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CHAP. XXII. *How the truth of the Old and New Testament is shown in the things which have been said.*

Boso. All things which you have said seem to me reasonable and incontrovertible. And by the solution of the single question proposed, do I see the truth of all that is contained in the Old and New Testament. For, in proving that God became man by necessity, leaving out what was taken from the Bible, viz. the remarks on the persons of the Trinity, and on Adam, you convince both Jews and Pagans, by the mere force of reason. And the God-man himself originates the New Testament, and approves the Old. And, as we must acknowledge him to be true, so no one can dissent from anything contained in these books. *Anselm.* If we have said anything that needs correction, I am willing to make the correction, if it be a reasonable one. But, if the conclusions which we have arrived at by reason, seem confirmed by the testimony of the truth, then ought we to attribute it, not to ourselves, but to God, who is blessed forever. Amen.

ARTICLE IV.

THE NARRATIVE OF THE CREATION IN GENESIS.

By Rev. John O. Means, East Medway, Mass.

It is proposed to give an exposition of the first chapter of Genesis, with the first three verses of the second chapter, which complete the narrative of the creation.

The object is, to learn what God teaches in this portion of Scripture. It is important to bear this in mind. We receive the Bible as written by Divine inspiration. This passage, especially, must be regarded as purely matter of revelation. These facts could not be known in any other way. No human being was present to observe these scenes. This is, in the absolute sense, a Divine communication. Our object, then, is to learn what God designs to communicate.

This relieves us from discussing the question, whether Moses wrote this narrative; and if he did, whether he consulted previous documents. It also renders it needless to ask, how Moses understood it, and what he meant to teach. The writer of this passage was the channel through which the revelation was made. He may have comprehended it; and he may not. It would confirm our judgment, to find that the writer—who is believed to be Moses—received the same meaning we put upon it. But it is possible he did not fully comprehend it. He might be inspired to record the revelation without being inspired to interpret it. As much as he knew may have been correct. But there may have been more included than he could comprehend. The Apostle Peter represents the prophets who predicted the sufferings of Christ as not knowing what the spirit of Christ which was in them did signify, when it testified beforehand of the sufferings of Christ (1 Peter 1: 11). So Moses might be commissioned to record this Divine statement of the work of creation, without being able to understand it fully himself. It is objected to some explanations of this chapter, that Moses could not have known what they imply, and therefore they are not true. If it is Moses speaking here, then no sense can be put on the words which Moses did not intend. But if, as we maintain, it is God speaking through Moses, then the only question is, what does God teach in these words?

By making it our object, however, to discover the meaning God intends to convey, there is no room for arbitrary interpretations. There are two conditions by which the explanation is necessarily limited: It must be such as the language will allow, and it must be such as is consistent with what God teaches elsewhere. It must be consistent with the language of the revelation. It must not contradict that language. It must express all that the language expresses. It will be no explanation unless it explains all and denies nothing that the words mean. But it may go beyond the record, or it may not, without being inconsistent with it. If the explanation contains more than the record, it is not necessarily inconsistent with it. On the other hand, it is necessary to gather such a meaning from the language as is consistent with the other revelations of God. No one can question that God has given man knowledge in other ways besides in the Bible. However we distrust reason, there are truths discovered by it which admit of no question. And this special revelation

cannot be inconsistent with them. There must be such a meaning in the record as will harmonize with other truths.

To understand this chapter, then, we must attend to the meaning of the language and to the facts of science. Some look only to philology, and say it teaches this. Others look only to science, and say it ought to teach, and, therefore, does teach, that. A true interpretation will harmonize the demands of the text and the demands of science.

It will clear the way for subsequent progress to make some preliminary statements.

1. There is an *apparent* conflict between the record and science. It is well to concede this. It has always been a perplexing chapter. The earliest commentators exercised their ingenuity upon it. The discoveries of astronomy opened new difficulties. Geology has seemed to conflict with it. Some maintain there is no difficulty. But this is not the feeling of persons of moderate intelligence. There are those who know so little of science that they are at ease. There are others who know so much that they find no difficulty. But to the great body of Christians there are perplexities in this chapter, arising from an apparent conflict between its statements and well-established scientific truths.

2. But, in the second place, it must be understood there is no *real* conflict. It is only apparent. We believe this record. We believe the facts of science. And we believe they are consistent. There is a way in which they may be reconciled. Our object is, to find this out. And we shall keep trying till we succeed. Because the consistency may not now appear, we do not set aside either the Bible or science. It is unphilosophical to give up the Bible, and it is unscriptural to renounce science. They are both true, and the truth of each will yet be made to appear. Difficulties which seemed insurmountable have been removed. The progress of knowledge has cleared up obscurities. The difficulties we are called to meet are not so great as those which staggered the theologians of the seventeenth century. Those difficulties have been removed by further investigations, without any sacrifice of truth. We believe this will be the case in regard to the geological perplexities of this chapter. We may wait for further light, instead of asserting or denying too positively. No one can shake our confidence in the truth of the Bible. The evidence for it is so strong that it cannot be

set aside. It is true, we may misapprehend it. But the truth is there, and what is there is the truth. And so there are facts in science which cannot be set aside. The dogmatism which denies these facts denies the reliableness of our faculties. And if our faculties are not to be trusted, we cannot trust them to study the Bible.¹

3. While we are to believe there is no real conflict, we are not to expect to clear up every difficulty.

Let it be understood, that we are unable to reconcile everything to our satisfaction. Those who say there is a real contradiction between the cosmogony of Moses and the teachings of science, go too far, when they demand that we clear up the matter, if it can be cleared up. Because we cannot solve the difficulties *now*, it does not prove that we may not be able to, by and by. It is unreasonable to demand that all difficulties be removed at once. No one fully understands the record as yet; and no one has grasped all the facts of science. There are no inspired commentators of Moses. No one knows the mind of God so fully that he has the right to say: This is the meaning of God in this chapter. There are men who thus pronounce, it is true. But their assurance is in an unwise proportion to their knowledge. And then, the sciences are as yet in their infancy. They are growing. They have not nearly attained completeness. There are changes in the views of those most conversant with the sciences. In the nature of things, all difficulties can be removed only when the sciences are complete. When all possible facts are known and registered in their right places, when the science which is now but a segment of a circle is rounded to completeness, it will be fair to ask: Does revelation tell the same story? And the man to answer that question must have a perfect comprehension of the Scriptures. An inspired Bible interpreted by an inspired commentator, and a complete science understood by the same mind, is essential to remove every difficulty. We should not expect this at present. It becomes us to be modest and believing.

We concede that there is an apparent conflict between this chapter and the indications of science. We deny that there is a

¹ On the apparent conflicts between science and revelation, see the admirable Article of President Hitchcock, entitled: *The Relations and Consequent Mutual Duties between the Philosopher and the Theologian*, in this Review, Vol. X. p. 166.

real contradiction. We do not expect to clear up every difficulty. It is enough to suggest possible methods of reconciliation.

4. Before considering any suggestions, however, it must be understood that we have in this chapter a record of *facts*. That this purports to be a veritable narrative of real events, appears on the face of it. No one would think of denying it, but to avoid difficulties.

Some suppose this is a statement of the notions prevalent when the book was written, and that it has no more ground of belief than the cosmogony of the Egyptians. It is said there were, probably, existing documents, written by different persons, from which Moses compiled this account. The style of the narration, the different forms of the words by which God is designated, in this and the succeeding chapters, indicate different authors.¹

It is not necessary to go into the question how the author of the cosmogony received his knowledge. There would be no discredit to the truth, if it should appear that Moses wrote by consulting existing documents, as Luke wrote the Acts by the use of existing materials. But it must be understood that Moses did not gather fables, which were passing from mouth to mouth, and make them history. The supposition of preëxisting materials is used to shake the authority of the record. For this purpose, it cannot be maintained. It may be that these facts had been communicated to men before Moses lived. There is nothing improbable in supposing that Adam, and Enoch, and Noah, and Abraham, knew them. From them they might be transmitted till Moses incorporated them in this record. The only point which is vital is, that, as they exist here, they were revealed by God. They could not be known by eye witnesses. If they are not revelations, they are myths. The point we make is, that however they were suggested to Moses, whether through the patriarchs, or by immediate communication, they are from God. The original narrator, whoever he was, received these facts from God. If Moses did not receive them directly, he was guided in selecting what was true in previous accounts; he was guided in recording all the truth in them; and he was made to present the

¹ The English reader will find the speculations on this matter well presented in Theodore Parker's translation of De Wette on the Old Testament, with Additions, Vol. II. § 76. pp. 150 seq., where references are given to most of the German advocates of the Jehovah and Elohim hypothesis.

truth in its just relations. So far as any avoid the difficulties of this chapter, by saying: It is the Egyptian cosmogony reproduced by Moses; the ground we take is, that this is no *theory* of man, it is a veritable record of facts.

5. While we thus assume the simple and entire truth of the Mosaic narrative, we also maintain that science has disclosed veritable facts in the material universe.

There is an important distinction between the facts of science and the theories of scientific men. The facts are one thing. The theories proposed to account for the facts, the methods in which the facts are made to bear on each other, are distinct from the facts themselves. There has been such a mingling of fact and theory in geology, that many have regarded the whole science with distrust. As we are now to meet geological facts chiefly, it seems proper to say a word upon this matter. There is something in these facts themselves which make a great demand on our faith. The imagination is excited by the astounding changes which seem to have taken place. The calmness of the judgment is disturbed by them. The mind receives these disclosures with some such amazement as it would receive miracles. It is difficult to believe them, they are so marvellous. One needs to see and know by the testimony of his own senses. Hence it is not strange that those who only hear or read of these things should be slow of heart to believe them. They appear less credible than that the observers are mistaken. It cannot be doubted that the amazing nature of the facts brought to light by geology has indisposed those who had no practical knowledge of the science to assent to them.

With this indisposition, on account of the character of the facts, the more astonishing theories of geologists have tended to increase distrusts. It is not too much to say, that the geologist has not adhered closely to the great canon of the inductive philosophy. He has deduced theories before he had laid a sufficient basis of facts. There has not been that patient observation, such as Newton, for instance, made, in finding the law of planetary motion. What geologist, for a slight discordance, has laid by his theory for twenty years; and, when the decisive fact was found, gone back to the old position? The canons of induction, which the author of the *New Organon* lays down, have not been very strictly observed. Many of the tests have

been neglected, and some violated, by enthusiastic men. There has been too frequent worship of the various *Idola*, which we are told seduce men from the pure truth. It cannot be denied that there has been too much theorizing in geology. Among the humble and patient investigators there have been multitudes of empirics; and the truth has suffered.

The very popularity of the science may have been unfavorable to its reception by those not drawn within the vortex. Like phrenology and mesmerism, it has been a favorite theme for smatterers to talk and lecture about. Even the masters of the science have innocently increased the distrust which pretenders occasioned. It may seem strange to say that eloquence injures a cause. But the style in which authors wrote about geology, and the enthusiasm with which they lectured, made many suppose it could hardly be a sober science. There was reason for their enthusiasm. There is something in geology which enlarges the conceptions. Gigantic results are reached. The mind becomes accustomed to magnitudes. And this, without the discipline of mathematics, which keeps the astronomer, while contemplating greater things, calm, and accurate in fine distinctions. It seemed as though converse with mountains had lifted the geologist out of the region of sober thought. Plain prose became insipid in describing what he saw in the bowels of the earth. The over-exercise of powers of observation may have allowed the logical understanding to rust; so that he did not reason with as much caution as logicians demand. It cannot be questioned that the way in which geology has been treated has prevented some from receiving its facts as sober verities.¹

¹ Scientific investigators have felt most the injury which extravagant theorizing has done to geology. Sir Charles Lyell says: "While writing this chapter (April, 1830), I happened to attend a meeting of the Geological Society of London, where the President, in his address, made use of the expression, *a geological logician*. A smile was seen on the countenances of some of the audience, while many of the members, like Cicero's *Angurs*, could not resist laughing; so ludicrous appeared the association of geology and logic."—*Principles of Geology*, Vol. I. p. 225, London, 1830. This note is struck out of the recent editions.

