesitate a moment to give an affirmative answer: his work is merely hermeneutical. Dr. Dabney of course expected a negative reply; but truth will not permit him to be gratified. Interpretation is the sole work of all natural science, as indeed of all true science.

This question is of great importance as furnishing a complete explanation of a fact otherwise so mysterious. How does it happen that Dr. Dabney and many others among the best men living, in this and other lands, men of thorough learning in many directions, sincerely desiring to reach the truth—how does it happen that such men maintain their present attitude towards geology and natural science generally? Dr. Dabney's question explains it all—they fail to perceive the purely hermeneutical character of natural science. If they were right in the single position that natural science is not purely hermeneutical, their suspicions and assaults and denunciations would be not merely justifiable, but praiseworthy. If these truth-loving men could only see natural science as it is, as the interpreter of nature—of the works of God, they could not and would not assail it as they now feel impelled to do. There have been false interpretations of nature, just as there have been false interpretations of Scripture; but as we do not assail and denounce theological science for the one, let us not assail and denounce natural science for the other. In each case, expose the error, but do not denounce the science.

That we have correctly stated the true character of inductive science, we would suppose to be well known by all, but for the sad proofs to the contrary which present themselves on every hand. Since the days of Lord Bacon, the most familiar name applied to the student of physical science has been "INTERPRETER OF NATURE." As this has been so remarkably overlooked by the respected writer, it may not be amiss to quote here the first aphorism from that immortal work, the "*Novum Organum*, or, True Suggestions for the Interpretation of Nature:"

"Man, as the minister and interpreter of nature, does and understands as much, as his observations on the order of nature, either with regard to things or the mind, permit him, and neither knows nor is capable of more."

The remaining topics must be treated more briefly. We do not intend to repeat the satisfactory reasons previously given why Dr. Dabney's objections to the existence of the chair of "Natural Science in connection with Revelation" in the Columbia Theological Seminary, should not be heeded. But he should not have attributed our criticism of his assaults on science to "retaliation for his presuming to exercise his right" in this respect. P. 542. He has the undoubted right to act as he has done; and we have never thought of objecting to his exercise of it. Columbia Seminary is under the direct control of our entire Church, and every minister and private member has a right to attempt to make it as efficient as possible. The fact that Dr. Dabney is an honored Professor in another Seminary which is not under the control of our entire Church and would not be required to obey the commands of the General Assembly, does not in the least deprive him of his right to attempt through the Assembly to regulate the affairs of that Seminary which is under its control. We have shown that he errs in his opinion on this question; but we do not object to his expressing it. But he cannot be serious in his objections to the chair we occupy in the Columbia Seminary, when he practically from his own chair of instruction shows that his arguments have no influence over his own course. His "most conclusive argument" against teaching natural science in a theological seminary is that, "the Church cannot by ecclesiastical power teach her presbyters *ex cathedra* in her Seminaries a set of opinions which are clear outside of our doctrinal covenants—namely, "our Confession and Catechisms." Until he shows that he is in earnest in this argument, by ceasing himself to teach mental science, which is "clear outside of our doctrinal covenants," in a Seminary, it is hardly worth while to discuss further his objections to our teaching natural science.

Another point we shall not now examine, is the respected writer's failure to understand the real bearing of the recent "Deep-Sea Soundings," which he supposes have cast so much doubt on geology. If we should safely return after crossing the "deep-sea" once more, we hope to place before the read-

ers of this journal the true character of these discoveries ; without immediate reference to the present discussion.

We hardly think the writer has been successful in defending his mode of using the term "naturalist," in some cases meaning a student of nature, in others one who embraces "naturalism." We did not object to the term "naturalism," but to the passing from one meaning of "naturalist" to another in a way which must mislead. His defence consists chiefly in proving that "naturalism" is still currently used ; but this does not remove the objection we made. If we should be speaking of country residences as "villas," we would not thereby justify our calling the residents "villains;" nor would we be justified in pronouncing one who holds a "dogma" a "dogmatist."

We cannot wholly pass over the writer's defence of his geological accuracy, and his statement that our "real geology" differs from that of Dana and Lyell. He says our classification "differs from the brief outline he gave chiefly (not only) by using more subdivisions," and defends himself by stating that Dr. Molloy only "names as his three divisions, *igneous, metamorphic, and aqueous rocks.*" We did not object to Dr. Dabney's classifications as too brief, but as entirely wrong. Dr. Molloy's is quite right, and resembles Dr. Dabney's in nothing. It is difficult to explain these errors to readers who are not already acquainted with geology ; and therefore we are forced to use the plainest illustrations, if we would make ourselves understood. It is quite right to say briefly that America is subdivided into North and South America ; but it is wholly wrong to say that it is subdivided into North America, Brazil, Canada, the United States, and Tennessee. Let the scheme which was criticised be examined, and the point of this illustration will be seen. It may seem that this is a matter of no consequence ; but if geography were under discussion, would we attach much importance to the geographical arguments of one who would give the last mentioned subdivision of America ? This question shows why it is not amiss to quote the following additional illustration of geological knowledge :

"They say that the cretaceous deposits rank as *mesozoic*, below the *pliocene*, *cocene*, and *miocene* in order, and consequently older in origin. That is, Sir Chas. Lyell says so, in his most recent work, (if he is any authority with Dr. Woodrow.)" Page 562.

