

**Revelation of science in scripture in three lectures : with introduction and plates in explanantion / by Investigator.**

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# REVELATION OF SCIENCE IN SCRIPTURE

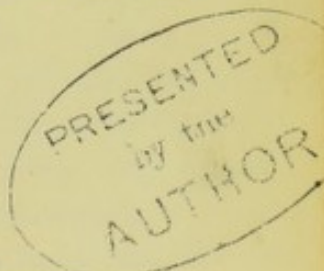
IN THREE LECTURES,  
WITH INTRODUCTION AND PLATES IN EXPLANATION.

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BY INVESTIGATOR,

AUTHOR OF OTHER SCIENTIFIC WORKS AND CONTRIBUTIONS.

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TO SCRIPTURE

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## PREFACE.

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IN placing the following pages before the public, the author, not having written for the sake of notoriety or profit, but to elicit the development of Truth, has withheld his name, and desires to do so until the work shall have been amply reviewed and criticised ; when, if such occur, and health and strength, in his now declining years, be spared him, he will, in his own name, answer the reviewers and critics with a new and enlarged edition ; and his reason for this is, that, having been an author on several other occasions, he wishes nothing of his previous merits or demerits to prejudice those who may favour him with their comments on the present work, in order that it may stand or fall on its own intrinsic worth alone.



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## INTRODUCTION.

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I DESIRE, in the following Lectures, to explain the first principles of Science as revealed in the Creation and subsequent re-distribution of the surface of the earth; that is, the consideration of the main undeviating laws and established facts, upon which the study of every branch of science must be pursued, in order to arrive at *just, comprehensive, and yet defined* conclusions. The word *science*, derived from the Latin "*scire*," *to know*, or to have knowledge and understanding in a matter, exactly explains its nature in all its varied branches, whether it be *Astronomy, Geology, Medicine, Chemistry, Culture, the Arts*, or any other branch.

I cannot enter upon such a subject as this, without claiming the most earnest consideration, closest attention, unbiassed feelings, calm dispassionate scrutinizing research, and the kindest indulgence in

the passing of a judgment upon the views and opinions expressed.

I know the opposition I lay myself open to, by attempting to set forth, in a NEW light, *the genuine colour*, not of new theories alone, but even of those *absolute facts*, which will and must overturn every theory or calculation not in accordance with the *Revealed Word of the Almighty*—"THE SCRIPTURE OF TRUTH."

I know also that from the time of the murdered Socrates to the time of the tortured Galileo, or the insulted and degraded Harvey, or the despised Jenner—indeed, from earliest ages of fallen man to the end of time—the blood of philosophers cries out with indignation against their defamers, but will ever rejoice in the establishment of the truths they inculcated.

Some time since I was asked to join the lovers and friends of humanity, as well as of science, to raise a frail, perishable *statue* to honour the name of Jenner, even despised as he had been through more than half a century of neglect and scorn; but, the humane Jenner, the devoted Harvey, the researching Galileo, and the soul-enlivening Socrates, have raised



*for themselves* STATUES, of a nobler, grander, and more imperishable structure, than the hand of *man* could give them, and which become embellished by time, perfected in beauty by the lapse of ages, and vie with immortality!

Pardon me, then, in asking such an indulgence; because the TRUTHS I teach will live after me, and I trust will be revered when I am gone. They are important; they concern our existence; they unravel the mysteries of the past; they reveal the secrets of the future; they comprehend the universe, and display the wisdom, glory and perfection of the Eternal Creator!

I cannot, in the following Lectures, enter so explicitly into the nature, or test the truth of all the *facts* so completely as I would wish to do; they have occupied a great portion of my time for more than forty years; and for the completion of such a work of proof, I should have to pass over in review the materials of which not only the earth, but all the luminary worlds and etherial space, are composed, resolving them, actually or mentally, into their primitive elements, testing them each, and grasp within my mind all the majestic works and opera-

tions of God, and scan them over from creation to eternity! These lectures, then, are but a mere programme or synopsis of what I would wish a course or courses of lectures to be, by which might be indemnified by actual experiment the truth of the facts to which I must refer. I desire also, so to expand the mind while I endeavour to explain the PRINCIPLES upon which this KNOWLEDGE can alone be obtained with accuracy, that it may the better comprehend the vastness of the subject under review, and form a just estimate of its value, when taken into due consideration with the works of others, both as regards each individual fact itself, and the proof it affords of the perfection and the predetermined and foreseen purposes of the Creator.

The *necessity* for knowledge is seen in every thing we daily undertake to do; and as all knowledge *understood* is science *in effect*, it is certain that the more knowledge we possess, and the better we can understand the nature of the work we have to do, the more readily and the more advantageously can we perform it. Nor can it be doubted but that it is a holy and heavenly command for us to seek after and zealously obtain knowledge and understanding; for



the 4th chapter of Proverbs gives us this express injunction: "Get wisdom, get knowledge, and with all thy getting get understanding." And Solomon himself received the greatest earthly blessings ever bestowed by the Almighty upon a man, simply because he desired knowledge and understanding, or wisdom, in preference to riches, as is recorded in the 2nd Book of Chronicles. Hence we have not only a command, but the greatest of all inducements from HOLY WRIT to study Science and *understand* it. And in performing this we should remember "that whatever is worth doing at all, is worth doing well;" or, as Solomon says, "Whatsoever thy hand findeth to do, do it with thy might." Hence, we have a sacred command for perseverance, which is most essential in scientific pursuits. Nor are the commands less sacred for the observance of patience, without which all our energies are in vain; therefore, we should hold it a maxim not to cease in persevering so long as there is anything to be accomplished, and not allow our patience to be exhausted. These are preliminary principles or precepts which are not only found in *the Scriptures*, but which also testify to the truth thereof, by their results: and there is yet one



more of them to which I must call attention, viz. :—  
respect and regard for the opinions of others ; or, in  
the words of the poet,

“ Whene’er you talk of what you view,  
Think others see as well as you.”

For it is only by re-viewing an object in different positions that its true character can be ascertained. If, therefore, we meet with an opinion different to our own, let us first endeavour to consider the subject in the position in which that different opinion has been formed ; then compare it with the knowledge of our own opinion, and the difference is the error to be accounted for, and for which we must be able to render an account, otherwise we fail in substantiating our own opinion ; hence the opinions of others are the tests of our own, and we should be thankful that we have them to consider. For instance, a mountain viewed from two different positions will give two different outlines of its figure, yet it is the same mountain unaltered, and the different outlines are accounted for by the different positions of the observers ; and by a number of such observations we obtain a knowledge of the true figure of the mountain.

But before we examine the truth of opinions and theories, it is necessary we should rightly understand the nature of, and what is meant by, a fact. Every thing is *fact* which is known to be true by its perfect accordance with universal and undeviating laws, which are *unalterable* in their nature and properties; hence the existence of any substance, and the changes to which it is liable, are known to be facts because the substance itself, as well as the elements composing it, obey fixed laws; so that, after the destruction of any substance, the elements which composed it can be proved to exist unchanged, although they may have formed other substances or have been dispersed: hence, it is a fact, that all material is to be accounted for. It is of no use to say "a thing has worn away," or, "been consumed;" we must be able to account not only for the manner in which it has been worn away or consumed, but also able to find or prove the material existence of that which has apparently been worn away or lost, and demonstrate the unchanged nature of each element composing it; thus, if we burn a piece of paper, the paper no longer exists, but the materials,—that is to say, the *elements*—of which that paper was composed

can be obtained in some form or other ; and having obtained them, we find there has been formed, out of the carbon which existed in the paper, and oxygen supplied by the atmosphere during the combustion, *carbonic acid* or *carbonic oxide* in quantity exactly proportionate to the quantity of carbon which had existed in the paper ; so that the one is the test of the truth of the other. Again, the fact of anything being placed in a certain position is ascertained by its position obeying undeviating laws ; hence, the surveyor ascertains the positions of landmarks, or the astronomer calculates the periods of time, and both are found correct. We are not, however, to consider a thing to be a fact simply because we see it ; for, the sun appears to go round the earth ; whereas, the *fact* is, the earth goes round the sun, turning on its own axis ; and the truth of that fact is ascertained by undeviating laws, which are in accordance with every other known fact.

Whenever we meet with what has been supposed to be a fact, and find it will not agree with the laws with which every other known fact agrees, we prove the non-existence of the supposed fact ; or, we were in error relative to what we supposed to be *known facts*,



or the laws to which they must be subservient. Hence, fact is truth and must be incontrovertible. We are therefore bound to establish facts, so that we may know and easily recognize fact from hypothesis by the test of fixed and *undeviating laws*; and, by the constant application of such tests, we prove these very laws to have been called into existence prior to, or coeval with formation, or even creation; and that what we term in common language "the properties of materials" are, in fact, the laws by which we must distinguish one material from another. Theories are only calculations supposed to be true according to the extent to which they accord with facts, and by which facts themselves, or our errors regarding them, may be discovered; but the undeviating laws which are coeval with creation and caused formation are themselves facts in accordance with their perfection; and, indeed, these very laws form a part of the creation; therefore, they are all perfect without any exception; being the work of a *perfect* God,—THE GOD OF PERFECTION; while laws or rules formed by man are never free from exceptions.

"Hence, perfect laws a perfect God adorn,  
Imperfect laws imperfect man disgrace."

In the study of these laws we shall find our *first per-*

ception of the *perfection* of the Creator and creation. By these laws we establish truth and detect error, and all error must be accounted for, till it be completely swept away.

The first great fact is the actual existence of material, and, aided by the knowledge of the laws which the science of chemistry reveals regarding the different forms, features and combinations which materials assume, that *that material* is not all of one kind; but that there are many different kinds of material, each of which can be defined by undeviating laws, and that each, when in a *perfectly pure, uncombined, unassociated* state, is an element—that is, a material whose particles are not compounded chemically or otherwise, but are completely isolated from each other and from the particles of every other different kind of material and their extraneous effects.

The next great fact is, that elementary material, having been created and brought into existence, cannot be again taken or made to go out of creation or existence:—it may change its state of existence into thousands of different forms of composition, but it still exists, and its elementary existence can never be destroyed, nor can the laws change which it is created

to obey. Hence, all material is to be accounted for in its elementary state,—not an atom can be lost; true, it may sometimes be where we cannot lay hold of it, still we can account for it, and may be able to account for the changes to which the compounded elements are now liable.

By the word *material* we are not only to understand things which we can see, but also the elements of which their substance is composed, and which, in a pure state, cannot be seen by the human eye, although they may be appreciated. We must therefore distinguish between atoms of *elementary material*, and atoms of compound material substance—an *atom* being the smallest particle of *any* material. Hence it is a fact, that every compound material substance can be destroyed; that is, the elements composing any compound substance can be made to change their form of existence; but the elements themselves cannot be destroyed; they must ever retain the same nature and properties with which they were endowed when they were first created, and obey the laws to which they were created to be subservient; hence the creation of the elements was *prior* to their union to form substance, and also



separate from the laws to which they were to be subservient.

These are facts which will bear every test that can be applied, and lead us to the consideration of another fact, hitherto unnoticed by philosophers, the unobservance of which has been a most grievous and fundamental error of geologists and other scientific men. It is simply this ; that, for the same reasons that every compound material or substance can be destroyed or made to change its form of existence, and that the elements—the pure elements—composing such compound material or substance, cannot be destroyed, *it must also be a FACT, that no compound material was created in the state in which we find it ; but that the Almighty having decreed his universal and undeviating laws without calling them into action created also the composing elements, PURE, in an isolated and ethereal state ; and in accordance with the purity of the Creator Himself, and that then, by uniting these elements, compound materials or substances were afterwards " FORMED " or " MADE," according to the ordained laws which they were made to obey. But why, it may be said, in an ethereal form ? Because every element, if perfectly pure, and un-*



affected by any secondary law—as for instance compression or any kind of attraction, &c.—must be in a state in which every one of its atoms (or primary parts) is distinct and separate; and to possess this state, an *element* must be *ethereal*. This principle is beautifully set forth in the Scripture narration, which, in the first verse of the Bible, describes the creation of all material; “the heavens and the earth,” as “WITHOUT FORM AND VOID,” that is without solidity or a describable form of substance; and as “*waters*,” not WATER, but “*waters*,” (plural):—the more exact rendering of the Hebrew would perhaps be *fluids*, or *vapours*; and an Hebrew has given me this exact rendering of the word,—the very terms applied by scientific men to all ethereal substances. This accords also with the third verse of the second chapter of Genesis, where we find the express words, “*all his work which God created and made*,” or, as the Hebrew more beautifully expresses it, “*created to make*:” evidently showing that He, having first ordained laws, created the elementary materials and then caused them to obey those ordained laws; and then, in accordance with their effects, formed all compound material substance; so that every change which

appears to us as a change consequent upon the natural state of things, is a predetermined change consequent upon the laws created by the Almighty.

Hence every pure element must be ethereal, and every element has its peculiar properties, or the laws to which it was created subservient; and which laws, consequently, were first brought into action at the will of their Creator, concurrently as, and when *formation* first or afterwards occurred. Therefore, in Creation we behold not only all the materials of which the earth and all the orbs of heaven are composed, *as pure elements*, all of them separate, and all atoms apart from each other, extending through (to man) infinite space, without a centre or a single point of attraction, but yet placed in their order, arranged as created, in perfection, and appropriately adjusted, prepared to carry out at command, the will of the Creator, according to that for which they were created; but we behold also in the same creation the ordainment of the LAWS—perfect laws—to which those elements were to be, and still are, subservient; and the study of those laws constitutes what is termed SCIENCE;—the *art* which unravels the constitution of the worlds, and indicates the perfec-

tion of the laws as derived from ONE, the only CREATOR.

But those laws could not act until the FIAT came from their Creator, which attached those laws to the elements. And thus we behold "in the beginning" the creation of all that was to form "the heavens and the earth," and that they were created "*void and without form,*" until the fiat for formation came. So the first FIAT given after creation was "*Let there be light ;*" and then certain of the elements, acting in obedience to those laws—and which laws chemistry reveals at the present time in all the original purity of the creation — formed in perfection what they were commanded "*to make*" or "*form,*" so that "*there was* LIGHT," which had not before existed. Behold, then, the PERFECTION OF THE CREATION and of the description given of it! For all the laws and peculiar properties were void and null without material to maintain their effects ; and material could not form substance without the laws and peculiar properties by which alone chemical combinations and consequent formations were effected with the utmost precision, universal effect, immediate result, and a velocity analogous to the electric



current, which we now perceive can go round the world "in a moment of time!" Hence, the *formation* of the substance and the perfection of the compound materials of the earth and of all the worlds in heaven in the time given as described in Holy Writ. For the sacred commands betoken the issue, or application of all the laws and properties to which all materials were to be for ever subservient, while the principles of "*forms*" should last; and by which all the varied "*forms*" of substance were established.