Prof. Powell says: "In the earlier stages of geological science it was in a singular degree abandoned, as it were, to groundless hypothesis, often framed in utter defiance of all principles of analogy." "It may be freely admitted that the most extravagant speculations have occasionally been obtruded on the world, under the name of geological theories."—*Connection of Natural and Divine Truth, etc.*, pp. 55, 60.

Some of the distrust of theologians has doubtless arisen from the supposed opposition of the science to religion. Like some other sciences, at its origin geology was brought forward to overturn the Bible. And, without waiting to see the issue, theologians denounced it beforehand.

While thus we might account naturally for prejudices against geology, we are mortified to confess that, in the discussions which have arisen about its relation to the Bible, the geologists have shown more good sense than their opponents. The theories of the geologists were at least plausible. The explanations they gave were ingenious. The mind was stimulated and entertained by them. They could not be charged with stupidity. Their opponents undertook to set up theories, to account for the observed facts; and thus defeated themselves. Most absurd suppositions were gravely made and argued about. It was marvellous, what enormous creatures were begotten to devour the Mastodons and Megatheriums. It became an interesting fact of psychology, to see what the imagination could conjure up, when sober theologians, whose juices were dried away, and whose imaginations were supposed to be sterile, were brought suddenly face to face with the monsters of the old world.

The defence set up against the geologists made plain men uneasy. The defenders created more consternation than the assailants. We *would* not side with the geologists, for we held to the Bible. We *could* not side with the assumed champions of the Bible — *defensoribus istis* — for we held to common sense.¹

Geology and the Bible no longer look askance. Standing by the truth of the Scriptures, we also maintain that geology has established certain facts. The theories we may allow, or may not. The facts we receive. And we believe there is no discrepancy between them and revelation. The point is, to ascertain the facts of this record, and the facts of science, and lay them side by side.

6. It may be remarked, that there are certain great truths undeniably taught in this narrative of the creation; and that science teaches the same truths. There are plain facts stated

¹ If any doubt the justness of these remarks, their doubts will be removed by reading the Essays in Defence of the Bible against Geology, in the London Christian Observer, April, May, June, and August, 1834; and some recent publications even, in this country.

here which he who runs may read; all these are confirmed by science. The whole difficulty is in the details. It should be noticed, as we consider these truths, that they are of most practical importance; they are the religious and moral truths, for which specially the Bible is given. The details which occasion perplexity relate chiefly to physical facts.

(1) The fundamental truth taught by Moses is, that God is the author of all things. Whatever this narrative means, it represents God as the originator of the universe. We have a denial of its spontaneous origin, or of its formation by a fortuitous concourse of atoms. Now it cannot, perhaps, be said, geology teaches that God is the author of all things. Its disclosures do not reach so far. But it says nothing against it. All its testimony is favorable to it. There is no indication of chance; there are abundant indications of foresight, of intelligence and wisdom in the construction of things. The utterance of geology is in favor of law; and law involves an intelligent lawgiver.

(2) Another truth taught by Moses is, that that was a commencement to the present system of things. Whether or not he teaches an absolute beginning, he teaches that the present system is not eternal. This is a great truth. It involves many more; especially the kindred truth, that this system may come to an end. And both of these truths are taught by geology. Dr. Chalmers makes this the prominent argument to prove the existence of God; others assert it to be the only conclusive argument. We learn beyond question that there has been a beginning to the things which now appear; and if a beginning, some one began it, who is God.¹

(3) Again, this chapter teaches that there was a regular order in creation; that first one order of things was made, and then another. It teaches that there was progress in creation: first, matter was arranged; then it was animated in the lowest forms; and to this succeeded a higher organization, till all was consummated in man. Geology also declares that there has been a regular order of creation. It indicates a progress, possi-

¹ Dr. Chalmers seems to be the first who gave prominence to this physical argument over the old metaphysical arguments for the existence of God. He states his views at large in his *Natural Theology*, Book II. Chap. 2; and condenses them in his later work, *The Institutes of Theology*, Vol. I. Book II. Chap. 1. § 12 seq. This proof is insisted on to the exclusion of all others by Professor Haven, *Bib. Sacra*, Vol. VI. pp. 625 seq. See also Hitchcock's *Religion of Geology*, Lecture V.

bly interrupted, in some instances, from the lowest to the highest kind of life. Thus there is a beautiful harmony on this grand point of the cosmogony.¹

(4) Moreover, this narrative not only teaches that there has been progress from the lower to the higher, but that this progress has been by the introduction of new species. The creation is not represented as the development of a germ, but as a successive series of interpositions. The earth is not said to develop into plants, and the plants grow to animal forms, and the animals become transmuted into higher and more perfect creatures, till man appears the ripe fruit of teeming chaos. The narrative of Moses plainly teaches that each kind of existence was the result of special creation; and that while one prepared

¹ All admit that "there is a general resemblance between the order of creation, as described in Genesis and by geology" (Hitchcock, Religion of Geology, p. 65), though some question the propriety of dwelling upon it, because of discrepancy in the details. But the coincidence, to the extent it reaches, is certainly remarkable. The resemblance between the order in Genesis and that indicated by science, is so great as to confirm our faith in the Bible. At the same time, there is a discrepancy which, while it does not affect a statement so general as that of Moses, overthrows the theory of development by law; a theory which requires progressive advance in *details* as well as in the general. That there was an advance in the general, from lower to higher forms of life, science proves. It is true, the remains of animals, shells and fishes are found in the oldest strata, and few remains of sea-plants, and none of land-plants, till more recent formations. But no one can question that plants existed before animals. The testimony of geology is negative; it does not find remains of plants below those of animals. But this does not *disprove* that they existed first. We are compelled to believe they preceded animals, for there can be no fauna without a flora to uphold it. Vegetation is the natural, intermediate link between inorganic matter and animals. Animals cannot live on inorganic matter, which must be prepared for them by the process of vegetation: or they must feed on each other, which always presupposes the existence of organic food."—Prof. Guyot. The opinion of those geologists is rational, who suppose the violent action of fire which is apparent upon the lowest strata, destroyed the vegetable remains they may have contained. The order of Genesis is, from vegetable life, through fishes and reptiles to land animals and man. And science indicates that there has been progress from inorganic to organic life, in the same order. The narrative of Genesis does not teach that there was also progress in *each species*, from lower to higher types. This is the Development Hypothesis. And such a progressive advancement science disproves. The earliest forms of life known to geology are not of the lowest grade of organization merely. On the contrary, some of the earlier forms were of higher types than those which succeeded them. Some of the earliest fishes, for instance, were of the highest grade of organization.—See H. Miller's *Asterolepis* of Stromness. The living species of *nautilus* is far below the extinct *ammonite*.—Buckland's *Bridgewater Treatise*.

the way for the other, by supplying conditions of its existence and growth, there was no casual relation between them; that there was a distinction in essence between the several species. Hereby Moses sets aside the ancient doctrine of the transmutation of species. He declares that men neither grew from the mud of the Nile, nor were fashioned over out of well-formed apes. The modern theory of development from one species to a higher is as summarily despatched. No one can read this narrative and not feel that there was an independent creation of each species.

And this important truth, after having some doubts cast upon it by immature investigations, is established by science, as far as it is capable of being established. If the question had not been decided on sufficient grounds before, the investigations of Hugh Miller, on the *Asterolepis* of Stromness, must be regarded as the *experimentum crucis*.¹

¹ The language of Gen. 1: 11, 12, 20, 24, gives no countenance to the Development hypothesis. It is indeed said: "Let the earth bring forth grass," and "The earth brought forth grass;" "Let the waters bring forth abundantly the moving creature that hath life." But this, by the very terms, is shown not to have been a spontaneous generation from the earth and from the waters. "God said, let the earth bring forth," etc. The text teaches that there was no power of development of themselves, in the earth or in the water. They could only bring forth as God commanded. The sense in which they brought forth is shown by the following verses, where it is expressly said: "God created every living creature which the waters brought forth." Moreover, according to the Development hypothesis (see last edition of *Vestiges of the Natural History of Creation*), it was not the earth that "brought forth grass and herb yielding seed," but the sea. "Organic life," we are told, "is from the sea."

It falls in our way to notice this hypothesis. The theological bearings of it seem to have created needless alarm. It is a gratuitous assumption that Atheism would be the legitimate inference, if it could be proved true. It is only multiplying second causes, which in fact increases the proof of an originator and controller of them. Indeed, the Development hypothesis, in some points of view, elevates our conception of God. To suppose the elementary molecules of matter were endowed with the capacity of development into all the forms of life which the universe presents; to suppose the machinery of the system was made so perfect as to bring about this infinite variety, and that, through countless ages, without once requiring special intervention, is to enhance, if possible, our conception of the wisdom of the Creator. "If it be thought more in conformity with what we see of the modes of material action, to suppose that the primeval system contained within itself the elements of every subsequent change, then is the primeval matter to the matured system of the world, as the seed to the plant, or the egg to the living creature. Following for a moment this hypothesis: Shall this embryo of the material world contain within itself the germ of all the beauty and

(5) And lastly, the recent creation of man is plainly stated in this chapter. However the rest is interpreted, no one maintains that Moses assigns the creation of man to a very remote period. He places this after all the rest. He assigns man the last place, and indicates that this is not very far distant. And science coincides in this particular. Whatever it teaches as to the age of the earth, it tends to confirm the Mosaic account of the creation of man being last and not very remote. There are no human remains found in any but the most recent deposits; none older than those deposits which are probably within the period of history. There are none in the strata formed previous to the last great change of the earth's surface. While a great many thousand years may have been requisite for the changes previous to the present state of the earth's surface, the indications are that this is by far the briefest of the geologic periods; that it is not very extended. It offers confirmation to the statement of this chapter, that man is a new comer to the earth.¹

So far there is not only no discrepancy, but the statements of Moses and of science harmonize. On these great truths their testimony agrees. These are the vital truths of the revelation.

harmony, the stupendous movements and exquisite adaptations of our system; the entanglement of phenomena held together by complicated laws but mutually adjusted, so as to work together to a common end; and the relation of all these things to the functions of beings possessing countless superadded powers, bound up with life and volition? And shall we then satisfy ourselves by telling of laws of atomic action, of mechanical movements and chemical combinations; and dare to think that in so doing we have made one step towards an explanation of the workmanship of the God of nature? So far from ridding ourselves, by our hypothesis, of the necessity of an intelligent First Cause, we give that necessity a new concentration, by making every material power manifested since the creation of matter to have emanated from God's bosom by a single act of omnipotent prescience." — Prof. Sedgwick's *Discourse on the Studies of the University of Cambridge*, pp. 28, 29, second edition, 1834.