Sir Charles Lyell is authority with us as to the use of these terms, because he introduced them into the science more than forty years ago. But he never used them in that way. Let the reader observe that the point under discussion here is the historical *order of succession* of the rocks. Let him further reflect what he would think of a historian who should inform him that after the Pharaohs of Egypt came the modern kings of England, the Cæsars of Rome, and the Byzantine Emperors, *in order*. This is precisely what has been done above. In this case the order of succession is everything; and yet we are gravely told that the order is *mesozoic*, followed by *pliocene*, *eocene*, and *miocene*; whereas, Lyell (and every other geologist) gives as the order, *cocene*, *miocene*, and *pliocene*.*

We shall not undertake to defend the geological classification with which we compared Dr. Dabney's, on page 369. He says it "is not identical with Dana's or Lyell's any more than his"! And this notwithstanding the fact that he gravely tells his students, as we saw, (Lectures, p. 170,) that the "secondary rocks contain remains of life *palæozoic* and *meiocene*;" and that the "tertiary rocks and clays contain *pleiocene* fossils," which last

*The writer thinks we are impolite when we point out such facts as those above given, and complains of our "school of manners." P. 544. Now, we cannot agree with him in this respect; we think it perfectly proper. We have never impugned his motives; we accord him the fullest credit as actuated solely by a desire to promote the truth. If it were worth while to discuss "manners," politeness, etc., we would say that we regard it as perfectly polite for Dr. Dabney to prove us wrong, if he can, either by showing that our arguments are illogical, or that we are not acquainted with the subject; but that it is inconsistent with our "school of manners" to attribute improper motives and designs to an opponent in debate—as, for example, "retaliation," p. 542; "pleasure of printing a slashing criticism of one who had given no provocation to him," p. 548; "insinuating," p. 570, etc. But it is not worth while to say more on this point.

statement is true enough, but then the tertiary contains the miocene also, not to speak of the eocene. If we needed to defend ourselves, all that would be necessary would be a reference to any geological work whatever; but Dr. Dabney has saved us the trouble by quoting on page 566 the subdivisions given by Prof. Duns and Prof. Dana, which correspond exactly with those which we presented. The fact that Dr. Dabney—amusingly enough—made these quotations to prove us wrong, does not render them the less valuable for the purpose to which we here apply them.

We earnestly hope that a further study of these subjects will produce a radical change in the writer's views. It is useless for him to attempt to push back the progress of scientific truth by his "single point" or any number which he may add to it. He cannot construct a mop strong enough to sweep back the ocean of science, however skilful he may be. He is certainly in earnest in wielding such mop as he has. With a shout of triumphant laughter, he dashes it into the wave of spectroscopic discoveries, calling them "rays of moonshine, in the thinnest of metaphorical senses" (page 568); then he plunges into literal masses of water, and resisting the wave of the science of hydraulics, calls to his help "experienced pilots and boatmen of the Mississippi" who "are generally of opinion that the lower strata of water in its channel run with far more velocity than the surface"! SO. PRES. REVIEW, 1861, p. 261. Thus he furiously brandishes his mop against each succeeding wave, pushing it back with all his might. But the ocean rolls on, and never minds him; science is utterly unconscious of his opposition. If this were all, the contest would be simply amusing. But it is not all. As has been seen, there are all over the land inquirers as to the truth of the Bible who know more or less distinctly that physical science is truth. Now, we ask again, what effect will be produced upon these inquirers if their religious teachers tell them that the "spirit of these sciences is essentially infidel and rationalistic"? What effect will be produced upon them when they are told by one so eminent and so justly esteemed as Dr. Dabney: "We have infidel lawyers and physicians: but they are infidels, not because of their studies in jurisprudence, therapeutics, or anatomy; but because they

have turned aside to dabble in geology and its connections." P. 552. There are numbers, even among our most learned and most devoted ministers, who share these views which we regard as so inconsistent with the truth and as so fatal in their consequences. We would fain do something to prevent these terrible consequences by persuading all whom we can influence to review the ground on which they base their present opinions; confident that a fair reëxamination will without fail lead to a change of mind.

We therefore again entreat all who will listen to us, by the love of the souls of our fellow men, that they will not continue to represent God's truth the knowledge of which is gained from the study of His works as inconsistent with that which His infinite love and tender mercy bestow upon us in His Word of Life. Let them no longer deceive themselves and mislead others by believing and teaching that physical science is science falsely so-called. But denying and decrying none of the many sides of truth, heartily rejoicing in all, let them with renewed zeal hold up to the view of men the unobscured GRACE AND TRUTH WHICH CAME BY JESUS CHRIST.