We therefore come to the consideration of material as it was created before anything was "formed" into substance or "made." Every sort of material in its uncompound and pure state being an *element* cannot be resolved into any other materials; and the separated particles which constitute each sort of material and are called *atoms*, could have no power over each other except by the force of laws established and brought into action after their creation by the *fiats* of the Creator. On the consideration of these principles are founded Dalton's Atomic Theories. Chemistry now reveals to us that these atoms of material are invisible to man in their

purity; but can be joined together in countless ways, and form the substances which we see, provided they are FIRST placed in opposite states of electricity; and that the substances can all be resolved again into the elementary condition, by producing a change in that electric state; and these electric states and changes are produced naturally by the effect of light, or artificially by the effect of electricity, magnetism, &c., which enter into the composition of light; but that the elements, as elements, remain unchangeable as they were created, and that all these changes are made subservient to *fixed laws* WHICH CANNOT CHANGE. These are facts with which every scientific man who has studied chemistry is, or ought to be, familiar. We are not, however, to consider the solid substances which we can see and handle, and many others of which we are only cognizant, and which, for convenience and perspicuity of language, are termed and considered elements, are *pure* elements; for instance — the metals, gold, silver, iron, &c., which, in the purest solid state in which we can obtain them, are considered (for convenience in description) elements, are not *pure* elements; for they are still alloyed

with that which binds their particles together and makes them solid, and without which they would expand into an ethereal state; thus, they contain latent caloric, magnetism, galvanism, &c., &c., and are also under various influences of attraction and compression; so that, although we *call* them elements, they are not *pure* elements; nor can a perfectly pure element be now obtained by man on earth, but we may perceive and perfectly understand the nature of pure elements by the laws and facts which chemistry reveals. This may in some measure be explained or exemplified by water and other fluid substances; thus, if we remove the pressure of the atmosphere from sulphuric æther, we shall no longer find it a visible fluid, but an elastic invisible vapour; and although invisible, each of its particles or compound atoms contains, and is composed of, several elementary atoms. By the word *atoms* we are to understand, as before stated, the most minute particles into which any material, either compound or elementary, can be in any manner divided; hence, atoms may be either compound or elementary, and are the component parts or particles of every material, but there can be no such thing in existence



as "half an atom." Again, a *single drop of water* which consists of innumerable atoms of water, can be resolved into its composing elements of oxygen and hydrogen, and will then measure about two cubic inches under the ordinary atmospheric pressure. If we remove that pressure, they will expand, in human computation, almost unlimitedly; only the laws of chemistry demonstrate such expansion to be ultimately definite, and that they will re-unite only in the exact proportions to form water again, with an *immediate—instant—*condensation to a thousandth part of their previous bulk; yet not of themselves; another material, electricity, must be brought into contact, and enter into union with them, when their union becomes INSTANTANEOUS, and not till then: this is a proof that out of creation, God *thus wrought out* formation, and first formed light as the chief agent to produce that effect in other combinations; and that water is not composed of oxygen and hydrogen *alone*, but that they are conjoined with ELECTRICITY, which we find *essential* to all *composition*, and which is conveyed and distributed by light.

Before I proceed further with the subject of creation, I must refer to the "Scripture of Truth,"



as the Bible is termed in the Book of Daniel; because its testimony is not only important, but explicit; and all testimony should be most strictly examined, must bear the tests of truth, and we must continually refer to it. I will not, however, enter upon the theological proofs of the Almighty, nor the theological proofs of Scripture; let both of these be committed to abler and purer hands than mine; but the natural identity of the Scriptures with Science proves the truth of both; therefore, to this identity, as an established fact, I must briefly refer, as illustratively comprehending the whole subject. If we are to doubt the truth of Scripture, and, not applying its descriptions, only receive science as a testimony to prove it true or false, we rob ourselves of the powers of explanation; for the testimony of Scripture, if we receive it as a truth, explains all the mysteries which science is, of itself, unable to demonstrate. Science presents us with phenomena which are like the wheels of a watch, and which, examined separately and alone by a stranger to machinery, may be thought to be badly and roughly prepared, and which, if they had been perfectly smooth and beautifully polished at the

edges, might be thought to go round much faster and easier without obstructive cogs at their edges, &c., which he may fancy would clog them. The Scriptures represent the watch maker, who explains the use, value, and perfection of the cogs, in size, position, and number, and that by them alone the watch is regulated in exact accordance to their perfection and action one on the other, through other mediums, as springs, pendulum, &c. Rob ourselves, then, of the explanations of Scripture, and we are unable to comprehend the perfection of the mysteries of science. But if the Scripture be taken as a TRUE DELINEATION OF SCIENCE, we shall find the mysteries of science unravelled, and all the facts of science will dovetail with each other and illustrate to perfection the immutable truths of Scripture.

Therefore, until it can be demonstrated that Scripture is false, I receive its statements as the perfection of truth, and the best demonstrator of the explanations the mysteries of science demand. This beautiful and perfect adaptation in explanation and illustration of SCRIPTURE AND SCIENCE is the most powerful vindication of their having both been

ordained and produced by the one and same primary, Almighty, and Eternal God.

The Bible is the only record that gives us an account of the Creation, and instructs us in the nature of God, upon which any reliance can be placed. Let us, therefore, examine it; for there are those who doubt its truth; others who hold it as only partially correct; others who would pervert its statements; but I will stand upon the BROAD PRINCIPLE that it must be TRUE or FALSE *altogether*. If true, Scripture and science must be in perfect unison; if false, their discrepancy will reveal it.

Now, we are told in that Bible, "all Scripture is given by inspiration;" therefore it must be the record of God Himself, and the proof of its truth must be found in this identity of God, as that Scripture states, in "all His work which He created and made" being in accordance with the record given. First, look at the record itself; it tells us that "God is true;" "is truth;" "the true God;" "God cannot lie;" "is perfect in all His ways;" "the Lord, He is God;" "the law of the Lord is perfect;" "The testimony of the Lord is sure;" "that He hath *made* all things that are;" that "He is perfect



in wisdom ;" and we are to understand that GOD is Himself *perfection*.

We are also told, in the same book, to "seek after wisdom" and "*get understanding*," and to "search the Scriptures, for they are they which testify of Him." We are therefore commanded to prove the truth of the record, by *understanding* the facts *related therein and found in Creation*. If the book be inspired by God, who is perfect in truth, then every word is sacred and must be true ; otherwise, God would make himself a liar, and nothing therein could be believed ; because we could have no reliance on the testimony of a liar ! If, then, "all His work" proves the testimony to be correct, we must believe the whole as it is written, "*Thy Word is Truth*." Therefore in the examination of the facts of Creation, we must seek for the confirmation of the Testimony ; the Testimony must guide us in the investigation of His works ; and the truth of the Scriptures will be established by their accordance with the perfection of the work of Creation. Alas ! how many ministers of the Gospel, professing to be servants of God, have dreaded to compare the written word of God, with the works of God, lest the former be found wanting !

But such a dread could only arise from a deficiency of that wisdom which they are commanded to possess by research, and which portrays a want of confidence in the Creator. It was the priests of the Church of Rome, who, in ignorance of the truth (but in zeal for the truth, like as it was with the Apostle Paul before his conversion), tortured the famous Galileo, under the influence of that deficiency of wisdom ; but, how changed since then ! That same Church of Rome is now desirous of extending scientific research for the purpose of maintaining the truth of Scripture ; and the late Cardinal Wiseman, of London, has been eminently successful in his demonstrations thereof. Let not *Protestants*, then, be slack in such a work, with the fullest light of the Bible before them, or they will unite Atheism with their Reformation.

It may be said that the interpreters were not correct ; if, in that manner, any error has crept in, it could only have been permitted by God *for a purpose* ; and such an error might be detected by the examination of the works themselves, or the original manuscripts. The interpreters also give us, in the margin, every change to which a word is liable ; but, in no instance, is the general meaning altered in the



least, although often is its meaning correctly explained; and the constant scrutiny the Bible has undergone proves how little alteration in it is possible, considering the Book in great part has endured more than three thousand years since its revelation and enrolment, and will be preserved to the end of time by the same Holy Spirit which dictated it; for we are told, "though heaven and earth SHALL PASS AWAY, yet my word shall not pass away till all be fulfilled;" and again, "not one jot nor one tittle of the law shall fail." The Bible then, written by God as it were, is itself the testimony of God, not only as to Scripture, but regarding science also; and the one stands the touchstone of the other; for, if we can prove from Creation that the Scriptures are false, the Author of the Scriptures must be false also; but, if Creation proves the truth of the Scriptures, it proves also the truth, or fact, of their Author or Developer being the great Creator of all things. But it may be said, perhaps, "it is an easy thing for a man to bear testimony of himself; he must prove his testimony true;" that is good; therefore He hath commanded us to examine creation and search out the truth; saying, "to the Law and to the Testimony," as the

Bible tells us, "not one jot nor one tittle shall fail"—  
"none of these shall want their mate." For, if they  
fail or want their mate, then, and *then* only, is His  
testimony false, and He cannot be the God He hath  
declared himself: but, if *that* which has only been  
revealed *to-day* will prove *that true* which was  
declared *and written more than three thousand years*  
*ago*, who will dare to say God's record is not truth?  
Examine the fact—all CREATION!—*the universe*  
*itself!*

But, will it be asked, what of the law?—Can the  
laws be proved?—I answer Yes!—And therefore call  
upon every doubting individual to examine the  
Almighty's works by the aid of CHEMISTRY—that  
branch of science which is the *foundation* of all the  
others. Chemistry unfolds geology, and unravels  
Creation, by *fixed laws, perfect, and in harmony with*  
*the law written in the Testimony*, and by it, the Law  
and Testimony thereof are proved, and found  
PERFECT!—Here behold wisdom, purity, truth, and  
perfection—THE ATTRIBUTES OF GOD!

Alas! I am not worthy of the task I have under-  
taken—would it had been confided to abler hands, to  
a tongue more powerful in words, to lips more able



to impress their expression upon the human mind ; to pens that would engrave their writings on adamantine rock, that their stamp might never be erased !— But so it is, and in accordance with the Law and Testimony, that even the very *humblest* of His creatures, such as I am, should display His glory, and utter it to the extremities of the earth !

As we proceed in our description we shall unfold this identity in perfection.

But I must next refute, by facts, some of the theories that have obtained credence in the world. I must be brief ; although it has been truly said, “that more words are required to demonstrate the errors of false doctrine, than to explain truth.” But it is necessary, because nothing confuses more than false doctrine.

I refer to *theories* which invalidate the sacred writings and declare the God of truth to have uttered that which was false, and which deviate from, or make exceptions in, the laws which govern the universe ; which exceptions would, were they correct, render the laws of the universe IMPERFECT, and bespeak *imperfection* in the Creator. The most prominent theories are those by Buckland—a man

of most eminent talents, but evidently destitute of chemical research, without which no man can be a qualified geologist—and published in his Bridgewater treatise; written for, and approved of, by one of the most learned colleges in the world—that of Oxford. And for similar reasons I condemn, *in toto*, the wild speculative theories of other authors, relative to the age of man, and the world; which have been formed on a superficial view, without sufficient research or test; as also those views of certain authors who endeavour to prove a day—or the “*evening and morning*” which constituted each day, in the 1st chapter of Genesis—to mean a thousand years; as also those who calculate the periods of time from the evidences of certain strata, which contain only remains of extinct creatures, or strata containing different kinds of petrefactions in different places; or who form their calculations of time from the effect of agencies existing at the present day. For all these theories will be found utterly abortive when I come to the consideration of the Deluge. I revere, however, the *facts*—the visible and proved facts—which all these great men have recorded.

Buckland's ideas are, that the earth may have

taken millions of years in its formation ; or, that it has been formed out of other worlds, which have been created and destroyed. And yet he supposes the earth to have been a heated melted mass, still remaining melted not many miles from the surface, and continuing so to the centre ; that the cooling down of this mass formed the crystalline rocks, upon which were deposited by water the stratified rocks ; and even thinks he detects certain eras. As these ideas form the foundation of his theories, as well as of those of many others since his time, I have only to upset these to complete the destruction of all that have been based upon them, even those which only refer to upheavings and water deposits. To oppose these theories, I will only relate facts. If the earth had ever been a heated melted mass, all the principal metals would have been volatilized *out* of the crystalline rocks ; whereas they are principally found in them. This FACT alone belies his doctrine. But further, if it had been a melted mass, it would, on cooling, have presented an uniform texture, which it does not ; different kinds of crystalline rocks being found in successive layers, and in different positions at different places. If the earth had been made, as



he has supposed, from former worlds, he should have told us how those worlds were created; for they would have required a "first great cause," as well as the present world. Yet more, he has not told us *by what laws* they could have been brought together, for such laws must have been altogether *different from the laws which govern the present universe*, and by which alone the balance of the earth and all the orbs of heaven are maintained and their courses directed. Yet he hath stated, "that God is all powerful, and could have made different laws at different times;" but TIME itself could not then have been created, or measured; and the "Scripture of truth" also denies it, because God would not then be "perfect;" for His works would be imperfect if they required one law at one time, and another law at another time. He has supposed creatures to have existed, in some of the eras or ages, without light; but he has not known, or not observed, that without the elements which compose light, and the effects which light affords (for light is a compound material), the crystalline rocks could not have been formed, the heavenly bodies could not be directed in their courses, the materials of substance could

not be bound together, solidity and "*form*" could not be obtained; how much less, then, could anything live? And without light not a particle of herbage could grow. Scripture also tells us that the earth was created "*void*," or empty, and containing nothing in the "*form*" of substance; therefore, it could not have contained a vestige of any former world, for then it would not have been "*void*;" much less could it have had any "*formed*" pre-existence before the first day, for we are expressly told it was created "*without form*." Again, if the remains of creatures had been slowly covered by the lapse of ages, as supposed by him, or in accordance with the calculations of others, and *gradually* buried, they would have rotted and crumbled into dust, and have been destroyed ere the rocks now containing them could have been formed; and such would be contrary to the known fact, that the *instantaneous* covering up of a substance, and its *permanent* exclusion from *air* and *light*, are the best means for its preservation, and, we may add, for its petrefaction; especially delicate fabrics, such as some remains exhibit; and some specimens, such as those of the tortoise, frequently found

in the Isle of Purbeck, have the appearance of having been suddenly crushed and covered up by an overwhelming weight of earth or rock ; which shows the violence of the convulsion which entombed them. The calculations of the eras or ages by Buckland, and many others who more or less entertain his views, from the depositions of rivers in our day, and the inroads of the sea, &c., in times past or passing, are all equally as false ; for all the rivers in the world together, could not, in many years, produce on any single spot, so much destruction or accumulation as the Deluge produced in a single hour, according to the account related in the Scriptures.

But, still further, if the earth had been formed by fire, or under the effects thereof, all remains of former life would have been destroyed by the heat alone ; it would, moreover, have been an impossibility for water to have existed thereon in such a case ; yet the "Scripture of truth" states the dry land was made "to appear" out of the waters, which is the most beautiful, concise, and perfect description that could be possibly given of the condensation of the earth by the process of crystallization, under the powers of attraction and revolutions. But if the rocks



were slowly formed by depositions from water, as some authors state, where is that water gone to? The present extent of ocean is not enough to produce such an effect; for it is not one thousandth part of the bulk of the earth! Even if the *quantity* of water had formed as much as a tenth of the earth, it would not have formed a solution or fluid when mixed; hence, the water of itself could not have deposited the earth. Nor could it have deposited a part at a time; for, from where could it obtain each separate part without a derangement of the eternal laws and balance of Creation!

Again, they tell us that the mountains have been upheaved; but they do not describe the powers that were the cause of such upheaving; nor describe the abode they must have left; the changes which must have occurred; or what could have replaced them. Buckland supposed the heated melted mass to have caused it; but, setting aside the ocean, which he appears to have forgotten at the moment, how could such upheave coal without its taking fire; and that coal still preserving the most delicate marks of vegetable growth? Besides, if the heat could have upheaved the mountains, it would have *decomposed*

*all* the water—a circumstance which has escaped his observation ; and the vast caverns, of miles in length, in stupendous mountains, are also forgotten. Others speak of “the retirement of the sea” ; but have not shown whither it went, nor the cause thereof.