We need not consider this hypothesis as theologians. Let it stand or fall, as science may determine. Among the numerous reviews and examinations of it, there is a lucid presentation of the whole theory, and a thorough discussion and refutation of it in Sir Charles Lyell's *Principles of Geology*, Chapter on *Distinction of Species*, edition of 1853.

¹ On the recent origin of man, see a full statement of the evidence, in Lyell, *Principles*, etc., Chap. IX. p. 147, ed. 1853. Also Hitchcock, *Religion of Geology*, pp. 169, 341. *Biblical Repository*, Vol. V. pp. 449 seq. Dr. J. Pye Smith, *Geology and Scripture*, Supp. Note, p. 361. Bohn's edition.

They are of sufficient importance to be made known in this way. They are the great lessons which the chapter is designed to teach: that God is the author of all things; that the present system is not eternal, but was fashioned by God; that He followed a regular order in creation, proceeding from the lowest to the highest, till man completed the series; that each species is essentially distinct from the others, and resulted from a special act of creation; and, that man, coming last, is of comparatively recent origin — these great truths are plainly taught by Moses, and are confirmed by science. And, it may be said, it would be enough if no more was revealed. These are all that it is for man's moral or religious good to know. "The Bible is not designed to teach science, we are only to look for religious truth in it." And, so saying, many seek no further elucidation of this chapter. The details are passed by.

If it were possible, it would be well to rest with the statement of these general truths. We should thus escape all difficulties. But there is one insurmountable difficulty in taking this course. We are told to receive the general truths, and pay no heed to the details. But the general truths are made up of details. If the details are false, the general facts they constitute are false. The general statements are made up of particular statements. And if each, or most of the particular statements are not true, of what use is the general statement? And then, if it were possible to derive a general statement that was true from details which were many of them untrue, the statement, as *authority*, would be of no value. The credit of the authority is impeached if the subordinate particulars are disproved. The statement may be true for other reasons; it has no weight from the testimony of the narrator. If a witness states a fact which consists of many particulars, and most of these particulars are shown to be false, the credit of the witness is destroyed. The one fact may be true; but it will stand on its own credibility, or on other evidence. So, if Moses teaches certain great facts, by, and in connection with, many subordinate facts, and these subordinate facts are disproved; the credit of Moses is of no value in regard to the great truths. They may be received for their own sake; they may be known in other ways. But they cannot stand on the credit of the Mosaic record. When, therefore, it is said, Moses was inspired to reveal religious truths, and not science; besides the difficulty of sifting out the religious truths,

the impossibility of showing that scientific truths, in certain bearings, are not absolutely religious truths, there is danger of impeaching the truthfulness of the record. Though it was not intended to teach scientific truth, it was not intended to teach error; it was not intended to mislead men.

This objection, and others of greater moment, lie against the theory of Dr. Knapp,¹ and others who suppose Moses simply gives a pictorial representation of creation: that a "general impression is intended to be conveyed, which is true, but that the machinery is of no account." The trouble is, when you take away the machinery there is no picture left. The narrative is absolutely made up of incidents.

There is a similar view presented by Prof. Baden Powell, of Oxford, in the Article on "Creation" in Kitto's Cyclopaedia; and the large circulation of that Cyclopaedia renders it proper to examine this theory. Prof. Powell² supposes certain *great* truths are taught by Moses, and that the rest is of no account. "The one grand fact, couched in the general assertion that all things were created by the sole power of one Supreme Being, is the whole of the representation to which an historical character can be assigned. As to the particular form in which the particular narrative is conveyed, we merely affirm that it cannot be history—it may be poetry."³ He maintains that it is purely an accommodation to the views of the Israelites. Moses desired to impress upon them certain truths, and to introduce among them certain institutions. To accomplish this, he feigns this narrative. "The first great truths with which they were to be impressed were, the unity, omnipotence and beneficence of the Creator; but these great doctrines were not put before them as abstract, philosophical propositions, which their narrow and uncultivated minds would have been wholly incapable of comprehending; they were, therefore, embodied and illustrated in a narrative, proceeding, step by step, in a minute detail, to assert, in each individual instance, the power and goodness" of God. "Another very material object was to remind them, in

¹ Knapp's Theology, translated by L. Woods, Jr., Book I. Part 2, Art. V. § 50.

² The theory of Prof. Powell is presented more at large in his suggestive volume, entitled: *The Connection of Natural and Divine Truth, or, The Study of the Inductive Philosophy considered as Subserving to Theology*, London, 1838, pp. xiv. 313. The Article over his signature in Kitto is a more recent and condensed statement, and the quotations are, therefore, from it.

³ Kitto, Vol. I. p. 485.

like manner, that those very beings, the animals which formed the idolatry of the Egyptians, to which they were so prone, were in truth but the creatures of the true God; hence the importance of dwelling, with minute particularity, on their creation and subordination to man; as well as the express prohibition of worshipping even the images of them, or so much as making such images." "The third and *chief* object in this representation of the creation was the institution of the Sabbath. . . . As the work of creation with reference to the different classes of beings was associated in their minds with each of the six days, so the seventh was identified, in the order of the narration, with the entire completion of the work, the Divine rest and cessation from it, and the solemn sanctification of it pronounced. . . . They were thus led to adhere to this duty, by reflections connected with the highest truths impressed under the most awful sanctions; and the wisdom of the injunction, not less than the means thus taken to secure its fulfilment, cannot but the more fully appear the more we examine the character and genius of this singular people."¹

Such is the theory. But if it be true, certainly no *special* wisdom ought to be attributed to Moses, for taking such means to establish these institutions. For, if this is not, it assumes to be, an historical narrative; and to impose falsehoods on men, that they may be religiously impressed, is an old trick of pagan priests. The magicians of Egypt could have taught Moses as much. But what does Prof. Powell mean, in saying the Israelites "were led to the observance of the Sabbath by reflections connected with the highest truths impressed under the most awful sanctions?" By his showing, it was fictions, instead of "highest truths," with which their reflections were connected. And as to "the most awful sanctions," there was no sanction; for he maintains that there was not the least ground, in truth, for basing the observance of the Sabbath on the rest of the Creator. "In whatever way these details may be interpreted," he says, "they clearly cannot be regarded as an *historical* statement of a *primeval* institution of a Sabbath; a supposition which is, indeed, on other grounds, sufficiently improbable, though often adopted."² As he thus sets aside the record of this particular truth, so he denies all the other special statements.

¹ Kitto, Vol. I. p. 485.

² Ib. p. 486.

But if Moses feigned all this, and imposed it as true on his contemporaries; if he gave no inkling that it was poetry, but made it the basis of legislation on most important points, what credit is due to him, when he speaks about the unity, and power, and goodness of God? Who knows that this is not also a pious fraud? Certainly, as testimony of Moses, if this theory be adopted, no value is to be attributed to anything he may say on any doctrine. His declaration cannot even support the unity of God. As to the inherent improbability of this explanation, nothing need be said. All that is necessary for our purpose is to show, that if true, if the details of this chapter are to be thus swept away, the general truths go with them. There is no way in which we can hold to the one and deny the other. The general truths which have been already dwelt upon, and which seem clearly taught, cannot stand, unless we can offer at least possible explanations of the difficulties in the details. We must grapple with them.

The difficulties in the details may be classed under four particulars. There is a question, first, whether this is an account of the *creation*; and whether it relates to the *universe*, or to the *solar system*, or simply to the *earth*. The second, and great difficulty, is in regard to the age which seems to be assigned to the creation; the third, is the length of time consumed in the successive creations; the fourth, is in regard to some particulars of the several creations, such as the double creation of light, and the special work of each period. We will consider them in their order.

First difficulty. Is this an account of the creation of things; or, is it an account of the construction of the solar system; or, does it simply relate to the present constitution of the earth?

The assumption is, that we have an account of the creation of things, and not merely of the construction of the solar system, or of our globe, out of preëxisting materials. This is supposed to be taught in the first verse: In the beginning God created the heavens and the earth. That it is an absolute creation is said to be implied in the several phrases: "in the beginning," by which is meant, originally, at first; and "created," which is the proper word to convey the idea of causing to exist what did not exist; and, that which was created, "the heavens and the earth," under which all things are comprehended.

To this it is objected, that Moses teaches merely the *constitu-*

tion of the *present* system, without affirming or denying the previous existence of matter; that perhaps he only asserts the commencement of the present arrangement of *this globe*. The reasons assigned for this opinion are two: the impossibility of conceiving or expressing a creation out of nothing, and the ease with which geological difficulties may be cleared up by it.

It may perhaps be conceded, that, if we have simply an account of the re-arrangement of materials, it is easier to meet the demands of geology. The changes which geology indicates as having occupied so many ages, may have taken place before the narrative of Moses begins. Time enough may be granted without disturbing the Mosaic record. The metaphysical objection to the possibility of conceiving absolute creation from nothing, though it may arise in the minds of more than like to acknowledge it, should not be of weight against the apparent meaning of the record. It is simply asserting the eternity of matter. Perhaps it is impossible to *demonstrate*, by a logical process, that matter is not eternal. This, however, need not disturb us. For it is as impossible to *demonstrate*, by logical processes, the present existence of matter. The old arguments, which Bishop Berkely re-stated so beautifully, cannot be destroyed by *arguments*; or, if they can be, the *matter* will remain as it was. Demonstration, specifically speaking, does not bear upon it. If any one asserts, if any one believes, that matter has no existence, or that it is self-existent—that it is eternal, we must appeal to what are called, variously, “primitive judgments,” “intuitions,” and “principles of common sense.” With this appeal, the metaphysical argument may be left. And, as to the gain for theology, in this interpretation, it is not great. Greater difficulties would remain in the subsequent views, though it be supposed that changes took place before the events of the first verse.

The propounders of this theory are strongest in raising objections to the arguments which commonly are alleged in proof of an absolute creation. They say, the first verse does not *necessarily* imply an absolute creation; it may mean the first arrangement of the present system. “In the beginning,” is an indefinite phrase. Beginning of what? The idea is answered by saying, the beginning of this system of our world, of what we are concerned in. It cannot be *proved* that בְּרֵאשִׁית is put

for the absolute beginning. And, as to the word *create*, it is not the primary meaning of בָּרָא ; it is not its predominant meaning. Its primary meaning is, *to form by cutting, or carving out*, which implies a preëxisting material. It is often used to mean *fashioning, arranging*. And the phrase, "the heavens and the earth," do not, *necessarily*, imply all things. They may mean only our system. They may mean only this globe and its atmosphere.¹

It is undoubtedly *possible* thus to explain these phrases; they may be so explained, if there is no other way of removing difficulties; but it should be only the last resort. For it appears to be the intention of Moses to affirm the primitive creation. God is elsewhere declared to have created all things; at least, this is the general interpretation of other passages. He styles Himself, the Creator. In Heb. 11: 3, it seems to be asserted that the world was made out of nothing.—*Τὸ μὴ ἐκ φαινομένων ἐξ βλεπόμενα γεγονέναι*. The phrases which Moses uses are the fittest, and the only ones, to describe an original creation. They are the fittest phrases. They come as near expressing the idea as language can come. It is not possible to find phrases to which no exception could be taken. The idea is an original idea. No word can utter it. If we could find in the language other terms more appropriate, it might make us doubt whether these terms do not mean something else. But if Moses intended to assert the creation of things absolutely, he could only say what he has said. The words express an absolute creation as they are commonly understood. Science has no difficulty with this interpretation. Whether or not matter is eternal, it does not affirm. Its observations do not reach so far. It has nothing to object to the assumption of an absolute creation. Science intimates a beginning of present forms, but it neither affirms nor denies when and how the molecules originated.

