

cannot fail to please; and it will be found, on careful reading, to be suggestive of many valuable thoughts, both practical and serious. It should, however, be edited with notes sufficient to render it popular. It would then make but a small book, and would beguile some spare hour of the visitor to the City of the Dead.

We hope, also, that some publisher will find it in his way to reprint the work of Maitland. The subject is one of great interest to the Protestant public, and is destined to a more full development, when the watchful jealousy of the Vatican shall become a little more relaxed, as the events in Divine Providence already give striking indications. In a note, Maitland remarks thus :

“ In the year 1841, the writer applied for permission ‘ to copy some of the inscriptions contained in the Lapidarian Gallery,’ and a license ‘ to make some memoranda, in drawing, in that part of the Museum,’ was granted. About that time a misunderstanding is reported to have arisen between the Jesuits and the officers of the Vatican; in consequence of which the former were refused permission to copy the inscriptions in question for their forthcoming work on the Christian Arts. An application was also made by them to the Custode of the Gallery, in order to prevent the use of its contents by a Protestant. On the last day of the month for which the author’s license was available, he was officially informed that his permission did not extend to the inscriptions, but only to a few blocks of sculpture scattered up and down the Gallery. This communication was accompanied by a demand that the copies already made should be given up, which was refused; and with the understanding that no more inscriptions should be copied, and that they should not be published *in Rome*, the matter was allowed to drop.”

ARTICLE III.

THE CLAIMS OF THE NATURAL SCIENCES ON THE CHRISTIAN MINISTRY.

By Rev. John Jay Dana, South Adams, Ms.

THE dissatisfaction with existing forms of government is only one of the indications that the human mind is awaking. There is an extraordinary zeal in investigating nature. The little island of knowledge is an island still, but every year makes additions to its territory.

From the centre of this island to the region of uncertainty and doubt, the distance was formerly but a few paces; but in our days we have bold navigators, who go out into the sea of truth and find soundings where, but a few years since, none could be discovered. A half century has wrought wonderful changes in the domain of truth; for where, formerly, nought was found but quicksands, the investigator stands on a firm foundation; and the day is not far distant when this little island shall become a continent. Who can contemplate, without strong emotions, the changes which have taken place in the knowledge of the sciences within a few years. Chemistry, fifty years ago, was scarcely known; and, at that period, few individuals knew one rock from another. Even astronomy has been able to number new planets and stars among its discoveries. Electro-magnetism has had its laws declared, and the lightnings have been tamed so that they do the bidding of man.

There has never been a period of scientific investigation of nature so ample and thorough. Some fear, indeed, for the result; lest infidelity should seize hold of these investigations and make them a powerful engine for evil, and with them demolish Christianity. With these fears we have no sympathy, because we are confident that the works and word of God are but counterparts of each other and are designed to constitute one great revelation by which the glory of God shall be most conspicuously displayed. We do not tremble when we see skeptics investigating nature, because we have a firm belief that in all the works of God, they can find nothing which shall conflict with his word. We are willing that they should come with their telescopes and their microscopes, their hammers and their retorts; nay, they may come with poetry and music, and with wit and learning and oratory. They may summon all their forces from the earth, and they may make an united assault against the truth, and their efforts will be attended by no results over which they will have any reason to rejoice. The past defeats of infidelity make us the more confident of her ultimate overthrow. She may gain perhaps, now and then, a temporary triumph; but all those discoveries which, from time to time, she shall claim as impugning religion, will ultimately be torn from her grasp and turned against her.

Since there is this disposition to investigate nature, and to turn all discoveries into weapons with which to assault truth, the natural sciences have claims upon the Christian ministry, which they ought not to overlook. There are gems of truth in the physical world which are yet to be wound into a gorgeous diadem and thrown around the head of Jesus of Nazareth. The day is not far distant when some

gifted mind shall arise to investigate the physical sciences and develop their relations to moral truth, so as to make them minister to the glory of the Saviour. These sciences will be shown to be the handmaid, not of Paganism, nor of Mohammedanism, but of Christianity.

The reader will not deem it strange that, having these views, we feel a very strong desire that clergymen should investigate these sciences, that they may aid the final triumph over skepticism. Having this desire, we wish to present a few thoughts respecting the claims of these sciences on those who minister at the altars of religion.