Hence these philosophers have raised visionary fabrics, which vanish on the examination of *the very facts they have THEMSELVES related*, and which we shall go into more deeply hereafter. Do not think for a moment that I condemn these great writers *in toto*—far from it—they are men of truth ; and I believe they would not utter a lie if they knew it—no, not for all the wealth the world could give them. They have related *facts* as well as *theories* ; and some of them have spent their lives in search of facts, and are worthy of all honor for the records they have left of them : but they have formed theories, *as they thought*, and tried to make, in accordance with the facts they have discovered ; and it is well they have, though I now refute them ; for their theories bring us to the examination of their records and the records of Scripture, by the light—*the piercing light*—of FACTS related and *proved* by such men as Brewster, Davy, Faraday, Volta, Dalton, and a host of others ;

and by such examination, we find *the facts established but most of their theories destroyed*; and all destroyed which are not in unison with the "Scripture of Truth." No theory, therefore, is worthy of confidence which will not bear examination by every fact on record. And, as I have stated in my lectures elsewhere, *Chemistry is a heap of facts—the test of every theory.*

It is necessary for me to state, that I hold electricity and galvanism to be two separate elements—the former causing union, and the latter separation; yet that they have many properties in common, perhaps arising from their inseparability from caloric: hence, they both inflame gunpowder, but electricity alone unites oxygen and hydrogen to form water, and galvanism will not produce that effect; but galvanism alone decomposes water, and electricity has no such effect. Electricity may be collected from the atmosphere by its compression, the electricity being received and collected by conductors for that purpose; galvanism is not so produced; but galvanism is produced by the oxidation of one metal in the presence of another of greater attraction for it; electricity is not so



produced, but the two may be combined and united with other substances. I have already explained that caloric is an element; I have now to add, that its chief feature appears to be that of causing expansion of the particles of the substance evolving it during chemical changes, so essential in germination, and seen in combustion; but that it enters into chemical union as with light and other materials, and remains quiescent till evolved by some latent cause; yet caloric is sometimes evolved by condensation where a chemical effect is produced: and that magnetism is also an element endowed with many similar properties to caloric, electricity, and galvanism, yet it has very peculiar properties and exerts most powerful influences on the surface of the earth, as well as in its interior, and diffuses the effects of light; and it is apparently in connection with a yet undiscovered element, which is the cause of the effect seen in the power of attraction which one body exerts over another, and which may be known as inherent attraction. Light, in its composition, contains all these, more or less, according to its source, and other materials also, which can be exemplified by analysis.

## LECTURE I.

ON THE CREATION AS RECORDED IN THE SCRIPTURES  
—ITS MUNIFICENCE AND PERFECTION.

LET us now examine the Creation more closely, and throw all theory aside, except such as the facts themselves develop; for in the Creation is the perfection of chemistry revealed; and, as I have already stated, chemistry tells us—and demonstrates the truth of what it tells—that no substance (neither rocks nor water, not even the sun, nor the moon, nor the stars, nor even the light which they evolve, nor anything else) was created in the “form” in which we now see it; but that the Creation was “*void*” and “without form,” and yet that the Creation comprehended and contained all the elements which could be required to form the materials of “the earth,” whether liquids or vapours, or any *solidity*, in chemical or compound union, whether that solidity or other union have reference to *this* earth, or that which

composes the sun, moon, planets, or stars, even light, or anything else: consequently, we must understand the word "earth," in the first verse of Scripture, to refer alike to all earthly substance, or substances suitable *to form* earth; for at that period there was *no division* or isolation into distinct forms of material, until the fiat was given that there should "be light" and "a firmament." So that *all* material being ethereal, was comprehended in the word "*waters*," or the *fluidity*, upon the surface of which "the Spirit of God moved;" and it was then, when the "Spirit of God *moved*," that He said "Let there be light," which was the FIRST FIAT in formation. Then we find, on the formation of light, that God "*divided*" it from the darkness; therefore, it is but natural to suppose, or to perceive, that the material elements which were not required to form the light intervened between the light and the darkness, and thus, formed a medium of *division*, or "*divided*;" and this supposition or statement accords exactly with the acknowledged principles of chemistry, because the elements would be thus placed essentially in an electro-positive and negative position, between light and darkness; and there is nothing else mentioned or referred to by



which a *division* could be occasioned, but the elements; and this accords also with the statement that "the Spirit of God *moved upon the face* of the waters"—as much as to say that it did not *move* or produce commotion *throughout* or *all through* the extent of the waters—but *only* "upon the face of the waters," though His Spirit may have been, or rather was, and must have been present throughout the whole extent thereof. Light therefore being the result of the FIRST FIAT, which immediately followed the "*moving* (or producing of commotion) *upon the face of the waters,*" it is a natural consequence that the light was, as it were, above, or "on the face of *the waters,*" and the darkness behind, or beyond them—the "waters" thus forming the division, and that movement on the face of the waters, reasonably comprehends the movement of the finer or more subtle essences which were necessary in the formation of light. Now the chemical effect of this position of the light would be *first*, the plus electrifying of the particles or atoms, nearest to the light, or as it penetrated through them, between their atoms; and then, *the receding* of those particles or atoms as they became plus electrified from the light, would give

place, so that the non-electrified atoms nearest thereto would then take their place approaching to the light, also to recede revolving when plus electrified, and be again followed by others in rotation, until the whole, *to the extent required*, were thus plus electrified on the side of each atom nearest to the light, and, as they became thus electrified they revolved—so that this revolving and *receding from the light*, constituted “*the evening*,” and the revolving and *approaching to the light* constituted “*the morning*”—and “the evening and the morning” constituted “THE FIRST DAY;” for the sun was not formed then, yet we read that the “*day*” thus existed, neither had our earth been formed or separated from the rest of the atomic worlds;—although the light was divided from the darkness, forming day and night, there was, then, no division or separation of any one portion of material from another, except for the formation of light, but every atom as it receded from, or approached towards the light, would revolve, or, even if only receiving the light at a distance, would revolve on its own axis, and such revolution would produce to each atom, as it revolved, day and night: there was therefore the revolution of each atom as it were, once

on its own axis, and the one revolution *en masse* of all material as it was thus penetrated or affected by the light, and by which all material elements became affected, so as to be prepared for the SECOND FIAT ; and we may also perceive that the *evening*, as stated, preceded the morning, the first effulgent light constituting NOON.\* Thus we behold in the Creation and subsequent formation, and the description thereof, such perfect order, and prepared design, that nothing was wanting, nothing was superfluous, and each separate work was preparatory for that which was to follow, till all was complete and the Day of Rest prescribed.

THE SECOND FIAT followed in course : "and God said, *let there be a firmament in the midst of the waters, and let it divide the waters from the waters.*"—How beautiful ! how exact is this description !—For the command is to divide all that vast fluidity I have above referred to into distinct portions, each portion containing all the condensing materials of a sphere : moreover, the position of the firmament is

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\* The effect of electricity (or magnetism) in producing revolution may be readily seen by the electric wheel, or by placing a magnet needle on a pivot on the conductor of an electrical machine in action.



described and ordered in "*the midst*" of the waters, which shows the great extent of the divisions: and we are told that "God called" or named "the firmament *heaven*;" and the rendering of the Hebrew word for "firmament" is "*expansion*"; therefore, we find this "*expansion*" to have commenced in the midst of the vast fluidity, caused by, or itself causing, as the effects of light penetrated the fluidity and produced the necessary different electric conditions of the atoms, the condensation of that fluidity into separate portions,—into the distinct portions predetermined,—leaving as it were extended space, or expansion, between them, by their condensation, exactly as must have been the *chemical result* of first *formation*, or of the first chemical union of particles in forming compound materials, as I have stated is the result when water is formed out of its component elements, oxygen, hydrogen, and electricity; and precisely in this manner is the same result attained when corresponding elements condense to form any other, or all other material substance, or compound fluid atoms; hence, the expanse of heaven is revealed, as the fluid atoms were thus gathered together into separate spots, to form the compound

atoms of the new materials necessary to the "*form*" of each sphere apart, and which effect must have been instantaneous in first union, and then their own capillary attraction drew together what was required for each sphere; which spheres, as they were thus consolidating, and becoming more dense, or watery, left the "*expansion*" (the word given in the margin of the Bible) between the thus separating groups of the composing elements, *distinct*; and yet that space filled with that finer ether in which the not yet formed spheres were ultimately to move, and in which can travel the rays of penetrating light uninjured and affording all its multitudinous effects; and thus still producing revolution by its electrical effect, already produced on every atom of material on the first day, and now continued on congregated bulks of new formed material, we thus again see, as each forming sphere revolved, the evening and the morning reproduced to all the material of the universe, forming the second day by a second revolution as perfect as the first; so that again we behold even a SECOND DAY before the sun, or the moon, or the earth, was "formed." In order that such formation of the worlds should duly take place as condensation pro-

ceeds, we behold, as the THIRD FIAT was given, placed in each patch of separated materials, which the intervening "expansion" or "firmament" thus separated apart, a FIXED CENTRE, towards which the particles tend to gravitate in accordance with the chemical laws of attraction and crystallization producing each solid sphere.

Let us next consider the nature and effect of the THIRD FIAT:—"Let the waters under the heaven" (*expansion or firmament*) "be gathered together into one place, and let the dry land appear." This effect would naturally be produced by the centrallization which this fiat occasioned; viz.: that as soon as a centre, or the point of "*one place*," was fixed, and an attractive point was given to those fluid atoms of "the waters" which were under the firmament, they would "be gathered together into one place;" and that that centre was and is still THERE, Sir Isaac Newton has abundantly proved; and the effect of that gathering "*into one place*," under the effect of a common centre to each sphere, would be exactly as we find recorded in regard to this earth the *appearance of the dry land*, as more fully related in 2 Peter iii. 5, "the earth standing" (or "consisting" or standing together)



"out of the water and in the water," and this must have been the appearance of it; for, as the earth solidified, the limpid streams of superfluous water—that is, superfluous for crystallization and consolidation, but not superfluous for the designed work—would ooze out of it at all parts, running down the slopes in streams and rivers, and form in the lowest recesses of the earth "the gathering together of the waters," which, "He called seas," and which, thus subsiding, left the land "dry," which "*God called earth*"—mark, He does not say *the earth!*

Therefore, inasmuch as in the first verse of Genesis "the earth" is there referred to, and that in the 10th verse "the dry" (for the word land is in italics, to show that it was not in the original text) is called "Earth," it must be considered that the words "the earth" in the 1st verse do not refer to this our earth alone, but to all "the dry" in every other sphere. This earth being described as an example of the other spheres. And this fact is fully confirmed by the recent discovery by the aid of Chemistry of evidences of the existence of Lime, Magnesia, Phosphorus, &c., in the sun, which shows that that sphere, and, from

analogy, the others, contain materials similar to those in this earth, and that they were condensed into "*form*" obedient to the same laws as this earth: therefore, there is every reason to believe that the word *earth* in both instances refers to the materials of all the spheres, and that when their elementary materials were created they were ALL (and not *this* earth alone) included in the expression of being "void and without form"; and that these vast condensations left between them the extent of space or "expansion" which we now find in the heavens. To such a beautifully concise description we could neither add nor take away a single word—for chemistry was not known to man, much less understood, when the testimony of God was written—because more could not have been said to have rendered it thoroughly intelligible without the knowledge of the development of chemistry. But chemistry develops to-day the truth and perfection of the record given more than 3,000 years ago by Moses!—such is and has been the perfect wisdom and determined council of God as a TESTIMONY OF TRUTH.

This consolidation of the earth was thus completed, which like all His works in creation, was duly pre-

pared in the course of its formation for that which was to follow ; therefore, the soil was endowed with the richest nutriment, arranged by perfected wisdom, and received from creation the germs of vegetable life; not in the form of seed; for the perfected state of the soil required not the nourishment which the seed now gives to vegetable life, being rich enough and prepared in itself, having been created and formed in perfection; the germ only, as created in the beginning, was required, and that, like all the other works of God, was disposed in due order as required on the face of the earth, which, revolving under the continued and perhaps more concentrated rays of light, produced vegetation on the same day, as an almost instantaneous effect, when the FOURTH FIAT of God went forth on that same third day:—  
“Let the earth bring forth tender grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth.”  
Hence, under a perfected creation, we see perfection's work in a perfected state, and the immediate result in perfected vegetation, as the perfected work of the God of Perfection. And the same effect may have been going on, as regards the consolidation, also in



the other heavenly bodies, and we know not what else besides, at the same time ; for we are not told when the first consolidation of the sun, and moon, and stars took place, we only know that they were appointed for *lights* and for *seasons*, and *days* and *years*, on the *fourth* day ; therefore, their preparation for such events was not unlikely completed by their *consolidation previously* on the *third* day, concomitant with the earth ; in either case the effects and results are the same ; and we find the light still producing its effects by the third revolution of *now solidified* (or solidifying) material, producing evening and morning as before, which rendered the THIRD DAY complete. We must not forget to observe that the special work of each day was *perfect*, and that to each day and each work, "*God saw that it was good.*" The earth, therefore, could never have been a *chaos*, as some have supposed it, for the Creator, being perfect Himself, creating and forming all things "good," could not have permitted an imperfection in His work, except apparently so, for a wise purpose and designed result ; and the order and due arrangement and inscrutable wisdom perceived will not

for a moment admit that there could have been a vestige of confusion, which some have supposed to have possessed the earth when first created! Man may be confused and confounded, but "God is perfect in all His works!" We also find that for the formation of the earth, *only that portion* of the fluid atoms out of all the created materials was taken which was "*under the heaven*," or expansion, or firmament, and of that portion, He saith not "*all*," as He only referred to what He required; and we also read in the seventh verse, how this peculiar portion of the created materials was separated and divided from all the rest by the intervention of the firmament or expansion; and this accurate description leads us readily to perceive that this must have been but a very small portion compared with all the rest; for the firmament was, or commenced, "in the midst of the waters," or fluid material; therefore, there must have been material also above, and all around on every side, as well as "under" the firmament; and that there were more divisions than one is also readily perceived by the extent of the FIAT in the sixth verse; "Let it divide the waters from the waters;" so that here was the separation which separated apart the material

destined to form each sphere distinct, and the separation of that which was to form the earth from all the others ; but the Word of God has only given us the description of the *exact* formation of ONE, *this earth*, which we are most concerned about, leaving us, from that description, to unravel—by comparison, and analogy, and “search”—all the rest. Therefore, having given this earth a “*form*,” and described its formation, beautified with verdure and every lovely adornment, the record passeth over any description as to how the other spheres were formed or beautified, but proceeds to give the *fifth* FIAT—“*Let there be lights in the firmament of heaven*, to divide the day from the night, and let them be for signs and for seasons and for days and for years ;” but there is no mention here of the *months* of the moon ;—an exactness which is very important, and to which I must refer hereafter ;—but we read, “*Let them be for lights in the firmament of heaven, to give light upon the earth ;*” then follows the description : “*God made two great lights, the greater light to rule the day, the lesser light to rule the night ;*”—“*He made the stars also.*” Herein then we may perceive all that great extent of material resulting from the elements of the



first creation, which was above and beyond the firmament on all sides, separated, and condensed into their separate spheres; no longer holding their former position; for, as *they* condensed, the firmament must have extended between them, and throughout their whole extent, so that they were no longer above or beyond, but "IN" the firmament; which at once shows us the formation and ordered direction of our solar system "and the stars also;"—for we read on, that God "SET" or placed them "IN" the firmament; and we also read that they were "*made*," again showing the making or formation of them out of the materials which He had previously created and prepared, and "set" apart for them. Yet we find all this takes place in accordance with the FIXED LAWS *which chemistry and astronomy reveal at the present day*, and in perfect accordance with the FIATS as and when they were given. Hence we can see the hand of DIVINITY in the works which we are examining, the power and control of the Creator over them, and the perfection of the laws decreed, created, and fixed as we find them at this day unaltered. For the condensation of material produced the expansion of the firmament; and this gives place and space

for the effects of light ; and light, by its inherent electric and magnetic nature and composition, gives the due motion, and maintains the required position of the heavenly bodies through the instrumentality of its peculiar nature and its perfected composition for the purposes required of it ; as we have seen, first to the elementary atoms, then to the heavier atoms of compound material, then to the perfected forms of the consolidated spheres, then to these with measured velocity and due illumination, marking the seasons, the days, and the years ; so that, on and after the fourth day, TIME was measured with exact precision : all the formed spheres having been thus " SET " or placed in their true positions, with the required motion, which commenced in each atom first, and was thus accumulated and continued in the bulk of each sphere, giving course and direction to each as the expansion of the firmament made way for them, on the evening and the morning which completed the FOURTH DAY. And, although there was no sun perfected as now, in the first creation, the first three days were measured by the revolutions which the effect of light produced ; and the first effect of light was its

full glare, as it were noon of day, on the elementary atoms; and at the same instant revolution of the affected atoms commenced, and evening approached; hence evening and morning is the exact description of the first and following days; the *evening having preceded the morning*; which serves to show how perfectly correct is the wording of the Scripture! When we only thus far look on the creation, "which" as God declared to Job, (chapter 38, verse 7), brought forth the earth, "when the morning stars sang together, and all the sons of God (or angels) shouted for joy," can we stand back and not perceive the infinite wisdom of the majestic omnipotence of an eternal Creator, who brings forth out of eternity perfected creation, which He will again resolve into an eternity when "*time shall be no more*"! But they who will not believe the words of Moses and the prophets, neither have been persuaded by the resurrection of the Son of God, will yet feel the truth thereof, when God shall cause "the dayspring to know his place, that it might take hold of the ends (or wings) of the earth, that the wicked might be shaken out of it; it is turned as clay to the seal, and they stand as a garment; and from the wicked their light



is withholden, and the high arm shall be broken." (Job, chapter 38, verse 12—15). Thus He completed the magnificence of the ordinances of heaven, and revealed His munificence by His works on our earth in preparing it for living creatures.