Our conclusion on this first difficulty is, that Moses, in all moral probability, teaches the absolute creation of the universe. To some, the evidence may seem to warrant a stronger affirmation. All will concede, in weighing the arguments, that the probabilities are very decidedly in favor of this interpretation. At the same time, it is *possible* that only the construction of the globe, as it now appears, from preëxisting materials, is meant.

¹ See illustrations of these positions, in "Genesis and Geology," by Denis Crofton, B. A. Boston, 1853, pp. 32, 22 seq.

If it should be found that the facts of science can be explained in no other way, there need be no hesitation in adopting it. At present, the probabilities are very decidedly, that an absolute beginning of things is *taught*.

The *second difficulty* is in regard to the age which seemed to be assigned to the creation. The assumption is, that Moses assigned a short period. Whereas science assigns a long period.

It is assumed that Moses implies that a short period has elapsed since the creation. The first verse is supposed to be connected immediately with the following, so that there was no great interval between the original creation and the work of the first day. Then six literal days are thought to be consumed in successive creations, in the last of which Adam appears. He lived nine hundred and thirty years. And, by reckoning the generations which succeed, there is an interval of six or eight thousand years, according to different estimates, to the present time. There would be some six or eight thousand years, then, since the events recorded in the first verse.

Now science intimates that the universe has existed a much longer period. It cannot be regarded as a theory; there are facts which indicate an immense length of time since primeval chaos.

1. The most conclusive evidence of the antiquity of the system is afforded by astronomy. It is sufficient to name one evidence it presents. By dividing the distance of the remotest stars by the velocity of light, we find the length of time since the light left those stars. There are stars so distant that the light which reaches us from them must have taken its departure before the assumed period of the creation. This rests upon mathematical demonstration. We can measure the distance of the heavenly bodies. No one can question the reliableness of the process by which this is determined. In their own province, figures cannot lie. We can as accurately determine the velocity of a ray of light. By taking these unquestionable facts, we demonstrate the great antiquity of our system. For we find the velocity with which a ray of light passes from a luminous body to be 192,000 miles in a second. Thus a ray of light reaches the earth in eight minutes from the sun. Now, as we see objects by rays of light passing from them to our eyes, it follows that we do not see the heavenly bodies *as they are* at the moment a ray of light reaches us, but as *they were* at the

moment the light *left them*. We do not see the sun as he is now, but as he was eight minutes ago. Uranus appears, not as he is at the moment his light reaches us, but as he was two hours previously, when the rays of light he sends to us took their departure. Sirius, regarded as the nearest of the fixed stars, is so distant that its light is six years and four months in reaching the earth. In other words, we see Sirius as it was six years and four months ago. "A star of the twelfth magnitude presents itself to our eye as it was 4000 years ago; so that, suppose such a star to have been annihilated 3000 years back, it would still be visible on the earth's surface for 1000 years to come." But Sir William Herschel discovered nebulae, with his forty feet reflector, so far beyond stars of the twelfth magnitude, that we can form no conception of the distance. He expresses this distance as more than eleven and three fourths millions of millions of millions of miles. These calculations were conducted with the greatest care, and corroborated by facts independently ascertained. Now, taking the distance of those objects and dividing it by the distance light traverses in a year, it appears that the light cannot have been less than one million and nine hundred thousand years in its progress. The nebulae which can now be seen by the most powerful telescopes were in existence, certainly, almost two millions of years ago. Thus astronomy absolutely demonstrates the vast antiquity of the matter of the universe.¹

¹ We have selected this one proof from astronomy, as all can appreciate it. See the Supplementary Note [B] to Dr. J. P. Smith's *Geology and Scripture*, p. 329. On p. 333, he quotes the language of Sir William Herschel, from *Philosophical Transactions* for 1802, p. 498: "Hence it follows, that when we see the object of the calculated distance at which one of these very remote nebulae may still be perceived — the rays of light which convey its image to the eye must have been more than nineteen hundred and ten thousand, that is, *almost two millions* of years on their way; and that, consequently, so many years ago this object must have already had an existence in the sidereal heavens, in order to send out those rays by which we now perceive it."

Baron A. Von Humboldt quotes this statement of Herschel, with these comments: "Much, therefore, has vanished long before it is rendered visible to us — much that we see was once differently arranged from what it now appears. The aspect of the starry heavens presents us with the spectacle of that which is only apparently simultaneous. . . . It still remains more than probable, from the knowledge we possess of the velocity of the transmission of the luminous rays, that the light of remote heavenly bodies presents us with the most ancient perceptible evidence of the existence of matter." — *Cosmos*, translated by E. C. Otté, pp. 144, 145. Bohn's edition.

2. While astronomy proves, as by mathematical demonstration, the immense antiquity of the matter of the universe, geology affords proof that the *earth* has existed for a vast period. The evidences of geology to this point cannot well be compressed into the limits our discussion demands. Referring to the treatises on geology for complete satisfaction, it may suffice to state, briefly, two groups of evidence: the marks of age in the appearance of the rocks, and in the appearance of the organic remains.

The appearance of the rocks indicates that an immense period elapsed during their formation. The rocks present every sign of having been formed as sand and gravel are now accumulating at the bottom of the ocean, by a gradual deposit. Now, except in extraordinary cases, it requires centuries to produce accumulations of even a few inches in thickness. And yet the fossiliferous strata in Europe are found to be not less than eight or ten miles thick. If it now requires centuries for the formation of a few inches, how long were these immense masses in forming? Some of the strata contain additional evidence of age in their *composition*. They are made up of rounded pebbles. These were fragments of preëxisting rocks, which had been first deposited, and then broken up; and the fragments had been subjected to the friction of water, long enough to round them, before they were again deposited. For the original deposit, for the subsequent breaking to pieces, for the slow process of rounding by water, how much time is requisite, for masses thousands of feet thick? The fossils which enter largely into the composition of many rocks also show how slowly the strata were formed. Remains of animals are so preserved as to prove incontestibly that they died on the spot where the remains are now found. They lie in their natural positions. There was, in appearance, no sudden, violent destruction of them. The sand and other matter accumulated around them so gradually that the most delicate spines and processes are not disturbed. The perfect preservation of the most fragile parts of organized bodies proves that the rocks in which they are buried were formed as gradually as like deposits are now forming. And the slowness with which the process now goes on, proves that a vast period was consumed in the formation of the great mass of fossiliferous rocks. Not only do the materials composing the rocks, but also the *arrangement* of

them, prove great age. The mass of rocks is divided into many distinct strata and groups of strata; each group differing in composition or in the organic remains it contains, The strata could not, therefore, have been deposited simultaneously. Each strata must have been formed under circumstances which gave its peculiar character. A change of circumstances would be requisite for a change in the character of the strata. And so, there must have been as many changes of circumstances, introducing new periods, as there are strata. The number of strata show there have been many such periods. And when we compare the formations, since history began, with those of which history is silent, the time allotted to the latter must be very great. This is further corroborated by the *position* of the strata. The several strata do not lie in the same plane, but are inclined to each other at various angles. The lowest one often most tilted up from a horizontal position, the next strata less so, and so on, till the one most recently formed is frequently nearly level. It would seem from this that, after the lowest group had been deposited and consolidated, it was elevated at an angle to the horizon. Then there was a period of repose, long enough for another stratum to be formed over it. And then this also was elevated. Another season of rest, however, followed, and another stratum was deposited on a level, to be in its turn lifted up. And so it went on, a season of quiet deposit, succeeded by violence, to be followed by another repose, till the last of the series. All this would demand, from what we know of natural forces, a long interval of time.

The evidence of great age from the appearance of the organic remains is independent and equally conclusive. The fossils not only afford data for estimating the comparative age of the rocks; the *character* of these remains of itself declares that a very great time has elapsed since the first was created. There appear to have been several entire changes of organic life since the rocks began to form. For there are successive groups, so distinct that they could not have been contemporaneous. Each group must have been adapted to the condition of the globe at its existence; and the condition favorable to one group would be destructive to another. They could not live together. Everything shows that one series of strata after another was deposited, elevated, peopled with vegetable and animal life, to be obliterated and give place to another. As the globe slowly

cooled, and the temperature became unfit for their residence, or from other causes, they died, and a new group was created. But each group lived long enough for rocks, thousands of feet thick, to be deposited about their remains. The successive groups of organic life, and the mass of each group, does not allow a brief period to be assigned to the first creation.

There are many other proofs which are conclusive with geologists, but which cannot be so easily stated, and which involve more of theory. Making every deduction the most cautious can ask for, geological facts point to an immense period of the world's duration.¹

Thus, then, the matter stands: Moses seems to assign a comparatively brief period to the creation; astronomy and geology assert a vast period. How shall they be reconciled? We must shorten one period, or lengthen the other.

¹ The great antiquity of the globe is considered so evident by geologists, that the point is not formally argued in the treatises. There is an ample discussion of it by Dr. J. P. Smith, *Geology and Scripture*, pp. 69, 212, and in a Supplementary Note (F), p. 360, with references. See also the testimony from the volcanoes of Auvergne, pp. 184—188. There is a summary statement of the proof by Prof. Sedgwick, *Discourse on the Studies of the University of Cambridge*, pp. 25, 26; and an ampler statement, showing the conclusion to be the result of rigid induction of particulars, by Prof. Powell, *Connection of Natural and Divine Truth*, etc., pp. 42—45. See also Hitchcock, *Religion of Geology*, Lect. 2, pp. 50 seq. *Bib. Repository*, Vol. VI. pp. 261—265. Hugh Miller, *First Impressions of England*, etc., Chap. XVII. pp. 338 seq. *Lecture on Genesis and Geology*. There is a concise view of the proof in *Kitto*, under title "Creation." The opinions of two eminent geologists as to the age of the most recent strata may indicate the general judgment upon the whole matter. Sir Charles Lyell believes the whole basin of the Mississippi was formed as the delta is now forming. He obtained estimates by which to judge the age of the delta. "The area of the delta being about 13,600 square statute miles, and the quantity of solid matter brought down annually by the river being 3,702,758,400 cubic feet, it must have taken 67,000 years for the formation of the whole; and if the alluvial matter of the plain above be 264 feet deep, or half that of the delta, it must have required 33,500 years more for its accumulation, even if its area be estimated as only equal to that of the delta, whereas it is, in fact, much larger." — *Principles*, etc., Chap. XVIII. p. 273, edition of 1853. The same author computes the time during which the Niagara river has worn its channel from Queenstown to the present falls, at the rate of one foot per year; which gives some 35,000 years. Prof. Agassiz, in his recent lectures on the Florida reefs, as reported in the *Boston Evening Traveller*, Dec. 15, 1853, stated that he had ascertained by observations and comparisons, that the reefs grow one foot in a hundred years. And by estimating the number and extent of the reefs comprising the peninsula, he supposes that small tongue of land to be one hundred thousand years old.

1. The first attempt has been, to shorten the period assigned by science. The character of the Bible, the fact that the common interpretation is the obvious one, entitle it to be presumed right, till the contrary is shown.