The day has gone by when ministers in general are afraid of human learning. The day is also past, we trust, when ministers fear the influence of learning on their spirituality; but it is our impression, that while they believe in the importance of knowledge, and while they deem its acquisition perfectly compatible with their piety, and at the same time a duty which they owe to God and man, we fear lest the claims of the physical sciences have, in a great measure, been overlooked. It is our purpose to present a few thoughts on the claims of these sciences, not to the disparagement of other kinds of knowledge, but to show that what has been so much neglected, has very important claims on the attention of those set for the defence of Zion.

Concerning the importance of the study of the natural sciences by the ministry, we mention,

1. The oft asserted truth that knowledge is power. Knowledge gives influence. It matters little, in one respect, in what this knowledge consists; it gives the minister influence with the people of his parish, if they can confide in him as a man of learning. It is the duty of him who ministers at the altar to hold within his grasp as many elements of power as he can gain. Indeed it is his duty to use all lawful means to increase his influence, that he may win as many as possible to the truth. Influence should be regarded as a talent committed to our care, not only to be used, but to be increased, so that more honor may accrue to Him by whom the trust has been reposed in us.

Knowledge gives the clergyman power in this way: moral truth has weight on the minds of his hearers, not because it brings before them points capable of being demonstrated with mathematical exactness, for its nature forbids this kind of demonstration. It has power only as the speaker can gain the credence of his hearer. He gains this credence just as a party at law gains that of a jury, by bringing such witnesses as shall tend to establish the truth. What can have more weight with an audience of common minds, than the conviction that the speaker has confidence in the truth of what he asserts; when, at

the same time, they have the impression that such is his mental culture and power of investigation, that he would not receive for truth that which was false, and the confidence that he would not wilfully utter that which was untrue. If a pastor is really a learned man, and no pedant, and his people are convinced that such is the case, they may be charmed with the zeal or eloquence of an Apollos, but the pastor's words carry with them the weight of a Paul. This accounts for the amazing influence which a pastor may exert among his flock. Him they know, him they trust, and his voice they will hear; but a stranger they will not follow.

The study of the natural sciences is peculiarly adapted to give a pastor an influence over a particular class of men. We mean those of a practical turn of mind, who often find in the ministry those learned in book knowledge, but destitute of what is termed common sense. Let the pastor, from his scientific acquaintance with chemistry, be able to show a common farmer, that a kernel of wheat is composed of certain substances, and be able to indicate to him the kind of stimuli which should be applied to land to make it produce wheat; or let him, from his acquaintance with the various soils, be able to indicate why the same substance applied to one piece of land makes it bud and blossom as the rose, and causes another to be barren and unfruitful, and he confers not only a temporal benefit but a moral one, because when that individual perceives the truth of his assertions respecting the objects of nature, a foundation has been laid for his receiving with confidence what he may utter respecting spiritual objects. A few facts of this kind, mentioned by a pastor, will attract the attention of the husbandman, and tend to allay his prejudice against the ministry. The knowledge thus imparted makes him a listener, and sharpens his appetite for more knowledge; and when the truths of the gospel are proclaimed by this minister to that man, his words come home with great power.

The same is true of the mechanic, and in short of every class of practical minds. It is especially true of men of science. They sometimes sit under the ministry of one who is ignorant of all kinds of science; and while they question not his piety, nor the greatness of his spiritual attainments, his preaching does not reach them. It exerts no more influence than though it had never been uttered. Such ministers often mourn over the fact that men of science are not more frequently converted. They are not able to discover any skepticism (in the usual acceptation of that term), and yet the hearer comes and goes on the sabbath with his heart untouched. Pastors often cry, "Lord, who hath

believed thy report?" and for consolation fall back on the Scripture assertion that "not many wise men after the flesh, not many mighty, not many noble are called."¹