When we consider all these wonderful effects of Light, we cannot fail to see that it is a type of our Saviour—as it was the "*first fruit*" of formation, and therefore taken by God to adorn His revealed presence; so was it emblematical of the offerings ordered to be made to God of the "*first ripe fruits*" and the "*first born*," and therefore of Christ as the "*first born of God*," and of His being "the light of the world," of His being made an offering to God—of God being glorified in Him; of His purity; of His enlivening influence; of His acceptance by the Father; of His giving a clothing appearance; and as light was the power of God in the formation of the world, so is "the gospel of Christ the power of God unto salvation to every one that believeth;" and all to whom that light is not revealed remain in the darkness of the wrath of God; and so "without Him was not anything made that was made;" even as light, the first work of God in formation, became the power of

God in producing all other combinations, placing all atoms in their required electric position—for no chemical union could or can take place without that position being first obtained—and the atoms being placed in opposite states of electricity; for, all particles or substances in the same or plus electric state repel each other; so we may see the necessity for light to be first formed before other formation took place, and its power in placing each new formed sphere in its true position and in directing its course by the power exerted over each:—so beautifully do the works of God harmonize with the laws and record of God!—We therefore perceive in the *fiat* which gave the sun to rule the day, and caused it to be “set” or placed in its true position, a power given to the sun as a centre of the whole system, drawing towards itself the concentrated particles or atoms composing light, which it impregnates with a positive electric force, causing them to be sent forth to all the other orbs, as the poet Thomson says—

“Flings from the sun direct the flaming day;”

which, having performed their duties, return by the effect of their altered electric state, by which perhaps

even the comets are directed in their courses and assist in the effects produced ;—

“ And, as on earth this grateful change revolves,  
With transport touches all the springs of life.”

Hence under the effects of light all vegetation is conducted. It was experiments of Sir H. Davy that established the principle that plants and trees do not derive their nutriment and substance from the soil except in very small part ; the great bulk of every tree consists of carbon obtained from the atmosphere ; but a nutritive soil imparts exhalations to the atmosphere when, under the effects of the rays of light and the vitality of vegetation, they chemically deposit the carbon and other substances required for increasing size of vegetation ; yet all is so beautifully arranged by the order of the seasons, and day and night, that every part of the plant is duly served and nourished in turn, and in exact proportion for the required effect. If therefore we duly consider the effects produced by, or during, day or night, or season, or climate, we shall more readily perceive how, out of a new creation, and immediately after, or even continuously with the new formation of the earth, vegetation should so instantaneously clothe it with a



garment. It appears a natural and chemical result; yet it occurred in due order and arrangement under the FIAT of the DEITY. If we suspend a piece of zinc in a solution of lead, a metallic tree will speedily result—its root, as it were, attached to the zinc, and the leaves and stem ramifying the solution. Every chemist knows the cause of this—it is a galvanic action—and just so the atmosphere deposits carbon for vegetable sustenance—only, in the metallic tree it is a simple deposition of one particle on another, but in vegetation it is not only deposited, but received by the circulating medium of the plant, and distributed as the VITALITY of the plant requires it for its growth, beauty, and perfection. Herein, then, do we see the VITAL POWER of the plant acting upon and united with the chemical effects; during this process heat is, as in many chemical effects, evolved, but is not lost; it ascends until, in a more rarefied atmosphere, it is reunited with descending rays of the sun, to be re-used in producing chemical effects; hence the earth and every heavenly body retains in and around it the same equilibrium of heat which was bestowed to it in creation and formation; and this accounts for the increase of heat under the more direct rays of the

sun, than where they are more oblique ; but the heat of the atmosphere is also varied and regulated by moisture, clouds, and other effects, to which it is not now necessary to refer. Hence the heat of all the heavenly bodies is duly provided for, and as duly regulated as on the earth. Moreover, whatever heat was evolved by the condensation of the earth or any other sphere, there was not, and there could not have been more evolved than was necessary for the perfection of the work and the maintenance of that equilibrium which would be necessary for future existence ; and this is known and seen by the contemporaneous development of "tender grass," and all other vegetation, which could not have taken place under a very high degree of heat. Thus far, we behold the development of the earth and every thing thereon necessary for what was to follow, viz., animal life ; and we behold Time duly commence its exact measurement ; but we see also that, as TIME had not before the fourth day been *measured*, except by the "evenings and mornings" which constituted the three previous days, it must have been created for a purpose, and that when that purpose has been fulfilled, then, as Scripture saith, "in an instant, in

the twinkling of an eye, we shall all be changed," and "TIME will be no more." The purposes of God will have been fulfilled, and the new order promised will prevail—Eternity will recommence.

Yet think not that the laws will change; it is corruption and not perfection that will be changed; "that which is perfect will remain, but that which is imperfect will be done away with," to make the full perfection of all His works, the glory of our God.

We now come to the SIXTH FIAT, on the fifth day; and we behold the essences of life bring forth out of the waters—on the same principles as impregnation produces life in the egg, by application of warmth—on the fifth day "abundantly the moving creature that hath life, and fowl that may fly above the earth;" "and God created great whales, and every living creature that moveth which the waters brought forth abundantly after their kind;" "and the evening and the morning were the fifth day." Then on the sixth day the earth brought forth in accordance with the SEVENTH FIAT, and in accordance with the same principles, "the living creature after his kind, cattle and creeping thing and beast of the earth after his kind;" and the principles herein involved are pre-



cisely those which cause the impregnation of the egg at the present day, under the effect of heat, by which vital electricity is rendered active and produces in due time the living creature ; only, under the perfected state of a new and perfect creation and the FIAT of the Deity, who, having created the elements and made the sustaining nutriment according to His due requirements, the time required now was not necessary then for the fulfilment of His commands ; but the principles involved and the sustaining laws were the same then as now. And in the same manner, but in God's own image, created He man—but the woman “was taken out of the man ;” yet the same principle is sustained, viz.: the change in the position of particles or atoms, so as out of one substance to produce another with the same material ; and this change is wrought in every egg which produces a living creature by the growth of the vital ovum sustained by the yolk of the egg ; only in this instance the woman was a part of the man, and the woman was made for the man and not the man for the woman ; and herein is a mystery, which our Lord has Himself, and the apostle Paul, explained in part, but over which a veil still hangs, yet not to those who

live in Christ;—for, as the man cleaveth to his wife and the wife obeyeth the man, even so Christ loveth His church, the bride, and the bride longeth for her espoused, to the fulfilment of the purposes of God in creation. But we need not compare these changes to that only which takes place in an egg; for the growth of the foetus in the womb, the change of the tadpole to the frog, or the issue of the gnat from the water to the air, the change of the caterpillar to the chrysalis, or this to the butterfly, all illustrate the PRINCIPLES employed to bring forth living creatures under the powers of new creation and original formation, and under the working hand of the God who brought forth that creation; yet there are those who have dared to doubt the power of that God, as if man could measure the power of the ALMIGHTY GOD by the *comprehension of a man*! or, how can a thing formed boast itself against or question its maker?

We have now gone through the work of creation and the formation or *making* that followed, and the order that existed;—we are verging on astronomy, but can barely allude to it, yet we must briefly hereafter;—we will now refer to a few points in connection with the views of some geologists,

who endeavour to make the first days of Creation correspond with, and believe them to mean, each day for a thousand years, on the truth of the remark "that *a day* with the Lord is as a *thousand years*, and a *thousand years* as *one day*," but this remark was made to show that the Almighty comprehended *all time*—from eternity to eternity—and was not made in reference to creation; for such a notion must be evidently incorrect, because we are told in the 14th to the 19th verses inclusive, that the sun, moon, and stars were "made" and "set in the firmament," "to rule over the day and the night," only on the fourth day: therefore they could not have been ruling over the first three days, even if they should have comprised 3,000 years or a length of time analogous to it. But light was there on the first day, and was divided on that day from darkness, and so became itself the ruling power over the first three days, as I have described. How long those days existed no man can tell, for years and months and weeks were unknown then; they were not in existence nor had been, and the measurement of time had not begun except by the revolution of elementary material, or the compound atoms which were to form



the worlds; but we know that sufficient time was allowed for the pure elements to enter into composition and assume their required position more readily and more quickly than we now receive or send a message round the world by the electric telegraph, so as to form the materials required not only for the earth but the host of heaven; the sixth verse tells us of their separation into the distinct divisions which were to form the heavenly bodies, each apart, and one of which was to form the earth; and although the earth was completed on the *third* day, and the heavenly host occupied *one day longer*, yet there is every reason to suppose the formation of the earth and the heavenly bodies were all progressing at and from the same time; that is, the fiat on the third day, or if we take the *separation*, from the fiat on the second day. Let us look again at the beautiful and concise words, the separation or division of "*the waters from the waters*," and observe that the *plural* or word *waters*, is used in *both* instances; that no earth, no solid substance is mentioned, because no solid substance was there; no vestige of a former world; no chaos or confusion, but that "God saw that it was good." What will our great geologists

say to this? They will ask us to account for the evidences of the rocks and the strata of the earth.—Yes, and we shall be prepared to answer them hereafter, in the following lectures.

Let us first look at the word "*rule*." Does the sun rule the day and the moon the night? We have only to try the experiment, and we shall soon find the necessity of the sun for vegetable growth by day, and its general necessity for all synthesisic purposes, and of the moon for decompositions at night; hence, each is a ruling power with an absolute sway, yet defined; and each fulfilling purposes peculiar to each, and by no means confined to these two peculiar properties, for they have many properties in common; and when I say that each has its peculiar properties, I mean that they are the more dominant in the one or the other, according to the composition of the light, which either imparts, inasmuch as the moon transmits less, proportionately, of the red or heat effusing rays.—Lunar light being reflected rays.

Next, we may be asked how the heavenly bodies could be set in motion? Motion commenced, as we have stated, as soon as light was formed, feeble though its power may appear to us now; yet

chemistry demonstrates its electrical effect upon poised atoms, by the immediate union of certain vapours, upon which no effect is produced till exposed to the light; therefore it was powerful enough to produce the effect required, by acting first on the pure elementary atoms, then on the compounded atoms, then on the heavier accumulating mass, increasing the proportionate velocity, as there was nothing to oppose the motion, until the required velocity was attained essential to mark the true course of time, as well as to regulate the motion of each; and this power may be represented by a wheel set in motion by electricity, and thus, each sphere acting as a balance, or a counterpoising weight or influence to regulate the motion of the others, as the wheels of a clock, the currents of the ocean, or as a pound of lead falls heavily, and a pound of feathers falls lightly according to their balanced state; but we must also perceive that condensation, producing the (almost perfect) vacuum of space, or *expansion*, gave open course for motion.

We must next call attention to the 4th and 5th verses of the second chapter of Genesis, wherein it is stated that such were "the generations of the heavens



and of the earth when they were created, in the day" (or time) "that the Lord God MADE the earth and the heavens, and every plant of the field BEFORE IT WAS IN THE EARTH, and every herb of the field BEFORE IT GREW, for the Lord God had not caused it to rain upon the earth, and *there was* NOT A MAN TO TILL THE GROUND," so that everything grew without cultivation, which shows the perfect order which prevailed. Even had there been a doubt before, there could be none on reading these verses, that the creation of the pure elements preceded the formation or making of all substance; and nothing could, without entering into and explaining the principles of science, more distinctly relate, that the peculiar LIFE GERM of every plant and every herb was "created" and "made" before it grew; and that that germ, whether a pure element or a compound of elements (for we possess not the powers of analyzing it), still exists in its purity within each peculiar kind of seed or egg, or fecundated ovum, and is distinct from the seed, egg, or ovum; hence the seed, or egg, or ovum is barren without it, and fruitful when possessing it. But that it is a compound of elements we may justly infer from the mixing of peculiar breeds, and the produc-

tion of hybrids:—but it is very remarkable that hybrids generally cannot reproduce their species, neither in vegetables nor living creatures; or, if reproduced, gradually return to one or the other of the original species: so that, while this proves the compound nature of every life-germ, it at once gives the lie to the doctrine that one species is in any way descended from another, or from a mixture of species; thus, man could not come from apes, nor could apes come from man: hence, each peculiar species, however *that species* may be varied, keeps its own peculiar diagnostics, as recorded by Laurence in his *Essays on Man*; and hence we may infer that the life-germ is a compound of a peculiar elementary principle, with other elements in common; this is further elucidated in the 7th verse of the 2nd chapter of Genesis, which shows that the “breath of life” or “living soul” of “man” was the breath of the Almighty himself; and hence the body, which is dust, is to be returned to the earth after death, but the “spirit” or “soul” or “breath of life” “to the God who gave it,” who in the resurrection will re-clothe it in immortality according to the spirit it hath worshipped in

this life: therefore, saith the apostle, "*try the spirits whether they are of God*" (1st John, chapter 4, verse 1st), "for there are other spirits in the world"; therefore, he saith in the 6th verse of the same chapter, "he that is not of God heareth us not." What! it will be asked; did God breathe into man two kinds of spirits? Did He impart good and evil? No! Scripture saith not so. Examine—see what it does say. We find all was "good" until another spirit came in the form of a serpent, and imparted into mankind a spirit that was not of God; hence it is that in man exists the spirit of God and the spirit of the evil one, according as he submits himself. As God formed man, man never doubted God; and it was not until he had eaten of the fruit of the tree of knowledge that that evil spirit entered into him, which was the fruit of the tree, and which causes a man to distrust his Creator, causes him to raise himself up and question that Creator—question His power; and which, because his own eye cannot perceive, nor his brain comprehend the infinite majesty and almighty working of Jehovah, causes him to place himself as a judge over his God, and as it were to occupy the "*seat of God,*" and denounce the Wisdom of the



Eternal God, by the finite reasoning of a man, "whose breath is in his nostrils," and who is "nothing to be accounted of." For if a man be wise and great, he is so only by the gift of God, and not by his own understanding. Therefore we see that God "sowed good seed only," but that "an evil one sowed tares;"—that there is in man a good spirit which is of God, and leads to Him if he will follow it, and there is an evil spirit which, if he follow it, will lead him to destruction; so the good spirit, if a man follow it, will lead him to search the Scriptures and find the *truth*; and so the evil spirit, if a man follow it, will lead him, in searching the Scriptures, to doubt their truth and deny his God; and in that spirit he will not hear or trust to the words of Moses and the Prophets, nor believe in the resurrection of the Son of God, as of "one from the dead." No! for they will not believe even the God of Truth! What do we see in Adam when he is called to account by God? His first sentence was to blame his God: "the woman whom THOU gavest to be with me"—a thrill of horror seems to go through us as we read the words. Would he have withstood the temptation if she had not been given? How willing, how ready to blame the woman,

and condemn his God for giving her to him ! But such is the spirit of the world, which, even when a man attempts to do good, is ever ready to impute evil and condemn ; but man cannot expect less now than God himself received then. We are entering on religion ; but it is so bound up with the Creation that separation seems impossible ; and we may observe that it does not appear possible that that evil spirit could have existed in our Saviour, inasmuch as, though born of woman he was not begotten by man, but of the Holy Ghost, (vide Luke chapter 1, verse 34, 35). Therefore, though fully exposed to temptations, yet there being no evil spirit in Him, He was enabled to resist the devil, who had no power to overcome Him, although he tried hard to gain that power, when he said "All these things will I give Thee if Thou wilt fall down and worship me" (Matthew, chapter 4, verse 9) ; therefore, unable to subdue Him to his authority, the devil persecuted Him to His death ; but His body, being perfectly free from sin, could not undergo corruption, hence His spirit re-entered and glorified it ; and this shows us the example and power of evil, in accordance with our Saviour's words, "in the world ye shall have

tribulation," and is applicable to all who labour in the cause of Christ.