There are some who make short work of the matter, by refusing to yield any authority to the records of science. "Professing to know God, in his works they deny him." But if the earth, as a whole, is not a trustworthy document, there can be no reliance in particles of its substance made into a book. If we are not to trust our faculties to interpret what is scored upon the rocks and written upon the sky, they may deceive us in reading human language. The scepticism which, clothed sometimes in the garments of faith, sets aside as untrustworthy the sober deductions of science, destroys the evidence not only of a Divine revelation, but of the very existence of God.

Those who admit the facts of science shorten the period it seems to assign to creation by various theories.

The first theory is, that God created all things as they are. "Almighty God may, by the mere fiat of his power, have intentionally brought every rock and stratum, every fossil leaf and shell and bone, into its present form and condition."

This theory was supposed to be finally exploded. But it is countenanced in some of the recent attempts to interpret this chapter. Many who do not formally adopt it, are ready to fall back upon it when hard pressed. Is it possible to adopt this explanation? It may be confessed that omnipotence is equal to such a method of creation. This is all that can be said in favor of the theory. But it is one thing to assert that the Almighty *could* have taken this course, and another thing to bring credible evidence that he *did*. It must not be too hastily assumed that God could have arranged things thus. It must first be shown, not merely that his *power* was equal to it, but that his wisdom would allow such an exercise of power. Indeed, if it be proved that everything was made as it now appears, by the mere fiat of Power, you prove a powerful Creator, but you do not prove that Creator to be the God whom we worship. We worship a being of infinite wisdom and goodness. And, so far from these attributes appearing in such a creation, if it be proved that Divine power was exerted in this way, it will be difficult to find any marks of wisdom in the universe; and, of course, difficult to prove there is a being possessed of this attribute. "If this argu-

ment had any strength at all, it would fearfully weaken the proof for the first truth of religion, from the doctrine of sufficient causes. We find the dead parts of animals, with the muscular attachment, the shelly or crustaceous or bony structure, the condyles, the receiving hollows, the grooves and port-holes for the passage of nerves and blood-vessels, the teeth with their sockets, in all the variety of the most exquisitely appropriate formation, even the organs, and provisions, and *products* of nutrition; and it is seriously said that we may sit down with the conclusion that these objects were never the parts of any living creatures, but have existed from the beginning of time, just as we now find them! Shall we throw such an advantage as this into the hands of the atheist?"¹

But it is said: Creation is miraculous; and when we come to miracles we are not to be governed by ordinary laws; it was no greater miracle to make the world just as it is than to make it at all. Very true; but it is precisely as to the *character* of this miracle, not as to the fact of a miraculous creation, that the question arises. That there was miraculous intervention of God in creation, is not disputed. Because this is credible, it does not follow that it is credible there was such an intervention as is alleged. Especially are we not to inquire whether or not it is *credible* till some evidence is adduced that such is the fact. The Bible nowhere asserts such a creation. Indeed, it could be proved, if it were worth while, that this order of creation in Genesis sets aside the theory. The only evidence brought forward is: the world is now existing in a certain state, and some one conceives it possible to have been created in this state. "It *may* have been so; therefore it *was* so." Yes; and if any one should choose to discredit the evidence by which we trace the disintombed cities of Assyria back to the races of men which once lived there, he might assert that they likewise constituted a part of the original creation. "Almighty God, by the mere fiat of his power, might have made them; therefore he did." And this also may clear up the difficulty in accounting for the mounds in the Western States, of which no satisfactory explanation has been given; and of the ruined cities of Mexico and Yucatan! Why not believe they formed part of the original creation? This would be as credible as that the skeletons of animals who *seem* to have lived, and the food they seem to have eaten and

¹ J. F. Smith's Geology and Scripture, p. 169.

digested and discharged, should have been created in such a state as we find these remains. The creation of ruined cities is as credible as the creation of fossils. Chateaubriand maintains that such was the character of the creation. In his *Genie du Christianism*, he represents the Creator as making the world as a poet would, with ruined cities, and moss-grown palaces, and mouldering towers, and crumbling columns. And why not? There is no extravagance in his view, if we can believe that "every *fossil* leaf and shell and bone" do *not* prove that there has once been sap in the leaf, and slime on the shell, and marrow in the bone; but that they were made as counterfeit coins of the Creator.

We are not to be charged with denying the credibility of miracles, because we deny that such a method of creation is credible. Without arguing against this theory, it is sufficient to submit it to the common sense of Christians. We believe miracles have been wrought. We cannot believe, without working a miracle ourselves upon the principles of belief, that God made countless abortions before he made living creatures; and that he fitted up the charnel house in which they were deposited to be the dwelling-place of the things that *have* life.

2. The second theory by which it is proposed to shorten the period of geology is: That the organic remains were deposited between the creation and the deluge, or that they were deposited by the deluge. The latter is the favorite form of the theory.

But it does not answer the facts. There is not time enough between the creation and the deluge for the formation of such masses of rock. There has not been one hundredth part deposited since the deluge, though the time is more than twice as long. There are distinct orders of organic beings in the rocks, which must have lived in distinct periods. The globe must have been specially fitted for them. The upheavals and disarrangements of strata indicate great changes between one period and another, which must have occupied long intervals. These changes could not have been brought about by the deluge of a year. Its effects were only on the surface; these changes were far below the surface. The deluge could not have deposited remains in distinct orders; deposited them without disturbing the most delicate processes; deposited, and then sealed them up by pouring around them millions of cubic feet of rocky substance, and then hardened this material to a solid form. And why

select the lowest plants and animals for preservation so carefully, and pass by the works of man; pass by man himself? If all these remains of animals were deposited by the deluge, why do we find none of the implements of husbandry and the tools of artisans? We should have been glad to see what kind of an organ Jubal built. We should like to handle the tools which came from the shop of Tubal Cain. It would be as natural to find evidences of man's handiwork as to find the delicate leaves of the fern. And man's frame is as easily preserved as that of fishes and birds. Why are there no human remains in this universe tomb of rocks? It is of itself a sufficient answer to the theory that the organic remains were deposited previous to or at the deluge, to say, then there would have been at least some works of human art and some bones of man. None such are found, except in the most recent strata. They are only found in strata which has been formed almost since the period of history.¹

Moreover, it is distinctly stated that Noah took with him into the ark some of every species that would perish by water, and that they survived the deluge. When Noah came from the ark, he brought out some of every species which lived before the deluge. A special provision was made to ensure the existence, after the flood, of all that existed previously. None have become extinct since. But in the lowest formations the remains are all of *extinct* species. They have been extinct as long as history records. We must either believe that every species — that innumerable species — did *not* survive the flood, which is contradicted by the Bible; or that those for whose preservation such extraordinary care was taken, were entirely swept away afterwards; or we must believe that the extinct species were destroyed long antecedent to the deluge.²

Finally, there are many who do not attempt to account for the state of things which geology discloses, and who do not deny the facts, but who will not admit the justness of the conclusion.

¹ On the imbedded remains of man, and the capacity of human remains to resist decay, see Sir Charles Lyell, Principles, etc., Chap. XLVIII. pp. 753 seq.

It is gravely stated in a work recently published, which endorses this theory, that the reason no human remains are found is on account of the doctrine of the resurrection. But it is not said how this stands in the way; whether these bodies have been already raised, or whether they were not turned into stone, lest it should be impossible to raise them. We do not know what the author means in giving this reason.

² Hugh Miller, First Impressions of England, etc., p. 243. American edition.

They content themselves by saying, we need not attempt to reconcile this matter. For it is nothing more than a theory that the earth is so ancient. We confess that the theory seems well supported; facts seem to sustain it. We cannot well avoid it. But, after all, it is merely an hypothesis. And, however plausible, no hypothesis must stand against the facts of revelation.

There are many in precisely this position. They gain relief in the apparent conflict of science and Genesis by saying: it is not the plainly observed facts of science which cause trouble, but the deductions which men draw from these facts.

We have already said, that there is a distinction between the facts of science, and the theories of scientific men; and that the latter may or may not be true. And now we say, that there is a no less important distinction between a theory and the conclusion of a just induction; and that the latter is as real a *fact* as any fact of perception. There is a scepticism with regard to the results of scientific investigation, which is remarkable as existing in the minds of those who insist upon the trustworthiness of moral reasoning. Our space forbids anything more than a passing allusion to this matter. But it must be understood, that, if we are to repose any confidence in any mental processes, we are to accept the legitimate conclusions of science as absolute facts. The question comes simply to this: Is the inductive logic reliable? Are we only shrewdly guessing at the laws of nature, or shall the legitimate conclusions of a just induction stand as absolute truths? Does any one doubt the laws of psychology, which have been ascertained by the inductive logic? And is not the same instrument as reliable to discover the laws of the material universe? The inductive logic has been chiefly applied to the discovery of what are called physical truths. Is it insufficient for this purpose? Have we been travelling on the wrong road these two hundred years? Is there no certainty in the results we reach? So it is declared by those who set aside the conclusions of science on the ground that they are only theories. The Roman Catholic church, to this day, denies the truth of the Copernican system; it allows it to be taught in its text-books, but it is under protest, as a theory which has much in its favor, not as an ascertained fact.

Scientific men come forward and say, we have made a careful and thorough investigation of the earth's crust. We have applied to it the most rigid tests of the inductive logic, to find

what it teaches as to the age of the globe. And we learn, beyond all question, that its age is very great. Every man able to apply the tests gives this answer. Shall we say, this is only a *theory* of yours; it may be true, and it may not be true? We cannot say so, without authorizing a scepticism which renders it impossible to attain certainty any where. Is that a theory, which is the result of the most careful application of the inductive logic? Then what do you call the inference which you draw from these words of Moses? Does Moses any where say the world is only six or eight thousand years old? Is it not an inference of yours, from certain statements he makes? And must your conclusion, reached it may be by the most rigid deductive logic, be accepted as an absolute fact; and the as rigid conclusion of the inductive logic be dismissed as a mere theory? If it is only an inference, from certain facts of observation, that the world is so old, it is equally an inference, from certain words of Genesis, that it is not. And if one inference is to be scouted, as theory, so may be the other. Nay, further, suppose Moses stated, in so many words, that the world is of a certain age, how do you know that you *perceive* the words of Moses? What do you perceive? You perceive only certain signs — black marks — which you *infer* have a certain meaning. How do you *know* such is their meaning? Is it not a mere *theory* that they mean thus? You conclude they do, and your conclusion may be just, by the deductive logic. But how do you *know* it is reliable? Still worse, how do you know that you perceive at all? How do you know that there are any such signs as you think you perceive? Can you prove, by your deductive logic, that there is any object of perception? A certain impression is made on your mind. You have an idea. But how did you get it? Is it anything more than a theory, that there *is* something perceived when you think you perceive something? We see, or rather we do not see, where the scepticism which distrusts the legitimate conclusions of inductive science, leads us. We do not and cannot prove the truth of our perceptions; we assume it. For we cannot do otherwise. We do not doubt the justness of our mental processes. We cannot. We do not deny that truth is ascertained in other ways besides by direct intuition or perception. We rely upon the legitimate conclusions of the deductive logic; and we must rely upon the legitimate conclusions of the inductive logic. It

is a legitimate conclusion of that logic, attested by every one who has investigated for himself the physical facts, that this globe has been in existence vast ages. If this is an hypothesis, then it is an hypothesis that the sun is the centre of our system, and that the earth revolves about it; and the judges of Gallileo were right.

The conclusion is beyond question, that none of these theories to shorten the period of geology satisfy the facts. We cannot bring the period of geologic changes within the six or eight thousand years assumed to be taught by Moses.