We are not disposed at all to question the divine sovereignty in the conversion of mankind; but we must be allowed to demur against ascribing the impenitence of scientific men to this cause *alone*. While "God foreordains whatsoever comes to pass," he accomplishes his purposes by means, means adapted to produce the ends designed; and one reason why scientific men have not been more frequently numbered among the converts to the Christian faith, is to be found in the fact that they have not given heed to the gospel because its ministers have not been such that they would listen to their teachings. From their ignorance of scientific pursuits, the clergy have not furnished an appropriate instrumentality for reaching such minds. Not that we suppose that men can be converted by science; but those scientifically inclined must hear the gospel from those whose scientific attainments are such that they will give credence to their words from the pulpit. Ministers of Jesus ought not to be so indolent as to fail to acquire that knowledge which will enable them to reach the minds of learned men, and then ascribe the fact of the continuance of such men in unbelief to a decree formed in the far-back ages of eternity. The truth is, effects must have causes, means must be adapted to ends; and until a befitting instrumentality shall arise in the form of a ministry interested in the natural sciences and ready to regard them as the handmaid of religion, are we to indulge in a well grounded expectation that many men of science will be converted. Certain it is, that scientific men must be made to *respect* the ministry, else they will not be apt to be attracted by their preaching. When the minister is a shining light in earthly knowledge as well as in religion, he may draw the votaries of science towards him by a sympathy which will prepare them to receive religious truth from his lips.

Thus far we have spoken only of scientific men who professedly regard the Bible as God's word; but there are, alas! too many who have their doubts respecting this revelation because of the supposed collisions between it and the book of nature. Must they be permitted to wage an unholy warfare against the Bible, and virtually charge God with inconsistency, and say that he has given us two revelations so discordant that they cannot both be received by us as true?

The minister versed in science, has it in his power to take such a man on his own ground, and show that the works of God indicate design, and that this proves the existence of a Designer, and so on up to

¹ Vid. 1 Cor. 1: 26.

the First Cause. Any man well versed in geology (a science which, more than almost any other, has been supposed to favor infidelity), can, from the rocks of the earth, and especially from their palaeontological remains, prove conclusively the existence and perfections of God, and can show that the supposed discrepancies between this science and the Bible are such as can be removed without doing violence either to revelation or to the leading principles and facts of this science. True, it requires thought and investigation, but it can be done; and when it is done in such a manner as to do no violence to the scientific views of men of learning, the tendency is much more happy than when they are called to lay aside their science because it is declared to be inconsistent with piety. Many a theologian, by attempting to reconcile science and revelation, while he lacked the requisite scientific knowledge, has made himself a by-word and a laughing-stock among infidels, and has injured the cause whose interests he intended to subserve. The true way to meet a scientific objector is not by proscription and denunciation, but by admitting the truth of his science, if it is true, and showing him that between his science and the Bible there are no discrepancies such as should shake his confidence in this book as a revelation from God. It is easy enough to show him that the difficulties of revelation are no greater than those of nature, and that he has no reason to reject the Bible because of these difficulties any more than the book of nature. When a pastor has it thus in his power to silence if not to convince an objector, and to do this by only taking pains to acquire the requisite knowledge, he must feel that these sciences have a strong claim upon him.

Knowledge of this kind is power in another way. It furnishes the pastor with topics for preaching, and with illustrations of truth. Some would fain have us believe that a minister must know nothing but Christ and him crucified, and must preach nothing but this one doctrine. But, it seems to us, that such have never taken into consideration the fact, that he who has familiarized himself with the structure of the earth, and has opened the grave of some animal of a genus or species now extinct, or he who has so studied the heavens that he can call the stars by name, and can trace, as in lines of light, their brilliant pathway through the heavens, or he who has made himself acquainted with the elements of the various chemical compounds by which he is everywhere surrounded, are doing something to manifest the glory of that Jesus by whom and for whom all things were created, and who is Head over all things, heavens, earth, air, and sea, to the church, to those who, by the washing of regeneration, have become or are to become the heirs of God. They cannot have considered

that this knowledge of Jesus, which is gained from his works, can be used as an argument for his deity; else they would not esteem the relations of natural science to religion as too remote and too gossamer-like to be unworthy their consideration. When can the pastor so powerfully paint the condescension of the adorable Mediator in his incarnation and death to save guilty man, as when he has expatiated on the greatness of his works, and placed him on the throne as the acting divinity of the universe? And when can he so clearly do this, as when he has been in close and scientific communion with nature, and has gone from this study to his closet and knelt under the cross and remained there till his eye took in at one glance the Creator and the Crucified, and they become so blended that they produce but one image on his mind.

Here, had we time, we might proceed to show the relations of the book of God's works to the Redeemer of the world. That the world was created and is preserved for the purpose of promoting the interests of the great work which Christ has undertaken to accomplish, and thus is designed to manifest His glory, can be doubted by no one at all conversant with the Bible. Who is to study and to develop these relations, if not the pastor? And that the pastor may do this successfully, he needs to make scientific attainments an object of pursuit.