Finally, we may say that there is always hope of a man, as long as he liveth, that he will turn from the power of the evil one and cleave to the spirit which is of God, through the power of redeeming mercy in Christ Jesus our Saviour.

We now leave the subject of Creation, and turn to examine the earth as created, and its destruction afterwards by the deluge.



## LECTURE II.

ON THE EARTH AS CREATED, AND THE DELUGE  
THEREOF.

IN taking into consideration this subject, we must first endeavour to ascertain the state and nature of the earth itself previous to the destructions which the occurrence of the deluge wrought, as well as the phenomena attendant upon, or preceding it. This we partly accomplished in the former lecture. We then saw how that the elements in a pure state, each separate and distinct, not condensed, but in an expanded vapour, were first created in the beginning before anything was formed, or condensed into the form of substance; that the laws, to which the elements were to be subservient, were also then created; and that after that, the light was the first result of, or material produced by, combination; that as combination and condensation, by attraction, repulsion, and crystallization, proceeded, the expanse of

the firmament of heaven was established, solid material produced, and the earth formed on the third day—or third revolution of material under the effect of light—and the sun, moon, and stars set or placed in their position on the fourth day; that the rapid, almost instantaneous, vegetable growth, which must have resulted on the third day, and perhaps have continued, though more modified, for some time after, was in perfect accordance with the laws to which the elements were created subservient, and which laws chemistry reveals at the present day; only, at that time, under the effects of new creation and formation—and the perfection of the works of God, and the perfect working of the Creator—all material required for each form was at its appointed place, in its necessary state, at the required time; whereas at the present day we must, in all formations, *wait* for the approach of the requisite material, and for its preparation into the state requisite at its required place and time without detriment to other necessary conditions; this constitutes the difference between production in the order of creation and what is natural now. I have also stated how that the earth was then perfect, in accordance with the perfection

of the Creator and all His works, and had been pronounced by Him "*good*." Let us now examine that wonderful work of perfection, *the earth*.

There are two plans for that examination. The one is to ascertain, from the present evidences of destruction, the nature, force, and extent of the violence which occasioned it, and therefrom draw our conclusions as to what it was; this may be termed a *retrocedent* view or examination. The other plan is to conceive, as near as we can, however imperfect that conception may be, from the Sacred Record given and the revelations which chemistry and physical science unfold, what must have been the state and condition of the earth after creation and formation, before a single curse had been pronounced upon it; and then estimate the nature and effect, on that condition, of the curses and violence which the Scripture details, and see if all accords with the facts which the earth reveals to us in the present day; this I will term the *antecedent* view. Whether we take either or both these views, we come to the same results, which prove their correctness. It would be vain to attempt, in a single lecture, to refute, one by one, all the various theories geologists and other



writers have set forth, and who have formed those theories by considering the subject insufficiently or only in one point of view. In fact, there are very few persons who have duly considered even the nature of the deluge itself, and we shall generally find that it is looked upon as though it were merely an ordinary rain of forty days and forty nights, and a rising of the water in consequence of that only; and then they naturally suppose the whole earth could not have been under water at one time from such a cause, or, indeed, from any cause. This narrow view consequently causes some of them to set limits to the extent of the flood, which again causes them to believe the flood could not have produced the geological appearances found in various parts of the world; this again leads them to look for *other* means which could have produced the vestiges referred to; hence, have arisen the supposition of the lapse of millions of ages—the supposed pre-existence of former worlds, &c. Thus, one error being allowed to creep in causes a thousand to follow, until the deluge is *denied altogether!*

With this brief outline of false theories, I shall proceed to refute them all, by simply relating the

facts as stated and referred to in the Scriptures, and proved to be correct by the standing evidences of facts in the present day. For, if these facts are but strictly considered, the Scripture narration can never be doubted. In such a review we have not only to take into consideration the 6th, 7th, 8th and 9th chapters of Genesis, but also all the phenomena attendant upon and after the deluge, and also before it, especially the nature and condition of the earth itself, from the time of creation, as verified by Scripture in "Genesis;" and in addition to all this we must refer to quotations from the other books of the Bible, many of which bear directly or indirectly upon that great event. In carrying out this plan let us first take the antecedent view before referred to, and go back to where we left the earth in the last lecture, as formed on the third "evening and morning," and we shall find it, as stated in 2 Peter iii. 5, "standing out of the water and in the water;" *formed*, as it is stated in Genesis i. 9, not out of *water*, but "*the waters*" (plural), which in the seventh verse we find set apart expressly to form the earth—the nature of which waters, or *condensed* but yet *fluid* materials, I then explained. As the earth became solidified, all

the water not required for its solidification oozed forth, and gathered together in the lowest recesses between the then stupendous mountains with which the earth was surrounded, first forming little rills high up on the mountains, gradually increasing to streams, then rivers, descending to the great deeps which formed those recesses; which "gathering together of the waters God called seas," as stated in the 10th verse.

But we do not find the earth then in the condition in which it is now; yet, the dry land, which God termed "earth," formed then, as it does *now*, the greatest part of its bulk. Let us examine the quantity of water and the quantity of earth; and we shall find that the quantity of water is only about one thousandth part of the whole:—and why? because the greatest depth of the ocean at the present day is not supposed to exceed ten miles; for throughout its greatest extent the bottom has been reached even to a depth of 7 to 9 miles in the middle of the South Atlantic Ocean; but by far the greatest extent of ocean does not exceed one mile in depth, and its extent of surface, including lakes, &c., is only about three or four times that of the land. But there are



reasons, to which I shall presently refer, for supposing there was not at the time of the formation of the earth even so much water as now.

Perhaps it may be asked how do I know that the earth is solid? Is it not hollow? But astronomical and physical science has made such progress, that the actual weight of the earth has been ascertained and found to be five times, or five and a half times, as heavy as it would have been had it been composed of water only; or nearly twice as heavy as the hardest rocks themselves; thus proving the quantity of metallic substances which those rocks contain causing increase of weight; iron, the most abundant, being seven times as heavy as water, gold and platinum about twenty times as heavy. There can be then, judging from the proportion of the metals found in it, no doubt as to the solidity of the earth; and from measurement that the water forms only about one thousandth part of its whole bulk. It could not, therefore, have been possible for the mountains to have been upheaved out of the sea, much less could they have been deposited by the sea, the bulk of water not being sufficient for such an effect.

It is useless for Professor Ramsay to say, at his

lectures at the Royal School of Mines in January, 1875, that he "had proved" and considers the date of the upheaval of the Scandinavian and Grampian mountains as "fixed," and that "between their upheaval and the period of the upheaval of the Ural mountains there was a great lapse of time" (or words to that effect) for he has "*proved*" nothing of the kind; he has made assertions of his opinion, but they are not proofs; and I defy him to show that the earth ever contained since its formation any physical power of making such upheaval as he refers to. But he has shown proof of the truth of the Scripture narration when he refers to the vast and great changes which the metamorphic rocks have undergone since all those mountains were formed. But he again makes his calculations of time according to the slow action of effects in our day, and counts "evidences of 100 dry land surfaces" as periods of time, and represents them each as representing what might at each period have been considered "as a primeval forest!" We may now, for the present, simply deny that there is any proof whatever of his theoretical assertions in regard to the upheaval of the mountains, or epochs; but we will again refer to such

statements as these after we have given our description of the earth, and the flood and its effects. For it will then appear that the FACTS he has stated confirm the Bible description of that period, while they disprove all his theoretical calculations regarding time.

But let us proceed with the description. After the land and sea were formed, we find (verse 10), "God saw that it was good." Now, if it was "good," it must have been perfect, and perfectly adapted for all that was required of it; and the perfection which we find in *all* the works of God proves that such must have been the case in the present instance. Hence the earth, and its then atmosphere, were adapted for the immediate or contemporary formation of grass, herbs, and trees. The earth was consequently immediately clothed with verdure sufficiently throughout the whole of its habitable extent for its intended occupation; and its rapid growth soon afterwards produced abundant shade; for, in the garden of Eden, where man was placed, we find in Genesis iii. 8, "Adam and Eve hid themselves among the trees." And although this rapid vegetable growth was no doubt greatly decreased and assumed a more ordinary rate after the earth had been *perfected*, yet



from the genial state of the soil, as well as the climate, it must have been much more rapid and productive all the time before the flood than at any time since; for, after the flood the physical state of the earth was changed, and the growth of vegetation, as well as the length of life of all living creatures, were consequently affected, and life was evidently shortened. Yet this rapid vegetation and the great length of the lives of all living creatures continued for 1,655 years before the flood; therefore, the extent to which the earth was then overgrown and overstocked with living creatures must have been amazingly vast, almost beyond our calculation, especially in particularly favoured spots; for the shortness of life, *now*, indicates corruption and disease; but the length of life, *then*, portrays the purity and health which prevailed, and the peculiar nature of the climate as the cause thereof. But, it must be evident, that as in the new formation of the earth, with the heavier particles settling below and the lighter above, thus arranged by the power of its central attraction, and all combined and prepared in the perfection which caused it to be pronounced "*good*" by the Almighty, nothing could have been better adapted than the soil of the

new earth for vegetable growth, as well as all the requisites for animal and other life ; and it is therefore evident that such soil must have prevailed in all the habitable parts: so it will also be seen that *the climate* must have been *equally good* and *adapted for the required results*. And why do we come to this conclusion? Because there were *no storms, no clouds, no devastating wind, no hail, no rain*, and therefore no overflowing streams to cause devastation ; no lightning, no thunder, no stagnant swamps to breed corruption and disease ; nothing to derange the innate order of creation—such was the perfection, the beauty, the splendour of the earth ! For, in Genesis ix. 12—17, we read of God giving the “rainbow,” “as a token of a covenant.” Now if the rainbow had ever appeared before the flood, as it now appears to us *on the clouds*, it could not have been “*the token of a covenant*,” AFTER THE FLOOD, “that the waters should not again cover the earth ;” for, in that case, no one would ever have believed it ; it would have been self-evident that if such a flood had once occurred after it, the same might occur again. The absence, then, of the present form of the bow in the cloud *passing* over the earth before the flood, is

proved, and is the best proof possible of the perfected state of the earth itself and its atmosphere at that time ; and that God did not give the earth to man in an imperfect, improvident, or corrupted state. But what more do we learn from the absence of the rainbow? — *that there could not have been a cloud* ; for, if there had been “a cloud to pass over the earth” there would also have been a rainbow. Hence, again, the absence of the *clouds* testifies there could have been no storms, no hail, no lightning, no thunder, no rain ; for such, we all must well know, could not occur without clouds in some form or other ; and this is also confirmed, Genesis ii. 5, 6—“God had not caused it to rain upon the earth ;” but, “there went up a mist from the earth and watered the whole face of the ground.” See, then, how much that simple Scripture declaration of the rainbow confirms, and how *perfect* THAT CLIMATE must have been, which could produce the gigantic ferns and other plants and animals of which the *vestiges only* are now found in the earth, confirming their previous existence, and of which specimens can be abundantly seen in the British Museum.

The earth being formed according to the laws of



crystallization and attraction, must have presented on its surface the most stupendous mountains, studding its entire surface in successions of them, far beyond what now exist, while the spaces between them formed "the great deeps" of the seas; and the tops of these mountains, from their extreme height, must have been pinnacled with ice formed at their formation; which, glittering in and reflecting and refracting the resplendent rays of the sun in a pure and clear atmosphere, and exhibiting the most magnificent *rainbow appearance on the tops of the mountains*, without a cloud to obstruct the vision, must have formed a gorgeous spectacle, and have served to condense the "MISTS" at night which rose by day and were attracted towards the mountain tops, and which, as they began to condense towards evening, would also reflect the rays of the setting sun in ruddy grandeur; and then at night be caused by them to return, for the most part, in condensed mists forming streams, but also in softer night dews resting on the herbs and trees of the field, trickling down, and in both of these cases filtering through the soil, "*watering the whole face of the ground*," as we have just quoted; and these mists also, perhaps on the sides of the mountains, may

have presented the "bow" appearance there morning and evening. Where, on the whole earth, can we find such a perfected climate now? Although, perhaps, such a climate may exist in the moon or other spheres even now. Such a perpetual blending of the DELIGHTS ONLY of spring, summer, and autumn combined in one, without the desolations of a winter! and, as I shall presently show, without a volcano! Oh, what a glory was the earth created! Well, indeed (Job xxxviii. 7), might "the morning stars sing together, and all the sons of God shout for joy" to behold *the perfected beauty of creation*. But we yet learn something more from the absence of the rainbow and *this consequent state of things*. There must have been an astronomical difference regarding the motions of the earth, and also of the moon, before the flood, to what has existed since; and it becomes self-evident that the convulsion which caused the altered motions of the earth, and moon, was also the cause of the flood, and produced the present state which we now find to exist.

We will, however, revert to this again. Let us first fully describe the earth; and taking into consideration its perfected state, we are NOT TO SUPPOSE

it was overspread, AS NOW, with deserts, barren, scathed and unproductive mountains;—mountains, which, as *now* seen, evidently have the appearance of having been washed bare and broken off in ragged crags; and all around which in every part of the world we find a confused "*debris*," or rubbish, which was evidently once part of those mountains, and which must have been thrown down by some cause or other. But we must consider the earth, which I have already shown to have been created in *beauty* and *perfection*, to have contained mountains of which the present "ragged crags" are only the remaining vestiges, and which were at that time clothed with verdure as far up as they were habitable either for human beings or other creatures; and as this state of things, as above described, would be utterly incompatible with volcanoes, they could not have then existed *as such*, although the material for their eruption had no doubt been prepared in the formation of the earth, so that they should break out as a result of the general commotion which the flood was to produce, predetermined by the foreknowledge of God, as I shall better explain in the geological evidences in the next lecture.

But the mountains, instead of having their present



perpendicular appearances, must have been for the most part gentle gradual slopes, with hills here and there, covered with the most prolific genial soil; and must have been studded over the earth's surface not far from each other; and all that debris which we now find scattered around the base of the mountains must have formerly been part of the covering of those mountains; and the extensive plains and depths of the oceans must contain now much of the finer soil and materials which then covered that present rough surface of them and the broken rocks which now form only a "debris:" all rocks and mountain formations, except the large crystalline blocks perhaps, must have been much *softer* then, than now, as they had not only not been so long exposed to the hardening effects of air, but had not existed one third of the time they have now—a difference of more than 4,200 years:—many of our extensive plains, many of our islands, and parts of many extensive series of strata now existing were formed only out of what once formed some of the slopes and substance of those mountains.