The only alternative is, to find a longer period in Genesis. The assumption of six or eight thousand years must be given up. If the Mosaic record is, as we believe, reliable, it must admit an interpretation which will give the period the facts demand.

There are three explanations which include the various methods of solving the difficulty. The first explanation supposes there is an immense interval between the events of the first and the events of the succeeding verses, during which geologic changes took place. The second supposes there is a long interval between each day. The third supposes the days themselves to be of indefinite duration. These theories do not conflict with each other. All may be allowed, if the facts sustain them. The first and last are often maintained by the same persons. It will assist us in deciding upon them to examine them apart.

The first explanation supposes there is an immense interval between the events recorded in the first verse and the events of the succeeding verses. Professor Buckland states it thus: "The Mosaic narrative commences with a declaration that in the beginning God created the heavens and the earth. These few first words of Genesis may be fairly appealed to by the geologist, as containing a brief statement of the creation of the material elements at a time distinctly preceding the operations of the first day; it is no where affirmed that God created the heaven and the earth in the *first day*, but in the *beginning*; this beginning may have been an epoch at an unmeasured distance, followed by periods of undefined duration, during which all the physical operations disclosed by geology were going on."¹ These "physical operations" are intended to include the crea-

¹ Bridgewater Treatise, Ch. 2, § 16, Vol. I. p. 20.

tion and destruction of the organized beings whose species are now extinct. So that, from the second verse onwards, we have an account of the world as it now exists.

In favor of this hypothesis, it may be said, there is nothing in the language of Moses inconsistent with it. "In the beginning" is an indefinite phrase; it does not necessarily mean, the beginning of the first day. There is no need of supposing the first and second verses relate to immediately continuous events. Moses frequently places events close together, though there were long intervals between. Thus, in the second chapter of Exodus, the first verse begins: "And there went a man of the house of Levi and took to wife a daughter of Levi." The second verse proceeds: "And the woman conceived and bare a son, and when she saw that he was a goodly child, she hid him three months." The connective *and*, Hebrew ו , is the same as between the first and second verses of Gen. i. There is as much reason for supposing the events to be consecutive in the one case as in the other. Now the child alluded to, as being born after this marriage, was Moses. But it appears he had a sister old enough to watch over his ark. He had also an older brother, Aaron. There was, then, an interval of some years between the first and second verses, of which no intimation is given. We find it out in other ways. It is the style of the Bible thus to compress vast intervals into connected passages. No notice is given of things which it is not necessary to state.¹

But it is said, Moses excludes this interpretation by the fourth commandment. He says, explicitly: "in six *days* the Lord made heaven and earth, the sea and all that in them is."

This is the most formidable objection to the hypothesis. If "the heaven and the earth" mean *all things*, in one place, they would seem to, in another. There are several ways of reconciling this with the proposed explanation. It is said, the terms "heaven and earth," in Exodus may refer simply to the present system, and not to the origin of things. This is possible. These terms are frequently so used in the Bible. In Genesis we may allow a broader meaning to them than in other passages. Still, Moses seems to refer to the original creation in the decalogue. But, it may be added, it is a just rule of interpretation, to explain a brief and incidental statement by a more explicit one. Thus, it might be supposed, from Gen. 2: 4,

¹ See abundant illustrations of this in Crofton.

if there was no other account, that only *one* day was spent in the whole creation; the language is: "These are the generations of the heavens and of the earth, when they were created, in *the day* that the Lord God made the earth and the heavens." If this brief statement of *one* day is to be interpreted so as to coincide with the longer statement of six days, why not Exodus be explained by Gen. i. also? Not only is the notice in Ex. xx. very brief, it is purely incidental. Moses is not describing the creation. His argument does not rest on a creation of six days, but on a rest of the seventh day. He asserts that God rested on the seventh day. The declaration that all was created in six days is an *obiter dictum*. He is not explaining the time spent in creation, in order to enjoin six days when all *must work*; he is explaining the time of *rest*, in order to enjoin the seventh day as a Sabbath. Additional force is given to this explanation by the fact that a different word is used in the decalogue, when six *days* are assigned to the creation. In Gen. 1: 1, the word is בָּרָא, more frequently used for absolute creation. But in Exodus 20: 11, the word is עָשָׂה, which is oftener rendered *make, fashion over*.

On the whole, this objection is a strong one. But it may be met without doing violence to the language of Moses. Genesis i. is the full account of the creation; Exodus 20: 11 is a brief and incidental allusion to it. The commandment refers to the season God set apart for rest. It does not assert that he only worked six days. At most, it only teaches that this system was constructed in this period. Does the fourth commandment teach absolutely that everything which exists was created, in precisely six days? Does it *necessarily* cover the original creation of matter? Is not the language of Moses in Ex. 20: 11 fully met, if it be supposed that the present system, as it appears now — the heaven and the earth and all things in them when the law was given — were made in six days? So it would seem. On the other hand, does not Gen. 1: 1 refer to the creation of matter? Then it is not necessary to believe, because of Ex. 20: 11, that the events recorded in Gen. 1: 1 took place *during* the first day. They may have preceded all that was done in the six days. This is certainly an *allowable* interpretation, as far as the Bible is concerned. It has been sustained by many commentators and geologists; it is the view of Bishop Patrick, and Horsely, and of Chalmers, and Buckland, and Sedgwick. It

has many scientific facts in its favor. President Hitchcock says, though not entirely free from difficulty, it is the most probable explanation that has been proposed. Professor Silliman adopts it, as far it goes; but objects to it, as not sufficient alone, for all the facts.

While this explanation may be accepted, as far as it reaches, if no better offers, it does not suffice to explain the whole difficulty. As a *complete* explanation, it fails. The one fact, of giving a long period for the whole creation, it meets. But it does not distribute this time among the successive creations, as facts demand. "The difficulties are not removed," says Prof. Silliman, "unless we can show that there is time enough *in the periods called days*, to cover the organic creation, and the formations of rocks, in which the remains of these bodies are contained."¹

If we allow that an immense interval elapsed between the original creation and the work of the first day, this does not explain what is represented as taking place *within the six days*. The creation of plants, and of animals, and of man, is represented as occurring within the six days. Though it be granted that Moses does not teach that the world, as to its elements, is only six or eight thousand years old; he does seem to teach that organized beings were created *after* the first day. This would imply that it is only some six or eight thousand years since organized beings began to live. But, as has been stated, geology proves that they have existed for immense ages. It proves that there have been successive orders which have lived and died; and that vast intervals elapsed between the first and the last. Moreover, this explanation does not pretend to assign a remote age to the present form of the globe. It only shows that there may have been long periods for previous changes. The present system of things is not touched by the hypothesis. But geology not only proves that there have been previous conditions of the globe, for which vast periods must be assigned; it declares that the present state of things must date back far beyond six or eight thousand years. The accumulations of deltas, the abrasion of water-courses, the construction of islands and of parts of continents by coralline insects, indicate that a much longer period has elapsed since the events recorded as transpiring on the first day.

¹ Bakewell's Geology, Appendix by Prof. Silliman, p. 439.

President Hitchcock thinks that there need not be difficulty as to the period since the creation of organized beings. He would refer the creations, spoken of in the six days, to existing species only,¹ supposing that the fossil species were created and destroyed before the first day. If Moses refers to the fossil species, it is argued, those now living were not included. If he refers to the living species, the fossils are excluded. For they must have lived under different circumstances and at different periods. We can hardly believe Moses describes the creation of those which are now extinct, to the exclusion of living orders. For the animals created in the six days were made subject to man; and the plants were for food to those animals. Thus, the creation described by Moses is simply of the species which now exist. Without considering further, at present, whether Moses describes the creation of living species—so that there were as many previous creations as there are extinct orders, and that this took place between the beginning and the first day, without any mention of such immense creations—it is sufficient to say, that, if it can be proved that the present forms of *organic* life date no further back than six or eight thousand years, the present arrangement of the newest strata indicates a much longer period. The objection of Prof. Silliman seems insuperable to the explanation, as a complete one. It may be received as assigning time enough for many of the changes the globe has undergone. It does not assign time enough for what seems to have taken place since the work of the first day.

It may be said, finally, of the first explanation, which supposes a long interval between the beginning and the first day: That, as far as the Bible is concerned, it is allowable; and that it meets some of the demands of science; but that it is insufficient to account for many facts. We must eke it out by another explanation, or substitute another for it.

The second explanation is, that a long interval elapsed between each of the days spoken of by Moses, during which each creation was consolidated. The time sought for is found by supposing that after the work of each day there was a vast interval, of which no mention is made, before the work of the next day. The advantage of this view is, that it assigns time enough, and distributes it among the various creations, according to the demands of geology; and, in one respect, it does no

¹ Biblical Repository, Vol. VI. pp. 323 seq.

violence to the language of Moses. It takes the days as periods of twenty-four hours each.

But it has great objections. The narrative leaves the impression that one period immediately succeeded the other. When one day ended, another began. If the days were of twenty-four hours each, they must have been succeeded by other days of the same length. There could not be a day of twenty-four hours, and then an immense interval, or night of millions of years. If each day was followed by another, there would be no propriety in calling one the first day, and another, ages after, the second day, and another, ages beyond, the third day; or, as the Hebrew is, literally, day one, day two, day three, etc. Besides these objections, there are others common to it with the third explanation. It has no more in its favor than that, and there are many objections to it which do not lie against the other.

The third explanation remains to be considered. It supposes the first verse to be an epitome of the whole chapter, a brief statement that God created all things; that then the successive processes of creation are recounted, to each of which is assigned a distinct period of indefinite length, called a day. This hypothesis finds all the time science demands, by considering the days, not as of twenty-four hours, but as of indefinite duration. It agrees with the narrative in supposing there was the same order in creation as Moses represents, assigning the same events to each period as are represented in each of the six days. The chief point is, to prolong the time by construing the term *day* to mean an indefinite period. Is this allowable on a fair interpretation of the record?

1. The term *day* is used in the Bible to express an indefinite period. Thus Gen. 2: 4, it is used to cover the whole period of creation: "in the day that the Lord God made the heaven and the earth." *Day* is here used by Moses himself to express more than twenty-four hours. Dr. J. P. Smith objects that the word translated *day*, 2: 4, "is not the simple noun, but it is a compound of that noun, with a preposition formed according to the genius of the Hebrew language, and producing an adverb requiring to be rendered by such words as *when, at the time, after.*"¹ But this only proves that יום had such an indefinite meaning that it was even used adverbially. In composition the full force of the

¹ Geology and Scripture, p. 185.

noun is preserved. The lexicons do not give יָמָי by itself as an adverb. It is no more an adverb than the corresponding English phrase, *in the day that*, is an adverb. If we choose to take the phrase together, at most we must call it an adverbial phrase. The mere fact that the preposition is so united to the noun as to make one word, according to the usage of the Hebrew language, does not authorize us to consider the compound as one word. If *day* in the phrase "in the day that," means an indefinite time, יָמָי, in the Hebrew phrase יָמָי, means the same. But there are many instances where יָמָי is used as a single noun — not adverbially — with the meaning of an indefinite period. Thus, in Judges 19: 30: "There was no such deed done nor seen from *the day* the children of Israel came up out of the land of Egypt unto this day." The historian does not mean, they came in a day; they left in the night, and they were a long time in coming. He means, since that time. A similar meaning is found in Job 14: 6. 18: 20. 21: 30. And so in Isa. 34: 8. 61: 2. 63: 4, day is used for the period when God will punish the wicked. In all these cases the word is יָמָי — in the singular number. The cases in which the plural form is used for an indefinite period are very numerous. And so of the corresponding word in Greek, in the New Testament. "So also shall the Son of man be in *his day*" (Luke 17: 24). "Your father Abraham rejoiced to see *my day*" (John 8: 56). The day of judgment, the day of the Lord, the day of wrath, the day of salvation, the day of redemption, the day of Jesus Christ, all mean a special time, not a period of precisely twenty-four hour's duration. The Apostle Peter says: "A thousand years are with the Lord as one day, and one day as a thousand years." The days of creation were days of the Lord; for there were no human beings to observe them.