2. The study of the natural sciences is well adapted to secure for the pastor a well balanced mind.

Mind, to be healthy, must have relaxation; and this it attains, not by inanity, but by directing its energies towards some other pursuit. The light, gay, trifling world take their relaxation in the giddy maze of the dance, or in the unmeaning frivolities of social gatherings. From such places, the pastor's good sense as well as his piety exclude him. If a man of principle and worthy to stand in the sacred desk, he will not fill his mind constantly with fiction, whose influence may destroy its tone, and unfit him for his severer duties. Yet his mind must be relaxed, or its elasticity will depart beyond recovery. Where can he find a relaxation better adapted to promote his physical vigor and intellectual scope (and one, withal, which will not blunt his moral feelings and deaden his spirituality), than in communing with nature.

Let him stroll away from the busy haunts of man and cull a flower and study it, and he will have amusement and relaxation, and will come back to the severer duties of his office with his mind refreshed and invigorated, and thus ready to grapple with new difficulties.

Or let him take his hammer and break a rock, and open the tomb of some of those ancient animals whose sepulchres are with us unto

this day, and question those organic remains respecting their laws of life and their relationships to existing genera and species, and he will find relaxation and, at the same time, gain mental power. Each day he may learn some new fact, and find some new indication of the handiwork of Jesus Christ in creation, and some new link by which this world is bound to the throne of its Maker. All the while he is doing this, he is becoming stronger, and is fitting himself, by his relaxation, to take hold with new energy in preaching Jesus Christ and him crucified.

He is thus prepared to adopt liberal views; and by not being exclusively devoted to one subject, his mind does not become so distorted that he can see truth only in one direction. He is prevented from becoming a man of one idea, and also from proscribing all those whose views do not, in all respects, harmonize with his own. He ceases to be suspicious of every new advance in knowledge; but uses all the discoveries of science as his efficient aids, and makes them minister to the advancement of his own chosen pursuit.

It certainly is a great point gained, when a minister of Jesus Christ can so arrange his seasons of relaxation, and can devote them to such pursuits as shall promote his advancement in knowledge, and thus increase his efficiency as an ambassador from heaven. His great work is to make known the truths of the gospel, and he may strengthen himself to do this by employing his hours of leisure in the pursuit of knowledge which may be made subservient to this grand aim.

It may be said that "this is out of the line of his profession," and hence should be avoided; but we ask whether it is any more so than those relaxations to which clergymen ordinarily resort?

3. We cannot close this discussion, without adverting to one other point, viz. the mental discipline which the study of these sciences affords.

The grand reason why the sciences have made such rapid advances, is because scientific men have made diligent search after facts. Theories were discarded, and students in astronomy, philosophy, geology, mineralogy and chemistry began to investigate nature with a view to know what were the facts. The old system of astronomy has given way before the light of facts, and its theories have become matters of history. The old chemical theory of the four elements has also passed away, and has been forgotten except by him who deems the history of chemistry a topic to be glanced at in an introductory lecture. At the present day, nothing in philosophy, nor chemistry, nor any other science, is considered true which facts will not warrant. The facts are

first found, then their antecedents or causes, and then the theory is formed; a theory not like the Median laws, unalterable, but subject to modifications to be suggested by subsequent discoveries.

The student of nature delights to trace the analogy between different classes of facts, and to find their relations to each other. He learns to look upon the whole natural world as a chain of many links, reaching from the bright seraph before the throne to the minutest atom which floats in a sun-beam, a chain forged by the same master hand, and in every part manifesting the most consummate wisdom.

In such exercises of mind, the student acquires that kind of discipline which is all important to the student in theology.

Of all men living, no one ought to be more earnest in inquiring after truth than the minister of the gospel; for he must needs investigate not for himself alone, but for his hearers who have not time to study, and who expect that his "lips should keep knowledge." To arrive at truth and make that truth his own, he needs to investigate, to inquire after facts and not after theories, to become satisfied what the *Scriptures* teach, rather than to conform his views to those of some one who has preceded him. To do this, to investigate, and to do so systematically, he requires no discipline better than that secured by the student of nature in his search after facts. It is needful that the pastor and student in theology should be disengaged from the trammels of old systems, and investigate for himself. He must inquire after truth, not after the opinions of others; after facts, not theories.