And thus the mountains must have then been much higher, and the depths for the oceans (or rather

"seas") consequently much deeper than now; hence they were called the "GREAT DEEPS:" for where we *now find* an almost perpendicular mountain, with a plain at its base, and a rounded bottom as it were to the adjoining sea, there would have been before the flood a gradual slope from the top or crest of the mountain to the very bottom of the sea, or only a few hills intervening—(see Pl.No.1); because what has now filled up the bottom of the great deeps, formed, or helped to form, before the flood, the tops, the substance, and the gradual slopes of the mountains; so that, if there was then even the same quantity of water in the sea as now, it would evidently have been far narrower on the surface and deeper in its depth; while the distance from mountain to mountain was proportionately narrow. The absence of storms and violent winds would leave its surface almost unruffled, so that it could easily have been traversed by the frailest barque, or by the most timid mariner; and the distance from land to land must have been, from the clearness of the atmosphere, almost continuously in sight; for the vestiges of such mountains can still be abundantly traced in *mid-ocean*. This can be better understood if we take any section of the earth,

as it now is, say for instance at about 20 or 23 degrees south—(see Pl. No. 4). We shall then find on the surface, at suitable distances, corresponding to this description—America with its mountains—then an uninhabited island—then perhaps others, of which there is no trace above the surface of the ocean—then St. Helena—then Africa with its mountains, between some of which were probably at one time seas, as also in America and other places, and which are now filled up—then Madagascar—then Bourbon—Mauritius—Rodrigues—vestiges of some former mountain—Trial Rocks—then Australia with its mountains and tracks of former seas now filled up between them—then New Caledon—the Pacific Islands, which were perhaps groups of mountains—then Pitcairn's Island—Davis's Island—Felix Island—till we come to America again—the sea being between all of them; but how greatly narrowed its breadth and increased its depth will readily appear if we give *these* spots (and perhaps many others which are below the surface of the sea now, so that we are not able to trace them) the slopes I have described. Restore them mentally to their pristine beauty, form, and appearance; replace upon the sides



and tops of these remaining vestiges of those gorgeous former mountains the "debris" which surrounds them ; replace the mud, earth, mire, and sand from the bottoms of seas and oceans, rivers and swamps ; restore them to their great original proportions, and we shall immediately perceive the contracted surface of water, and extended depth of "*the seas*"—(see Pl. Nos. 1 & 2). Let us now deduct from the quantity of water in those seas what formed the iced pyramids of the tops of the mountains, whose then great height, far more than double what it now is, must have kept frozen the water they contained at their formation, thus preventing it from uniting with "the gathering of the waters" which formed "the seas." Deduct the water also which the then elongated state of the frozen poles contained, ere the earth found an inclination of its axis, to which we will hereafter refer, and the breadth and depth of the then "seas" will be diminished accordingly, to a great extent.

We may also perceive that the earth was divided into distinct parts of different formations, and that, in all probability, all those parts were not inhabited alike, but that some creatures seeking their own company, or separating themselves from others,

which might have proved their destruction, would have inhabited, undisturbed, some parts, and other creatures have inhabited other parts; hence, in the desolations of the world we now find what geologists have thought to be different ages and epochs of the earth in its formation, as the *debris* of one part was in the destruction over-ridden by other parts containing different kinds of formations and remains. We must remember also the *curse* of God on the ground for *man's* sake; and in its then state of productiveness how prolific it must have been in *ferns*, &c., as well as "thorns and thistles;" and how vast must have been the toil and labour which caused *man* in "the sweat of his brow" only "to eat his bread"; and which is again referred to in the 5th chapter of Genesis, 27th verse: "And he called his name Noah, saying, this same shall *comfort us* concerning our work, and toil of our hands, because of the ground which the Lord hath cursed;" for the toil and labour before the flood must have been far greater than it has been since, from various and obvious reasons. For whatever was planted or sown would be almost immediately overgrown with gigantic weeds; and the labour to eradicate

them must have been great indeed ; hence the relief sought for and spoken of.

Behold then, the perfection of God's Creation in the earth !— How it must have been created in perfect adaptation to all the required wants of man, and of every living creature before it received a curse ; and how much of that beauty must still have remained, notwithstanding the curse of thorns and thistles, and other judgments, even to the time of the Deluge ! How man inhabited just those parts in which he took most delight ; how every mountain or range of mountains must have presented on its sides then, all the diversities of different latitudes now, not only as regards vegetation, but also the creatures which inhabited those different regions even on the same mountains, those mountains possessing in their gradient height all the variations of season and climate ! How diversified even its structure must have been, as the deposited remains of destruction now testify, in different parts of the earth, so that peculiar locations were especially adapted for the peculiarities of particular kinds of life ; how smooth the surface of its waters, which could be readily traversed by the



simplest barque; how beautifully clear the sky, which was not tainted by a cloud, and rendered vision distinct at a very long distance; how soft and fresh the gently regulated and continued breeze, which could only have been produced by the variations of day and night, and revolutions of the earth; how clear the air untainted by disease or decay, except that decay which lengthened age may have produced shortly before the flood! It is no wonder that there was gigantic growth of vegetation and living creatures, as our museums present; or as it is written regarding man, in Genesis, chapter 6, verse 4, "There were giants in the earth in those days." For the earth in all its physical characters was calculated to produce gigantic forms in quick and prolific succession. Hence the necessity for isolation of certain kinds of creatures from others who otherwise would too rapidly have caused their destruction, and some of which were perhaps thus destroyed and rendered extinct. And hence the accumulation in some parts of certain forms of life, which, being safe from such destruction, so rapidly increased in number that they now present heaps and whole beds of their petrified remains in certain

parts of the earth, while other parts are even destitute of them.

I must next refer to what may have been the difference in the astronomical motions of the earth and moon before the deluge, by which the beauty and splendour of the earth was to be destroyed for redemption's sake. I have described the perfection of its climate—but to PRODUCE and MAINTAIN THAT CONDITION, more than I have yet described is required. Space will not permit me now to enter closely into those astronomical differences, but I will endeavour to give an idea of them sufficient for the present purpose, but by no means intending to argue that they must have been exactly as I shall now relate them, for it is the EFFECTS of the perturbation, and not the perturbation itself to which I most wish to call attention; and these *effects* could have been produced in a variety of ways and by various means, yet all within the scope of the very laws, subservient to which material was created; and what I now relate must be received only as a means of opening the way for more elaborate contemplations and explanations.

To produce the constant regularity of climate and

season, and the purity of the atmosphere, which must have prevailed,—for although we read the sun and the moon were created for seasons, yet we do not find the establishment of those seasons as now, in *Spring*, *Summer*, *Autumn*, and *Winter*, or the division of *months*, until *after* the flood, when they were established with the rainbow on the passing cloud,—it was necessary that what now produces clouds and storms should not have been in existence then. Therefore, let us suppose the earth to have been revolving on an uninclined axis, the sun being always vertical to the equator; this would have caused the poles to be so perpetually cold, that a large portion of the water now forming the seas must have been congealed there in ice; and that ice, containing perhaps extensive portions of rocks and other formations imbedded in it at and from the time of the earth's formation, must have elongated the form of the earth towards the poles, and have proportionately contributed to the diminishment of the breadth and depth of the seas as before described; which must have allowed the earth to have been the more readily traversed by man and some of the larger animals. But this could not have taken place unless the earth was thus



balanced by a counterpoising weight, or forces; therefore, let us also suppose the moon removed to, or rather created and formed at, a somewhat greater distance than she now is, from the earth; and, instead of going round the earth, suppose her travelling outside the orbit of the earth, but keeping pace with it round the sun, as a perpetual full moon; so that, as the earth revolved on her axis, the full moon, but "lesser light," as it must then have appeared if at a greater distance than now, and as it is termed in Scripture (Genesis i. 16), would *always* "*rule the night*," and the sun, or "greater light," the day;\* and suppose this position maintained by a watery sphere or spheres of mist, preceding them, or following them, or both; and so placed as to maintain their relative positions and motions, only gradually approaching nearer and nearer to the earth, until, exactly at the appointed time, or times, they came within the power of the earth's attraction, as meteoric stones now still do at times; and then travelled immediately towards it at the predetermined hour, in the most awful form and violence of thunder and storm,

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\* The apparent diameter of the full moon as now seen is, in round numbers, about one-tenth *larger* than that of the sun.

with lightning, hail, and rain, occupying forty days to disembogue themselves; causing at the same time, by the partial vacuum they left behind, the nearer approach of the moon to the earth, as soon as they, or any of them, commenced their sudden approach to the earth and discharged themselves thereon; which so affected the motion of the moon, that she then commenced her first circuit round the earth, and for the first time caused an eclipse of the sun; and, perhaps, then remaining stationary for a time, till some other such watery sphere, or spheres, had been discharged, and produced sufficient vacuum again, to re-open the moon's course round the earth as at present; while the earth, which from the same perturbation receives the inclination of its axis, is shaken to its foundations, recoils backwards from the shock, vibrating with an inclination of, perhaps, nearly 90 degrees in the commencement, until it finally settled to a variation, as now, of not more than  $23\frac{1}{2}$  degrees. So that if any such perturbation as this occurred, the sun would be for a time vertical, or nearly so, to either pole in turn, from which the imprisoned ice would be melted and driven away; storm upon storm would envelope the earth in, as it

were, *one cloud*; awful darkness would prevail; the heat of the atmosphere would increase and decrease at times to such an extent that the ice upon the mountain tops would, as it melted, come rolling down their slopes with indescribable violence; so that the water of the sea would be increased from all these sources and accumulating to a "*great heap*," under the power of the standing conjunction of the sun and moon, would recoil with the whole volume of its flood at each vibration or revolution of the earth, exactly as related in the Scriptures. And let us now quote the Scriptures and see if they agree in their description with what we have above stated. (Psalm civ. 6—9): "Thou coverest the deep as with a garment; the waters stood above the mountains; at Thy rebuke they fled; at the voice of Thy thunder they hasted away; they GO UP by the mountains, they GO DOWN by the valleys unto the place which thou hast founded for them:"—and then, by establishing the order of the earth's and moon's motions as they now exist; the Psalmist goes on to state, "Thou hast set a bound that they may not pass over; that they turn not again to cover the earth." These words confirm my statements, and nothing



could be more beautifully explicit than this, and which established the rainbow in the clouds "as the token of a covenant," removing it from its permanency in the mountains to the passing cloud after the Flood.

But can we wonder how the waters could thus accumulate? They would accumulate from, as I have stated, the moon approaching nearer the earth than before, and commencing its new course; and this accumulation would be increased from the rush of rapidly dissolving ice from the poles towards the equator, and from the tops of the mountains; as well as by the water discharged by any sphere or spheres of waters coming into collision with the earth, which was perhaps the principal cause of the perturbation, and of the 150 days and 150 nights constant rain and continuance of the rising of the waters. But the principal cause of the accumulation towards any one spot must have been the extraordinary effect of the moon on the increasing waters, as well as the pressure of the consequent violent storm of wind, which must have resulted as she came into nearer proximity with the earth, to the time of her conjunction, which brought the waters to their greatest

height, "as a heap." Like as now, in producing the tides, so was her influence then, not on the sea only, but also the air, causing the wind by the weight of her pressure; but under the effect of such a violent perturbation as I have described, that influence must have been increased more than a thousand fold. The waters then, thus accumulated, or "gathered together as an heap," first on one side, or in one part of the earth, were driven as a "heap" with irresistible force round and round the world, as it reeled to and fro by the moon coming onward in its new course, which caused a "*weight*" which pressed the wind, and consequently the water also, onward with violence, as the earth turned on its axis. And judging from the present appearances of the mountain ranges, their main course appears to have been from east to west; yet, as it were, diverging in torrents to the north and south, accumulating again on the opposite side, from whence they again rushed onward. All this exactly accords with the description given; for, although we read (Genesis vii. 19—20), "All the high hills under the whole heaven were covered," "and the mountains were covered;" we *nowhere* read that they were all covered at one and the same time: but in verse 24

we find "the waters *prevailed* upon the earth 150 days." How cautiously, yet accurately, has God dictated the wording of the Scriptures that there should not be a fault in them! but yet, still more explicit, he subjoins in the next chapter, verse 3, "the waters returned from off the earth continually;" and in a marginal note we find "*continually*" explained by the words, "*in going and returning*;" exactly the very thing which I have described; therefore the waters must have been continually "going and returning all the 150 days:" continually going round the world and returning to the same longitude, only to go onward again, making their circuit as the earth turned on its axis against the force of the wind, under the "*weight*" and influence of the moon's pressure; or as the earth itself vibrated under the polar inclinations.

How beautifully and accurately is all this described in the sacred word of God! Let us continue to read now, its description in varied parts of the sacred text for its confirmation. Job ix. 4—8, "He (God) is wise of heart and mighty in strength, which removeth the mountains;" "which overturneth them in his anger, which *shaketh* the *earth* OUT OF HER PLACE; and



the pillars thereof tremble ; which commandeth the sun and it riseth not, and sealeteth up the stars." And there is every probability, that as the moon first approached nearer the earth, or when she came between the earth and the sun, causing the first total eclipse, the motion of the earth on its axis was for some time stayed, so that the sun rose not, but was darkened, and the moon also ; and the earth must have been at that time enveloped in cloud, which would, of course, as it were, "seal up the stars" to the earth. But we find it stated again in Job xxii. 15, 16 : "Hast thou marked the old way which wicked men have trodden ? which were cut down out of time, whose foundation was overflowed with a flood." Chapter xxvi. 7—12 : "He hath compassed the waters with bounds until day and night come to an end ; the pillars of heaven tremble and are astonished at His REPROOF ;" showing that even more than the earth only was affected, and that day and night were stopped for awhile. In chapter xxviii. 9—11, Job is still more explicit ; he saith of God : "He putteth forth His hand upon the rock ; He overturneth the mountains by the roots ; He cutteth out rivers among the rocks ; He bindeth the floods from

overflowing;" and in verses 25, 26: "to make the WEIGHT FOR THE WINDS, and He WEIGHETH the WATERS by measure when He MADE A DECREE FOR THE RAIN and A WAY FOR THE LIGHTNING OF THE THUNDER." Shewing that these events happened simultaneously, for this was the first storm the earth had witnessed. But again, in chapter xxxvi. 32: "With clouds He covereth the light, and commandeth it not to shine by the cloud which cometh betwixt;" showing how completely the earth was enveloped in, as it were, *one cloud*. He is still more descriptive in chapter xxxviii. 8—10:—The Lord answering Job—"Who shut up the sea with doors when it brake forth, as if it had issued out of the womb? when I made the CLOUD the garment thereof, and thick darkness a swaddling-band for it; and brake up my decreed place" (the garden of Eden) "and set bars and doors." But the Psalmist also refers to the flood even still more minutely. In Psalm xviii., although written in praise of God for his deliverance from the hand of Saul, yet he evidently refers to a greater event, showing the analogy between his own troubles and those of the Church in the time of Noah, whose days were declared by our

Saviour as the type of the last great day. He says (verses 7—15): "Then the earth shook and trembled; the foundations also of the hills moved and were shaken because He was wroth; there went up a smoke out of His nostrils" (which I think refers to the then breaking forth of volcanoes), "and fire out of His mouth devoured; coals were kindled by it; He bowed the heavens also and came down, and darkness was under His feet;" "He made darkness His secret place—His pavilion round about Him were dark waters, and thick clouds of the skies;" "The Lord also thundered in the heavens and the Highest gave His voice, hail stones and coals of fire;" "THEN THE CHANNELS OF WATERS WERE SEEN, and the FOUNDATIONS OF THE WORLD WERE DISCOVERED, at Thy REBUKE, O Lord;" evidently referring to the denuded state of the mountains at and after the flood, and the emptying of the waters out of the great deeps to form the heap of waters which were to traverse the earth; the word "rebuken" showing the special time referred to; and in Psalm xxxiii. 7, he says: "He gathereth the waters of the sea TOGETHER AS A HEAP, he layeth up the deep in storehouses;" which is descriptive both of the flood



as a heap of waters, and the provisions prepared for it. In Psalm xlv. 6: "HE UTTERED HIS VOICE, THE EARTH MELTED;" as it were, was mixed with the waters over its surface; verse 8: "Come, behold the works of the Lord, what desolations He hath made in the earth;" giving us a direct command to examine into the causes and nature and effects of the very desolations I am describing; and he continues his description in Psalm xcvi. 4, 5: "His lightnings enlightened all the world; the earth saw and trembled; the hills MELTED LIKE WAX at the presence of the Lord;" and how awful that lightning in such a darkness! In Psalm civ. 32: "He looketh on the earth and it trembleth, He *toucheth the hills and they smoke*;" thus confirming the first appearance of volcanoes. The prophet Amos also (chapter ix. 6) remindeth us of God in the deluge, thus: "It is He that buildeth His stories" (or "spheres"—Hebrew, "ascensions") "in the heavens, He that calleth for the waters of the sea, and poureth them out upon the face of the earth." In Nahum i. 5—6: "The mountains quake at Him, and the hills melt and the EARTH IS BURNED at His presence"—"ROCKS ARE THROWN DOWN by Him."