But it is said this meaning cannot be admitted here, for these are expressly declared to be ordinary days; a period between evening and morning.

2. This is the great difficulty. The day of creation is a day limited by evening and morning. But, suppose it means a period; there must be an evening and morning; a commencement and close, of the period. And this would answer the objection. What was this evening and morning of the first day? The setting and rising of the sun? But this was not appointed to take place till the fourth day. Whether or not the sun was

created previously to the fourth day, no one maintains that it divided night from day till then. If there was an evening and morning of the first day, they were not marked by the apparent setting and rising of the sun. This is undeniable. Evening and morning on the first day meant something else than sunset and sunrise. The words may have been used, they would naturally be used, to express the beginning and close of one period. The assumption that the day of creation was necessarily of twenty-four hours' length, because it had an evening and a morning, cannot be maintained. For certainly, during the first three days, there were no such evenings and mornings as are indicated by sunset and sunrise.

3. Moreover, the variety of meanings given to the word *day* in the narrative itself, authorize us to use the word in an indefinite sense. It is assumed that *day* means a period of twenty-four hours. But upon what ground is this assumption based? Certainly not upon the use of the word in the record itself. The word occurs fourteen times, of which five are repetitions, which leaves nine times separate use. In these nine passages, there are four distinct meanings given to it. In the first place, day is used to mean "*light*." God made light, divided it from the darkness, and "called the light *day*." The primitive meaning of the word is thus, not any period of time, much less a period of twenty-four hours; but simply light. The second use of the word is to designate a period of creation, *the length of which was not indicated by sunset and sunrise*. "The evening and morning were the first day," v. 5; "the second day," v. 8; and "the third day," v. 13. During these three periods, designated as first, second and third *days*, there was no apparent sunset or sunrise. Either the sun was not created, or his rays were obscured by vapors, or some other cause prevented them from reaching the earth. The second declares that the evening and morning of the first three days had different metes and bounds from the present day. The standard of our day was not then set up. Day is thus used the first four times out of the nine in an indefinite sense. Now at last, thirdly, it is used in the specific sense of a period measured by sunset and sunrise. Vs. 14, 16, 18, the sun is ordained to divide day from night, and to rule the day. Day here means, doubtless, a term of twenty-four hours. And it occurs with this plain meaning in only one passage. The three next passages where it occurs, it designates

periods of creation, called "the fourth day," v. 19; "the fifth day," v. 23; and "the sixth day," v. 31. There are only these three cases in which the meaning is doubtful. For the next and last use of the word is to describe a period of rest which has a morning—a beginning; but which has no evening—no limit assigned. We are told "it was evening" of day sixth, and "it was morning" of day seventh. And "on the seventh day God ended his work," "and he rested on the seventh day," "and blessed the seventh day." But no evening of this day is mentioned. The working *days* of the Creator were ended. The Sabbath is not ended. And this period of rest, which is not yet limited, is called also *a day*. Here are the nine places in which *day* occurs. In five, it has another meaning than that of twenty-four hours: once, it designates light, three times, periods of creation, when there was no sunset and sunrise, once, an unlimited period of rest. In one place it designates a period of twenty-four hours. And there are three places where the meaning is doubtful. Is it fair to assume that day means twenty-four hours in these passages also? This is done. There is only one place in the record, one out of nine, in which day has the unequivocal meaning of a period of twenty-four hours. And from this it is assumed that the three succeeding days of creation, the fourth, fifth and sixth, were literal days. And, as all the days of creation must be alike, having assumed the last three to be literal days, it is maintained that the first three must be also, though the record itself declares there was no sun to divide one of those days from another. Is it not rather the just inference, that, as day means light in the first instance, and a rest from creation in the last instance, and a period of twenty-four hours in the intermediate instance, these balance each other, and may be set aside in determining the sense of the word. And, as it designates an indefinite period, when there was no sunrise or sunset, in three instances, this is the predominant sense. And, as the three doubtful instances are precisely similar to the instances where it bears this predominant meaning, this meaning is to be assumed in those instances. If this is not a just inference, the *variety* of senses certainly authorizes us to assign this meaning to the cosmogonic days, unless there are conclusive reasons to the contrary. Are there such conclusive reasons?

4. It is thought there is a decisive objection to this meaning of *day* in the fourth commandment. This expressly says: In

six days God made heaven and earth and all that in them is, and rested the seventh day. And—which is specially dwelt upon—this is given as a reason why the Israelites should rest on the seventh day.

Let us see where the interpretation of Scripture by Scripture has brought us. We find the word *day* is used in the Bible to mean an indefinite period. We find in this very chapter a variety of meanings, the predominant one being that of an indefinite period. If there was nothing further, the inference would be irresistible that such is the meaning of the cosmogonic days. Now, against this, does the language of the fourth commandment necessarily imply that each day of creation was of twenty-four hours duration?

That it seems to mean an ordinary day, may be confessed. That it was so understood by those to whom it was addressed, is altogether likely. It is true, before the disclosures of geology, it was maintained, that the day of Moses was an indefinite period. Origen maintained it. Augustine coincided with him, and the venerable Bede. More recently, Whiston and Faber, and many others, for reasons aside from geology, take the same ground. But here the words of the fourth commandment stand. Do they, or do they not, necessarily teach that God was six days of twenty-four hours each in creating the universe? Suppose we make the word *day* in Ex. 20: 11, bear the sense of a period of time; will it deprive the verse of all meaning? Will it obscure the true meaning? Six days shalt thou labor and do all thy work, "for in six days, or periods, the Lord made heaven and earth and all that in them is, and rested the seventh day, or period, and hallowed it." Here is a meaning; it is the meaning of the decalogue. The meaning is not, *Saturday*, which is the seventh day, God rested, and therefore man must forever keep *Saturday* as Sabbath. No Christian can stand by such an interpretation. The meaning is: after six periods of labor the seventh was a period of rest; thus must it be with man; a seventh part of time must be spent as Sabbath; whether it is the first, or the last, day, is of no consequence. Is it maintained that we do not take the full meaning of the commandment, unless we believe that God began to create on Sunday, the first day, and ceased Friday, the sixth day; and made *Saturday* the seventh, a Sabbath forever? This ground is taken, if it is maintained that the commandment necessarily teaches that

the days of creation were literal days of twenty-four hours. But, if the meaning of days as periods does not make void the sense of the decalogue; if the meaning of period gives all the force of a literal day; if the *literality* of the day is not only not essential, but is certainly excluded, inasmuch as the injunction is, each seventh day, *wherever* you *begin* to reckon, and not each Saturday, must be hallowed forever; then, why is it not allowable, why is it not at least possible to believe, that the six days of Divine labor were six periods of indefinite length?

We would go no further than is necessary. If the scientific difficulties can be removed, while the days of creation are assumed to be ordinary days, very well. But when the interpretation of the days as indefinite periods seems to be the easiest solution of great difficulties; when the man of science says: "I may want to put this sense upon the term day; will the Bible allow it? I grant that it is an unusual sense, that it is not the obvious sense; but is it not a possible sense?" It must be acknowledged, interpreting Scripture by Scripture, that such a meaning of day is allowable. The fact that eminent theologians, holding the highest views of inspiration, who lived before geology created any uneasiness, attributed this meaning to day; the fact that now, those who prefer a different interpretation, grant that the word *may* have this meaning, authorizes us to say that, if it is absolutely necessary, the language of Moses will receive this meaning, without violating the laws of interpretation. We do not say this is the certain meaning, however conclusive the evidence may seem; nor, so far, that it is the probable meaning, for the argument does not demand it. But, looking only to the philology, we say it is allowable to interpret day as an indefinite period. Thus the second difficulty in this chapter, how to prolong the time of creation, may be removed. By giving to the term *day* the meaning of an indefinite period, all the time geology requires is secured. We are not called upon to show that science will be satisfied in every particular with this explanation. Our object is to show that in one point — length of time — it is sufficient. It does assign all the time requisite, and it distributes this time between the successive creations. This no other explanation does.

It may be well, however, while dwelling on this explanation, to say a few words of its bearing on other points. All con-

code that it meets this difficulty as to time. Some maintain, and others deny, that, by adopting this interpretation, we shall find the very order which Moses assigns to each period, confirmed by geology. Prof. Silliman and Prof. Guyot declare, that, by taking days as indefinite periods, the demands of science are met. President Hitchcock, on the other hand, finds no Scriptural objection to such an interpretation, but thinks it inadmissible on scientific grounds.¹ His objections are: (1) "That Gen. 2: 5 teaches that it had not rained till after the creation of vegetables, on the third day. And, if day means thousands of years, vegetables must have had no rain for so long." But surely they might have had moisture in other ways. There has been no rain in Egypt for thousands of years, but vegetation has not suffered. If, as Prof. Guyot suggests, the globe at this period was covered with humid gases, there could have been no need of rain. If the clouds rested directly on the earth, there would have been no need of a fall of water through the air. The stronger objection is: (2) "That this theory supposes every species of plants and animals was created during the six demi-mergic periods; all the species of vegetables, on the third period, of water animals, on the fifth, and of land animals, on the sixth period. Thus, all existing species of plants and animals must have been contemporaneous with those preserved in the rocks. But of three thousand species found fossil in the secondary rocks, not a single species corresponds with any now living. If existing species were created at the same time as the fossils, can any reason be given why their remains are not found together?"

Moreover, the creations spoken of by Moses, must be either of the extinct species, exclusively; or, of the living species, exclusively. For the structure and habits of the species differ so much that they could not have been contemporaneous. All the species could not have been made at one period. There must have been one period for each species of plants, in connection with which there was a corresponding species of animals. Besides, it is added, finally, geology does not teach that plants were created exclusively in the third period; animals are found as early as plants."

Scientific men must decide whether there are scientific objections to the interpretation of days as long periods. But any

¹ Biblical Repository, Vol. VI. pp. 306, 308.

one may be permitted humbly to offer suggestions. As to the last part of the objection, there may have been causes which destroyed the plants in the earliest period, so that not so many are preserved as afterwards. Plants are found in the lowest fossiliferous strata. Because they are not so numerous as might have been expected, because animals are found as low, it cannot be said that geology negatives the assertion that plants preceded animals. At the most, it can only be said, geology does not teach whether plants or animals came first. It surely does not prove that plants did not precede animals. "If the first strata of the earth's crust contained some fossil plants," says Prof. Guyot, "they have been destroyed by the metamorphoses of that first formation. We should not be astonished at not finding the remains of these plants of the third day mentioned by Moses; but we can say, that the appearance of plants, at that period, is in accordance with one of the most beautiful laws established by geological researches; I mean, the appearance of the organized beings in the succession of time, in the order of their relative perfection. . . . Vegetation is the natural, intermediate link between the inorganic matter and animals. Animals cannot live on inorganic matter; it must be prepared for them by the process of vegetation; or they must feed on each other, which always presupposes the existence of organic food."