Many scout the idea of improvement in theology. Ready as they are to admit that in philosophy and chemistry and other sciences there has been a great advance, they are unwilling to admit that there can be any improvement made in understanding the greatest science of all. True, we are not to expect any new revelations from God; but we are much mistaken if there are not increased facilities for a correct understanding of these revelations. Recent discoveries in the natural sciences have modified the interpretations of Scripture to some extent; and doubtless the day is coming when the light of science shall enable us to see many things which have hitherto been undiscoverable. The more God's works are studied, the better his word will be understood; and the more knowledge there is respecting his word, the more certainly may we hope for that interpretation of his works which shall be productive of his glory. The better these revelations are understood, the more mankind will know of the science of theology in the most enlarged sense of that term. Each age has the advantage of the discoveries of its predecessors, and hence occupies

higher ground; and if so, the views of the present ought to be more enlarged than those of any age which has preceded it.

With many, Calvin's works are regarded as standards; others, equally honest and zealous, regard Arminius as the most correct expounder of biblical theology. Others pin their faith on the church; others, on councils; others, on the last two united; and others think the teachings of the church in patristic theology are the most true interpretations of the word of God. Each of these classes leans upon man rather than God; upon another rather than themselves for light. Such sneer at the ignorant devotees of a false religion for following his leaders without hesitation; while these religionists do not follow their guides any more implicitly than many Protestant ministers do their standard authors. They regard modifications in theology, occasioned by new discoveries in mental, moral, and physical science, of a dangerous tendency, because these views differ from what their standard authors have taught for truth.

Few men, when they know that they must be regarded by their brethren with suspicion, and perhaps anathematized, have the hardihood to come out and face the storm which will certainly be occasioned, if their conceptions or utterances of truth shall vary from the commonly received opinions. Thus one age adopts a doctrine because others have adopted it; and it is only once in a long period that there arises one who, like Luther, has the moral courage to investigate for himself and throw out his results before the world. When one such does arise, he must have a courage which nothing can daunt, or he will not carry the point at which he is aiming.

Independence of thought is the out-shoot only of independent investigation; and if ministers would be independent thinkers and preachers, they must themselves dig in the mines of truth. They must not only delve on in the same mines which have been wrought for ages, but must seek new mines, and labor in the hope of bringing to the surface ore which none other has ever seen. There is a freshness in thoughts which become ours, as the fruits of our own investigations and the results of our own labors, which those which we receive from others never possess. The theologian ought to study for himself; but to do this properly, he needs the same discipline which the scientific student of nature has. He must have his laboratory, and his retorts, and his tests, so that the precious may be separated from the vile, and so that he may not proclaim for truth that which will not abide the most severe tests. And here the reader cannot fail to note that had many theological writers possessed this kind of mental discipline, the

world would have been saved from many inundations of theological lore. Had these writers put their works to the torture and removed the error, the church would have been saved from many delusions. We hazard nothing in saying that, to a theologian, the kind of mental discipline afforded by the study of the natural sciences, is eminently important. He who can bring to the study a mind thus trained, even if it may lack brilliancy, will accomplish much.

The late Dr. Chalmers laid the foundation for a fame which has ranked him among the noblest intellects of earth, by bringing to the study of the Scriptures a mind well disciplined by reading the book of nature. The germ of his astronomical discourses was the germ of his fame, a fame which will live as long as science and Christianity are known. His preaching became the power of God to the salvation of sinners, when his well stored mind laid all its acquisitions at the feet of the Saviour, and his soul melted in love to him who blends in one glorious personage the Creator and the Crucified.

ARTICLE IV.

THE SANSKRIT LANGUAGE.

On the Grammatical Structure of the Sanskrit.

Translated and somewhat abridged from v. Bohlen's "Das Alte Indien." By W. D. Whitney, Northampton, Mass.

THE language in which are written the classic works of the ancient Hindoos bears the name *Sanskrita*, literally *composite, concrete* (from *sam* together, and *kri* to make), but in its common acceptation signifying *perfect*, as distinguished from the popular dialects, which have grown out of it. In some districts of India it has entirely passed out of knowledge, so that in the Deccan, for instance, it is enough to say of any illegible inscription, "it is Sanskrit," to put a stop to all attempts at deciphering it. It may be regarded as extinct throughout the whole country ever since the times of the Mohammedans, although still learned by the Brahmins, in order to the understanding of the sacred books, and even occasionally made use of in learned composition. And had nothing come down to us from Ancient India saving the grammar of their admirable language, and of this only the verb,