I am aware some of these passages refer also to the last day, but they evidently also describe the deluge, especially as the TYPE of that day. Hence, Habakkuk goes still further (chapter iii. 6): "The everlasting mountains were scattered, the perpetual hills did bow;" verse 9: "Thou didst cleave the earth with rivers;" verse 10: "The mountains saw Thee and they trembled; the overflowing of the water passed by; the deep uttered his voice and lifted up his hands on high; the sun and moon stood still in their habitation;" verse 15: "Thou didst walk through the HEAP of GREAT WATERS." Haggai, again, in the same strain, but in reference to the last day (chapter ii. 6): "YET ONCE"—evidently showing there had been "ONCE" before—"yet once, it is a little while, and I will shake the heavens and the earth, and the sea, and the dry land;" and the apostle Paul refers to the same in Hebrews xii. 26; "Whose voice then shook the earth; but now He hath promised, saying, YET ONCE MORE, I shake not the earth only, but also heaven;" thus clenching the analogy between the flood and the last day. And Isaiah, longing for the last day, described the deluge as its type in chapter lxiv. 1—3: "Oh that Thou

wouldest rend the heavens, that Thou wouldest come down, that the mountains would flow down at Thy presence, as" (when) "the melting fire" (in the margin "the fire of meltings") "burneth, the fire causeth the waters to boil; when Thou didst terrible things which we looked not for, Thou camest down, the mountains flowed down at Thy presence." These passages are also confirmed by our Saviour in Matthew xxiv. 37: "As it was in the days of Noe, so shall the coming of the Son of man be;" this is again confirmed in *Luke*, where is added, "the powers of heaven shall be shaken;" and in *Mark* it is also confirmed, as also in *Thessalonians*, and 2 Peter, and in Jude, &c.; so that there can be no doubt but that these quotations give a direct description of the deluge in addition to what we find in Genesis, in the 6th, 7th, 8th, and 9th chapters, where we find it described thus: that God would destroy man from the face of the earth, both man and beast, and creeping things, and the fowls of the air; but that Noah had found grace; then follows the description of the ark, which appears to have taken about 100 years to prepare, then the description of what was to be saved thereby, and the statement that after Noah and all had entered



into the ark "God shut him in," as the flood commenced. Now let us pay attention to what is stated to have taken place: "the rain was upon the earth 40 days and 40 nights, after which the flood bore up the ark." Yet we are not to suppose it an *ordinary* rain, but a storm evolving rain and hail, almost in streams, like that which waterspouts evolve, otherwise the waters could not have risen so suddenly. I have seen one evolve, on an isolated spot, a torrent in a few minutes; but at that time the earth must have been almost covered with them. And why suppose them? Because we are told "all the *fountains* of the *great deep* were broken up, and the windows (or floodgates) of heaven were opened," and that the waters "PRE-VAILED;" which words are frequently repeated to lay great stress upon them; that all the high hills under the whole heavens were covered 15 cubits upwards (or more), and that the mountains were covered; that all flesh, everything wherein was the breath of life, died; and this is accurately related again and again to confirm its truth, making exception only of what the ark contained; and that this FLOOD, in this devastating state, continued 150 days, and took no less than 168 days more to subside; so that we may calculate the

violence with which it came, was gathered together, and continued its violence for the 150 days.

It is generally supposed that the rain continued only 40 days and 40 nights, but that is mentioned as the time when it bore up the ark, and the hills and the mountains were covered :—for in the 8th chapter, verse 2, we find it was only after the 150 days that “the windows of heaven were stopped, and the rain from heaven restrained ;” so that the descent of the floods and rain from the heavens continued all that time ; the violence of the wind tearing up the water, carrying it along and pouring it out again and again. And this Deluge revolved “as a heap” of water,—“dark waters,” water darkened by the rocks, ground, and mud, it had lashed into itself by its fury, —revolved, I say, round the world, “IN COMING AND IN GOING,” and was thus spreading destruction and desolating violence ; going UP by the mountains, and DOWN by the valleys, with the weight of the whole ocean, making the mountains to tremble and scattering them, its weight bursting them ; overturning the hills, melting them like wax, throwing the rocks down, producing volcanoes, and thus mixing fire and water with violence, “causing the waters to boil,” turning

the hills and landslips aside, and cleaving the earth with rivers, for 150 days, when they began to abate, and took 168 days more to subside;—318 altogether. And even longer before it was habitable. I have myself beheld and contemplated places where huge mountains have been evidently riven asunder, and thus strown in desolation; I have seen storms in the tropics lasting only a few hours, and have wondered at the extent of destruction; but we have now described a continued storm of more than 300 days' duration, encompassing the entire earth. Well might Habakkuk exclaim; "When I heard, my frame trembled; my lips quivered at the voice; rottenness entered into my bones, and I trembled in myself that I might rest in the day of trouble;"—that day, of which this scene was only the type; for prophetically, he saw the Last Day. Some may doubt that wild beasts could be restrained in the ark, and think they would want their keepers; but I can tell them NO!—I have had related to me by eye-witnesses in Africa and India, how that during violent storms and the overflowing of rivers, lions, tigers, and the most ferocious beasts and venomous reptiles will take refuge in the huts of the natives, lay



down with the children, and even lick the babe sucking at the breast. If, then, this could occur in an ordinary storm, from panic and fear, what might we not expect in such an one as the deluge, where, as the prophet says—"GOD HIMSELF CAME DOWN."

Let us now calculate the power of the force of the water, travelling onward as a heap. We know by experiment that a column of water 35 feet in height has a pressing force of 15 lbs. to every superficial square inch, that is, at the level of the sea; so that, by calculating the height from the highest point to which the waters attained, to the lowest depth to which they had to descend, in feet, and dividing it by 35, and multiplying the quotient by 15, we have in pounds weight, per each square inch, an idea of the force of the pressure of that flood; the highest mountain now is somewhat less than 5 miles above the level of the sea, and the greatest depth of the sea now is computed at 10 miles; but, as I have before stated, the "great deeps" were much deeper and the mountains much higher then, than now; so that the height from the tops of the mountains to the bottom of the "great deeps" could not have been less than 30 miles at that time; but to be quite

within the mark, suppose it only about 20 miles on an average, down which, in many instances, this heap of water had to pass many times over, "in coming and going," during the 150 days, omitting the turbulation of the subsidence: this gives a destructive force of about 3,000 tons weight to each square foot; yet this calculation is only for a steady pressure of standing pure water, not calculating for the extra force the high descent produced; but in the flood there was heavy muddy, even earthy water, and huge rocks from the tops of the mountains forced on and down with an unheard-of violence; so that we may not only consider the force of the water at more than double what I have stated, but that its force and destructive power was *altogether incalculable*; and if such was its force on a square foot, what must it have been extended over its thousands of square miles at once! Who then can doubt the Flood's power for destructive desolation?

But what of the ark in such a destruction? How could that be saved? Why, the destructive power of the water went with the *front* of it, not the hinder part, or its surface; where, in the middle it was comparatively calm,—a calm in comparison with such

a turbulation in front,—the very force of the wind maintaining it, for the wind and the waves and the main current were all in the same direction; hence to what floated on the centre there would be but little chance of destruction, and the waves were not the short waves of an ordinary storm, but the long waves of a rushing torrent, so that the ark would go round with the waters but not quite so fast as they, and would eventually be left behind, as it was on the mountains of Ararat, exactly at the eventful moment, as and when the waters began to subside, but before the reverse wind (Genesis viii, verse 1) "passed over the earth;" for there must have been a calm when the first wind was laid, in which the height of the waters would sufficiently fall back and go down to allow the ark to rest on such high mountains as those of Ararat, before the reverse or returning wind could come up to it; and exactly such a calm I have always observed in hurricanes; otherwise the reverse wind might have proved destructive to the ark; but we must not forget, in regard to Noah, the especial providence of God who "had shut him in." It is related for a fact, that Indians in an open small fragile canoe have even



ventured down the falls and torrent flood of Niagara in perfect safety ; surely then the ark could be preserved on the more vast surface of the waters of the deluge. I have seen a storm at sea when the wind was so strong as to press down the waves and form the sea, as it were, into a rushing current, as long as the wind continued in one direction ; but, when the reverse wind came, then was the danger of a troubled sea ; such a danger the ark avoided, by having previously found a resting-place. But such a reversed wind and its consequent commotion no doubt did occur, and continued long after the ark rested, while the waters were subsiding, and which were still "going and returning," reconstructing the form of the earth prior to its re-inhabitation, assisted also by the contemporary bursting forth of volcanos. In this reconstruction of the earth, therefore, we must look for and find not only the evidences of what such a flood must have effected, but all the evidences which we *can* find, must accord with, and be a proof of such a description. I will, for the present, only state that I have examined them personally and scientifically in many parts of the world ; I have also read carefully the records of other observers, renowned men, but have

not found a single fact, known and proved as such, which is not in accordance with what I have stated, while I have everywhere found the strongest evidences to confirm the opinions I have here expressed.

Before commencing the ensuing lecture, let us take the following remarks into consideration ; that the quantity of water now in the world, drawn up into a heap of more than 50 miles in depth in the centre, and 2,000 miles wide at the equator, would extend from pole to pole ; and from what I have already stated, it may readily be perceived, that not only was the water of the sea used as an instrument for the re-formation of the earth, but that the volcanoes bursting forth at the same time, contributed thereto, from the chemical effect of substances brought into approximation for the first time, and which we know, under such conditions, will spontaneously ignite, sometimes with violent explosions ; as saltpetre with charcoal, coal, bitumen, or other carbonaceous compounds ; as also sulphur and water with iron or some other metals, &c. : so that certain strata at one time deposited by the sea, either on a slope or on a level, might be again disturbed by the volcanic agency, as

well as by the sea itself in "going and returning," and thus placing other deposits thereon many times over in some parts, before the subsidence of the flood, as well as after it. The remains of creatures which had inhabited one part might form a super or sub-stratum to a part which had been inhabited by other creatures, which accounts for distinctions in remains and deposits found by geologists; and which, be it observed, are not found all over the world alike, but only in certain spots; while in many places you will find no remains at all, the rush of water having been too strong to allow the depositing of remains to take place; and in such spots you will only find large masses of rock, and the rougher kinds of "debris." So, again, as the composition of all parts of the earth could not have been uniform, we find some remains only in certain strata, and other remains only in other strata, according to the parts they had inhabited.

There can be no reason to doubt the height I have supposed the mountains to have been before the flood, for, although the moon is so much smaller than the earth, astronomers have ascertained the mountains on the surface of the moon to be twice the height of those now on the earth; yet the earth and



moon are evidently of the same creation. Nor can we doubt the altered motion of the moon, for it agrees, as I have shown already, with Scripture exactly; and astronomy declares that whatever could affect the earth's motion so as to move, as Scripture says, "*the earth out of her place*," must have moved the moon out of her place also. Again, we have no need to doubt the possibility of a watery sphere coming into contact with the earth, for we have frequent proof, even in our own times, of meteoric stones falling to the earth; and numerous modern and ancient writers, as well as the Scriptures, bear testimony to the falling of stones, metallic substances, &c., which had no doubt floated in space since the creation, until they came, in course of time, within the sphere of attraction of the earth; and so might spheres of watery mist, or hail, or blocks of ice, or stone, have fallen in the same manner.

These subjects, however, will again come under consideration as we take the retrocedent view before referred to; commencing with the evidences of destruction and desolations which can now be seen on the earth and its geological condition, in the following lecture.

## LECTURE III.

ON THE EVIDENCES WHICH THE EARTH NOW  
PRESENTS OF THE DELUGE, AND THEIR CON-  
FIRMATION OF THE SCRIPTURE RECORD.

IN looking for the present evidences of the statements we have already made, and tracing them, as it were, backwards to the time of their occurrence and the causes of them, we must first note the various phenomena which actually exist, and then trace them by analogy and by chemical and other natural laws, so as to find out the cause of every effect observed as far as we can know, or have reason to believe, that what we observe is actually an effect of an accountable cause, and distinguish it from phenomena, the results of a primary cause, as that of the creation and formation of the earth; and in doing this we have by analogy especially to trace out the time required for the effect produced. This I have already termed the *retrocedent view* of the deluge.

Let us then ascend the mountains, not out of bravado, like some of the Swiss tourists, but intent on observation. The air is cold, fresh, clear, and rarefied ; as we ascend higher, we find frequent mists, condensing vapours, rain or snow falling ; and at last the tops, in a clear sky, white with snow, and here and there large bodies of ice ; and when the latter is free from snow and receives the full glare of the sun, the light is returned by refraction with all the colours of the rainbow ; and there are yet mountains the tops of which have never been reached by man, from their being veiled in perpetual snow ; but on many that snow melts away, and ice and snow are often carried along downwards with terrific force ; anon large pieces of rock, first loosened from the mountain top by frost, then, as the frost thawed, are tumbled over by the weight of ice upon them, assisted by the equinoxial gales, into the half melted, yet half frozen current, and are borne along with it : but observe, all such is deposited at only a certain distance down the mountain. We find the mountains themselves denuded on their summits, and often more than half way down their sides, not only of life and vegetation, but we cannot find thereon any vestige of the former existence of either.



Let us look more closely ; there are sometimes holes in the sides ; we enter one of them, we creep on our hands and knees, with a small light, and traverse it a long distance ; at last we come to large open chambers, narrow passages, then larger and still grander chambers ; we light all our torches ; we are enchanted, enraptured with the beauty that adorns them ; again deep precipices, slopes and subterraneous passages, and deeper caverns filled with air we dare not breathe, and it stops our progress ; the air is motionless, not a breath moving besides our own ; we can perceive no opening, yet we hear and see below a rushing mighty stream. From where does it come ? To where does it go ? These questions involuntarily escape us. We let down a tin with a line, and obtain some of the water ; it is clear as crystal, sparkling like champagne, tasteless as the mountain streams. We return again by the way we entered, and travelling on to distant mountains, find a wandering geologist ; we ask him for information, but before giving our own. He tells us how these mountains, in his opinion, have been upheaved out of the sea ; shows us the apparent lines upon the rocks, which, he says, marks their gradual formation at a great depth ; he points out

different rocks there ; under our feet is the old red sandstone ; further on is the blue silicious slate ; then there is decomposed granite ; then gneiss, mica slate, interlayers of quartz, felspar, and green trap here and there cropping out, and boulders of granite ; and at last he points out different peaks and summits all of granite. He tells us of the ages it must have taken for the formation of all these different products—how the trap rock, and selenite, &c., must have been forced up between the layers of the other rocks and in places, over them, and the granite also in a melted state.