And the first and most important part of this objection does not seem insuperable. Suppose it undeniable that each species of plants and the corresponding animals were created in distinct periods; it is no part of the proposed interpretation that it was not so. The interpretation is, that there was one period when plants *began to be created*, and one period when animals *began to be created*, and so on. The different kinds of organized life, the vegetable and the animal, had each a period when they *first* appeared. We are only told of the *beginnings* of these orders, not of their subsequent progress. There is nothing to prevent us from supposing that plants were *first* created in the third period, and that the creation of them was continued in the other periods. The fact of the original creation having once been stated need not be mentioned again. So, the creation of the animals living in the water and in the air, was *begun* in the fifth period, and may have been continued in the succeeding periods. The creation of land animals began in the sixth period,

and may have been continued till all was closed with man. This supposition will meet the objection. The plants created in the third period may be of extinct species; those now existing may have been created much later. There would be no contradiction to the Mosaic account in this; for the statement is, there were special periods when plants and when animals began to exist. There may be other scientific objections to this interpretation. But those which have been strongly urged, do not seem to the unscientific student insuperable. So far, we find neither in science nor in philology insuperable objections to this interpretation of days. It certainly gives all the time geology wants; it distributes this time as geology requires; it harmonizes many other facts of science.

To state the result briefly, we have thus a sufficient solution of the great difficulty as to the length of time consumed in the successive creations. We may either suppose an interval between the primitive creation and the work of the first day, which will allow time enough for all except perhaps the most recent formations; or, we may take the demiurgic days as indefinite periods, which certainly answers every demand; or, we may adopt both of these explanations, and then no one can ask for more time.

The third difficulty in this chapter was stated to be: The short period assigned to each creation. It is different from the last point. That had reference to the absolute age of the globe; this refers to the length of time between the successive creations. Moses is supposed to teach that plants were created within three days of the creation of matter; that, within forty-eight hours of the plants, fish and fowl appeared; and, within seventy-two hours, land animals and man. But geology intimates beyond question that there was an immense interval between the creation of the lowest and the highest organic life. One did not follow the other in so short a time.

This difficulty may be met in the same way as the preceding; by interposing "days" as indefinite periods. We have shown this to be possible; and this is the only explanation that will suffice. The supposition of a long interval between the first verse and the succeeding verses, will not help us here. As it meets this difficulty, also, the interpretation of demiurgic periods seems on the whole preferable.

There remains a fourth class of difficulties, having reference

to the particulars of the several creations; such as the double creation of light, the existence of day and night before the creation of the sun and moon, and the several arrangements of each day's work. It may be well to take up the several creations and consider the difficulties as they arise.

First day, vs. 1—5. It is generally conceded that the first verse is a statement of the creation of things. It may be allowed to stand by itself, as a summary of what follows. In the beginning God created the heaven and the earth; and the manner in which this was done, by successive acts, may be described in the succeeding verses. This is on the supposition of a long interval between the first and the second verses. If, however, we interpret the demiurgic days as indefinite periods, the first verse may stand as a part of the events of the first period. This is, on the whole, most natural. On this supposition, we have in these five verses one scene of the creation: the creation of the elements, the state of chaos, and the creation of light.

How was light created before the planets?

One explanation is, that the sun was created in the beginning; that it is included as a part of the heaven, in the first verse; and that during the chaos vapors intercepted his rays. The creation of light was merely the dispersion of vapors.

The objection to this is, that the creation of the solar system is assigned to a special day, afterwards. If it was already in existence, why the statement of the fourth day? The light created the first day continued the succeeding days; for plants, the third day, could not live without light. If the light of the first day was from the sun, the sun must have been shining on the third day. Then how could it be spoken of as *made* on the fourth day? There was something done the fourth day which had not been done previously. A whole period is devoted to one creation. What was this? It was either the creation or constitution of the solar system; or else it was making this system perform functions it had not previously performed. In either case, the light of the first three days did not come from the sun. There was evidently light *from the first day onward*. The existence of plants, which are dependant on it, prove that there was light the third day. But the sun may not have been created; certainly, did not give light to the earth, till the fourth day.

This explanation was adopted from the notion that there could not be light without the sun. But light does not depend upon the solar system. As now constituted, the greatest amount comes from the sun. But if this was the only source, we should be in darkness half the time. Light results from chemical action upon substances which the earth furnishes abundantly. The material universe is full of light, ready to be evoked at a word. By suitable combinations, we call it forth. But similar processes to those we adopt are going on spontaneously. Chemical action, on a vaster scale than man can follow, is taking place every moment, and floods of light are poured forth. The concussion of clouds lightens up the darkness of midnight with flashes more brilliant than the sun's rays. Combustion is attended with light as well as heat; and combustion is constantly taking place. It may sound strange to say that the most intense light is to be found, not *on* the earth, but *in* it. But one who has been in a chemist's laboratory when the compound blow-pipe was in action; one who has looked into a furnace of molten iron, may understand that, possibly, the whole of the sun's rays which reach the earth, gathered to a focus, would not be so intensely light as the centre of the globe. It seems pretty certain that, within the crust of the earth, is a globe of fire at least two thousand miles in diameter. The central mass is incandescent. Chemical changes are going on there. And down in that cavernous depth, which the eye of the sun never saw, there is light before which he would pale his fires.¹ On the first demiurgic day it would seem that great chemical changes were going on. After the creation of the elements this would begin at once; as soon as the law was ordained, the command uttered, by God. And the moment chemical changes began, light appeared. There was doubtless light in abundance, a light in which plants would grow with marvellous rapidity, produced by the chemical changes which commenced in chaos,

¹ Sir Charles Lyell does not agree with geologists generally in the opinion that the central part of the globe is a molten mass. He does not deny, but he hesitates to affirm it from present data which he deems insufficient to base an opinion upon. He concedes that, even if we suppose it solid, "it does not preclude us from imagining that great lakes or seas of melted matter may be distributed through a shell four or eight hundred miles thick."—*Principles*, Chap. XXXI. p. 537, Ed. 1853. See also J. P. Smith, *Geology and Scripture*, pp. 42, and *Supp. Note (Bb)*, p. 334.

long before the sun was constituted regent of the day. With our knowledge of the conditions on which light depends, there is not only no difficulty in understanding how there could be light at first, without any sun, but we see that this must have been the case. Science teaches that the first creation was accompanied by the manifestation of light. That which has been a stumbling-block is the corner-stone of creation.

Second day, vs. 6—8. The work of this period was the formation of the firmament to divide the waters on which the spirit of God had moved. There is some obscurity in regard to the work of this day. What is the *firmament*; and what *the waters*; and how were they separated?

We are told that the Hebrew idea of meteorology was, "that at a moderate distance above the flight of birds was a solid concave hemisphere, a kind of dome, transparent, in which the stars were fixed; and containing openings, to be used or closed, as was necessary." It was understood as supporting a kind of celestial ocean, called "the waters above the firmament."¹ It is supposed Moses represents the work of the second day as the construction of this solid hemisphere, and the gathering of water into clouds, above it, and into oceans, below it. In the popular apprehension, the passage is supposed to teach the formation of an atmosphere above the earth, in which vapors were collected in the form of clouds. This constituted "the waters above the firmament;" while that remaining on the earth, in seas, constituted "the waters under the firmament."

The popular notion does not meet the description. But it seems preferable to that of the Hebrews, as stated by Dr. Smith. He has abundantly shown that such were their views of the firmament. But we are not inquiring how they would understand this passage, nor even what Moses supposed to be the work he was describing. The principle assumed in interpreting the whole chapter applies here—we are to ask what God teaches.

If it is necessary to clear up the vague, popular notion of the passage, instead of considering the meteorology of the Hebrews, one might find in the account an intimation of what science suggests as a possible theory of creation. It would be the second act of creation, according to the "nebulae hypothesis," which, "ridiculed as it has been by persons whose ignorance

¹ J. P. Smith, *Geology and Scripture*, p. 238.

cannot excuse their presumption, is regarded as in a very high degree probable by some of the finest and most Christian minds."¹ If the "waters" spoken of were matter in a gaseous state, the separation would be the process by which nebulae were detached from the mass and formed into worlds.

No one can affirm that such was not the character of the "waters." Because of the word *water*, it is not evidence that it was not gaseous matter. The Hebrews had no other word to designate such matter. They called all such vapors מַיִם. Dr. J. P. Smith, and many others, suppose such were "the waters" of the first day. The waters of the first day were the same as were divided, the second day. And this would be accordant with the nebular hypothesis. According to this, the first form of matter was gaseous. There is no body in nature which cannot be reduced to this form, says Guyot. It is the simplest of all forms, the most homogeneous. It answers the description of the original mass, that it was without form and void. We know of no condition of matter in which it is formless, except the gaseous. Void is what we express by an absence of solid substance, which is a gaseous atmosphere. Such may have been the state of matter at first. The waters on which the spirit of God moved were this gaseous matter. On the second day it was separated, a portion was condensed into planets, above the firmament; and a portion made to constitute the globe, under the firmament. This explanation of the work of the second day, proposed by Prof. Guyot, is certainly worthy of attention.

Third day, vs. 9—13. The elevation of the dry land, and the creation of plants and trees, gives rise to no difficulty. It is the order which science suggests.

Fourth day, vs. 14—19. We come back to the creation, or constitution of the solar system. A specific and new work is introduced. The sun is represented as now, for the first time, giving light to the earth. Whether vapors obscured his rays heretofore, or whether he had not begun to shine, the representation is that now he *began* to rule over the day. It follows that the day which is indicated by sunrise and sunset now *begins*. As the sun had not previously been seen, the revolutions of the earth could not be marked by his appearance. The second declares the previous days were not solar days.

¹ J. P. Smith, *Geology and Scripture*, p. 246.

Fifth day, vs. 20—23. In the fifth period we have the creation of the fish and fowls. They come next to the plants. And, as far as science testifies, they are found in strata connected with, or next to, the plants. Remains of shell-fish and tracks of birds are found lower than any other animal remains.

Sixth day, vs. 24—31. The creation of animals living on the land, and of man, is the work of the last period. This is also in accordance with the disclosures of science.

It may be said, finally, as to the difficulty of understanding the several processes of creation, that minute details are not given, and we are not to ask for them. Many of the difficulties would doubtless be cleared up, if we knew everything that is involved in this brief, condensed narrative. The outlines of creation only are sketched. There is no filling up of the picture! When we find it difficult to understand the *theory* of creation which a man of science proposes, such as the nebulae theory of La Place, for instance; when the amplest exhibition of it, in many pages, leaves much obscure to one not conversant with science, it is not strange that we find difficulties in that statement which is compressed into one short chapter. The purpose of the historian was not to teach the art of world-making. No data are given for chemists to go to the laboratory and verify the process by experiments. This is a chapter in the Bible, and not a memoir for the Scientific Division of the Institute of France.

We are not, therefore, called upon to give reality to the narrative by so presenting it that the whole picture shall stand out clear. It is enough, and it is all we have attempted, to show a possible method of solving the difficulties which have been suggested. Having done this, we stop. There are not positive data sufficient to reproduce the six days' work; and conjectures are not needed.

[To be concluded.]