There can be no doubt about what he tells us, regarding that which we can see exists ; but we can not but doubt his theoretical calculations, for no such cavern as that which we have described, and which can be found in the Congo mountains, South Africa, and similar ones in numerous other places, could ever have existed in the earth, or even the mountains which contain them, if such had been formed in a heated melted state ; nor could the granite or other rocks have been forced up in such a state, for then the different rocks would have been conglomerated, and the effects of such violent and intense heat would

have left clear and indelible marks as a proof thereof; whereas, there is not a vestige of such a result, for all these rocks contain water of crystallization, which is not in igneous rocks. Nor could those mountains have been deposited or heaved up by the sea, for then no such cavern as we have described could have existed, for it would have been filled up with deposits. But more than that, our scientific men have weighed the earth, and find it five and a half times as heavy as it would have been if it had been all water. Our navigators have measured the waters of the oceans, seas, and lakes, and we find that all the water in the world is not one thousandth part of its bulk. The water, therefore, may have oozed out of the earth in its first formation, but could never have been the cause of the depositing of the mountains. All the water may have passed over the mountains, have entered into their caverns and have filled their vast recesses and burst them; and have forced their way through such caverns as we have described, but could never have caused them to be upheaved; they may have decorated them with the stallactites and crystals by dripping through their roofs after their first formation, until those roofs became consolidated rock



by the gradual depositing of silicates, carbonates, &c., &c., as we have above described; and many such mountain caverns may have been not only burst, but scattered in fragments by the weight and force of the waters passing over and through the mountains; but these could never have been upheaved by them without filling the caverns with deposited materials of consolidating matter, even though they should show an outlet of a sufficient space through which the "*debris*" or other materials could have been otherwise driven. We cannot doubt the source of the water now flowing through the caverns; its purity, its constant flow, and its force, all tell us that it has been derived from the mountain tops; from ice or snow or mists or rain; the carbonic acid gas which makes it sparkle, and below which it travels on in many instances, tells us that it has at some former time removed, by decomposition, carbonaceous matter; and its hardened bed shows silica deposited, or lime converted into marble, and the whole process, which has been going on for thousands of years, that, as the carbon has been removed, the silica has been deposited. But let us examine the sides of the mountains and the tops of the hills to the far south

of the Congo—to the south of even the mountains, the Zwart Berg and the Lange Berg ranges;—and we find far below the height of the cavern we have examined, springs of the same delicious water; we strike the sides of the mountains and of the hills where the rocks are bare; at many places we find a hollow sound like that of a continuance of the cavern we have examined; at other places we can find a stethoscopic sound of water rushing on, and at other places a sound as of the solid rock, and again a sound as of a full cask. And if in such a place we bore, or crack, or split the rock, we can obtain water; water was thus obtained at Zonnebloom, on the Devil's Peak, near Cape Town, the author's late residence, only a few years back, and where he examined the hole bored into the rock; therefore there can be no doubt but that such streams, as the one we have examined in the mountain cavern, are the sources of supply to such fountains as the one we have referred to, and that it is itself supplied from the mountain tops, perhaps at a great distance, or plains and lakes on mountain plateaus like the centre of Africa.

What an insight do not these sources of water and

these subterranean caverns give! What a vast contemplation comes before the mind! How beautifully and munificently is the interior of the earth arranged! What wonderful provision for every supply! But let us proceed; and we meet with a professor, a chemist: he tells us that to melt any felspar rock, an intense white heat is required: that quartz, if pure and no alkaline earth be present, requires even a far greater heat: he tells us also, and proves to us, that water—pure water—will dissolve a portion of anything. We examine the rocks, we find in all more or less of cubular ore, of different sulphurets and carburets, completely imbedded in the rocks, so that they could not have got there except when the rock was formed; and the same chemist tells us that the sulphur is evolved from them, and the carburet decomposed, at a heat far less than red; and he demonstrates what he states, by experiment before our eyes; he also tells us that almost all the primary rocks contain water of crystallization, which driven off by heat cannot be restored; we find the truth of this by examining volcanic mountains. Therefore we come to the conclusion that at the formation of the earth, those rocks which are now, or at least have the appearance



of being in the position and state in which they were created, were so created at a heat which would allow of the deposition, without decomposition of the said sulphuretted and carburetted cubes, and that the formation of the rocks and the crystal cubes were coeval.

We also find in a particular locality, between the black rock and quartz, and also in the quartz, gold in large quantity, but of a crystalline structure throughout. Gold again, our chemist proves to us, is a metal which does not by melting crystallize into the state in which it is found native, and must have originally been formed by galvanic deposition or attraction from some fluid, or primary effused state. The integral nature of the quartz and gold shows us that they have been formed at the same period.\* Shall we then at once arrive at the conclusion that they were formed just as we now see them, on the third day of creation? We might do so, and, perhaps, to some

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\* This difference between melted gold and native gold was pointed out and explained to the late Sir C. Darling, when he was acting Governor at the Cape of Good Hope, by the present author, who was privately consulted by him; and this difference enabled the acting Governor to detect frauds endeavoured to be imposed upon him, as to certain samples of gold then stated to have been found in the north parts of the Colony.

extent, they were so created. But we have another testimony ; we find in the more recent deposits, animal and vegetable forms which have been buried, and of which not a vestige remains, except at times some colouring matter ; but we find the forms of the living creatures or vegetables entire, converted into stone, silica, quartz, agate, or marble. How did this occur, is again a question ? Our chemist again explains: pure water, or still more, if it contains a soluble alkali, or earth, dissolves a minute portion of silica on the tops or sides of the mountains, or ground through which it passes, and carries it down until it meets with a substance more readily taken up, which it takes up and carries away ; but to do so it must deposit the silica, or lime converted into a carbonate or silicate ; hence the change the percolation of water has produced, and the effect as before referred to. Not only silica and lime, however, can be so used, but other materials also.

The state of the earth, as our antecedent view represents it, was formed exactly in the state in which this process would most readily and most extensively occur, from the height of the mountains, and the gentle mode adopted for their deposition and forma-

tion, and abundant water supply from those tops. Hence the water thus trickling down from such a great height as the mountains then were, penetrating every open crevice and removing softer substance, would deposit the silica and metallic substances, so that the deposition of gold and quartz could take place simultaneously, for long after the creation; and extensively, because the contractions of the new formed rocks under the effects of the sun, and contractions and expansions under their attractions and crystallizations, had not all taken place at creation; and the quick and gigantic growth of vegetation required such abundant supply of just what such water only could supply, and would leave the acquired space filled up in streaks just as we see it in all the harder rocks, by the depositing of the quartz &c.; just in this manner were the black flints formed—recently formed upon and in extensive chalk beds—those flints having been evidently formed since the deluge; or, perhaps soon after, the silica, having been first dissolved in excess of alkali, or carbonic or other acid, at the time of the deluge, and then set free from the alkali or acid, which were required for other uses in the economy of nature, and



according to the well known chemical law that one particle attracts another under the same power of attraction till a bulk is formed ; so calculi grow in the bladder, and metals are deposited as when a magnet takes up a needle, and then the needle will take up another needle, and the latter another, and so on till a long string is formed, although only one needle is in connection with the magnet ; and although water does not dissolve gold and many other metals in very appreciable quantities, yet, nitrous and other acids in solution would produce the result, and such acids are formed spontaneously in nature, and by such means nitrates of soda and potash are commonly produced : in such a manner, then, can we account for the deposition of quartz in veins, and silica in various forms, and the deposition of crystalline metals, especially, if in creation the gold, &c., were deposited in a diffused state, and in that state their present specific weight would not have been perceptible ; not, however, but that the metals or silica or quartz in various forms may have been, and were formed in the first formation of the earth in large masses ; but, inasmuch as granite contains alkali, silicates, and quartz, as well as other materials, and

formed at that period the central bulk and rocky tops of most mountains, we can see how admirably the earth was formed for the constant pure percolating streams of water to dissolve minutely, bring down from varied beds formed in the mountains, and supply all the essentials of fertility, and utility, as well as cause deposits in larger bulk, while the lighter and softer streams on the more solid parts of the surface, would supply pure the required quantity for drink and other purposes, and gradually increase as the lower small cavities were filled up, or hardened with silicious or other matter. It is clear, however, that the forms of vegetable or living substances must have existed, and have died before they could have been thus transformed into stone in the similitude of growth and life; but that they could have been so changed, *gradually on the face of the earth*, chemistry and every law of nature declares to be impossible. No! They must have been buried; and in order to preserve their exact forms they must have been INSTANTANEOUSLY covered up and excluded from the effects of air and light, which would otherwise have crumbled them into dust, and spread them before the breeze over the face of the earth.

But, leaving the rugged and bare mountains, let us wander over the breadth of the earth ; as we descend we find everywhere around most of the mountains a rough "debris" of large stones and loose earth in many places, as at Mauritius, and at Table mountain, the Lange Berg range and Zwart Berg range at the Cape of Good Hope, and numerous other places in almost every mountainous part of the earth; and this "*debris*" forms an embankment of the mountains; the surface of which *debris* slopes at an angle generally of about 45 degrees more or less, from which the mountains appear to rise almost perpendicularly in many instances, and have at first sight the appearance of having been forced up through the debris ; but when we come to examine the mountains, as we have before stated, we find on the contrary that the "*debris*" contains much of the same material as the upper parts of the mountain, and generally in the debris all sorts of such rocks are in mixed and confused medley, with rich mould and earth, and many vestiges of the mountains, and such portions thereof as evidently once formed part of the said mountains ; and instead of the mountains being forced up through the debris, the debris bears indubitable marks of



having been, as it were, swept with the besom of destruction from the tops and sides of the mountains, which remain as immovable as when first created. Go where we will; whether we take the Himalaya mountains of the east; the Andes of the west; the Ural of the north; or Madagascar, South Africa, Australia, or South America, in the south; everywhere in the world, do the same rugged and denuded rocks of primary formation exhibit themselves to our view, *in situ*, and the corresponding "*debris*" lays around the base of them. This "*debris*" has been but rarely examined, except superficially near the mountains; but in many instances in it can be seen a vast extent of rock, protruding with the broken edge uppermost, exactly corresponding to the broken edge of a corresponding rock high up the clefts of the mountains above, although the distance in some instances is half-a-mile, and even more apart. And such occurs not in one or two instances, but in innumerable instances. I have observed such instances in the Constantia and Stein Berg mountains where large masses of the rock, evidently broken off from a ledge near the top, have fallen into the "*debris*" below, with its broken edge uppermost; in the Lange

Berg and Zwart Berg ranges, South Africa; and at Mauritius; and South Australia, north of Encounter Bay: and in some places the mountains appear as if riven asunder; the sides exactly corresponding, as in the Kloofs, north of Riversdale, South Africa, and at "*the Hole in the Wall*," in Kafiraria, and the gorge in the mountains at the Goritz river. Let us next examine some of the hills in the neighbourhood of the mountains; the tops and sides of some of these have been raised up, burst open, dislodged, driven aside, and even overturned, as by a hydraulic pressure from within; ON THE VERY TOPS of some of these hills are fountains flowing in the very driest seasons, proving that the source of the water supply is not from themselves, but the cavernous mountains; and that at some past period the water pressure from the mountains has burst those hills, and rent them in various directions, as stated in Scripture, "The fountains of the great deeps were broken up." At the tops of some of them, are amygdaloid formations forced up by water pressure, when soft as new made cement, mixed with rolling stones of varied sort, and which has become hard by exposure to the air or sudden concretion, and so more or less blocked up

the outlet and supply of a fountain; in the same manner have greenstone, trap rock, silenite, and other substances of similar nature, been formed by the action of the flood upon them, when in a finely divided state or powder as deposited in creation in certain localities; and which have then during the violent convulsion become mixed with water, and have been forced under the pressure before spoken of, through crevices, or rents, or previous channels of water; where by exposure, concretion, and time, they have become hardened into solid rock, which geologists have attributed to having been thus formed in a state of fluidity *from heat*:—that volcanic lava has been so formed by heat, there can be no doubt, but the difference of chemical constitution is immediately perceptible; the first holds water in chemical union; the other, like a cinder, is destitute thereof, and is more or less porous, as may be seen at Mauritius and other volcanic islands.

Let us next examine the rocks containing organic remains. Some of these rocks which contain them, have been of a muddy character, like soft sandy cement, mixed with mire, in which the remains have been deposited during convulsion, and which



have become hardened by time, or perhaps quickly, like cement itself, even under water; and abundant such substance must have been formed of varied descriptions, from different cement-like substances being mixed with water for the first time since the creation till the deluge, and then only by and during a convulsion such as has been described: of this kind are some of those concretions which evidently constitute the rocks in which remains are found at Purbec and Portland; and there, in those neighbourhoods, and close to these remains, are found extensive beds of the best cement, a portion of which, mixed with other sandy washings, accounts at once for the immediate hardening of the rocks containing the remains; others are found in a more slaty substance, but still cemented; others, again, consist of shells concreted with hydrated carbonate and silicate of lime, and a small portion of cement, as in the Purbec marbles, and Kilkenny marbles; each of these, however, having their respective kind of shells. Some are found in extensive chalk beds, as in the excavation of the tunnel between Rochester and Gravesend, which I remember being cut; and I may here observe that in no other part of the world do such extensive and pure chalk

beds occur as are found in the neighbourhood of the south-east corner of England, and we may learn something from this peculiarity; viz.:—that in the formation of the earth, in certain places, peculiar substances occupied particular localities; perhaps a whole mountain, or certain parts thereof, which in the overwhelming Flood, although much dispersed and mixed with certain shells, or other remains peculiar to its own locality, nevertheless, in chief bulk still occupied a somewhat isolated position, although it may have received admixtures foreign to its own locality; and hence, because certain parts of the earth have been inhabited by certain creatures, we find in peculiar localities the remains of some that are now extinct; yet it does not follow that none of such creatures were received into the ark; for it may have become necessary speedily afterwards to destroy them, or they may have been used as food for some of the other creatures in the ark or soon after the flood; or, what is more probable, they may not, from the altered state of the earth after the flood, have been able to find again a suitable abode for long continuance of their existence; and so in a short time have become extinct. Again we find other species which could not have diffused

themselves over the world, and must have occupied an isolated spot previous to the flood; and in certain places extensive remains are found, showing a particular spot only to have been occupied by them before the flood, although by it dispersed over the world afterwards, as with the periwinkles which constitute the Purbec marbles. What a beautiful record do they present; so small a creature illustrating the works of an omnipotent God! They could not in all the years before the flood have traversed a hundredth part of its circuit, yet since then they are found in almost every part of the sea shore, whilst the bulk of their previous existence now forms the Purbec marbles. And the same remarks apply to the shells of the Kilkenny marbles, which are not the same as those of the Purbec; while the lesser sort of *bivalves* are found at the Cape of Good Hope in the *blue lias* of the Worcester district of that colony, nearly 2,000 feet above the sea; for, they could float on or traverse with the waters, before or with the flood; the periwinkle could not do so before the flood.

But it may be asked, why were not the cements hardened into rock before the flood, by the percolation of water? Because the water, having concreted and



hardened the more external crust of such cements, could not penetrate the interior of their bulk until those crusts were broken by the violence of the flood.

Let us next examine some of these remains, and we find that in the soft chalk beds some delicate shells are found which have not been subjected to very great sudden pressure; and this is easily accounted for, because chalk mixed with water, in extensive quantities, does not quickly subside, nor does it speedily set firm, as is the case where a portion more or less of cement has been present; consequently, many delicate shells have been found entire and uninjured in chalk; while in other cases, as at Purbec, we find an impending weight of rock, or hardened substances, have completely crushed many of the tortoises and fishes, and some of the reptiles. That fishes should be found occasionally amongst land animals is but reasonable; they may have been borne along and dashed against the sides of the mountains, and been mingled with the remains of other creatures. In many instances we find numbers of them mixed confusedly together; not unfrequently with leaves of trees, or ferns, and other vestiges of inorganic remains. Examine the ferns and leaves of trees and plants;

these are not so easily crushed, yet we can occasionally find traces of the violence which accompanied their embodiment in what now forms solid rock; although, at that time, it was no doubt soft as new mixed cement: and, so sudden has been the catastrophe, that even footprints in the soft mire have been covered up with a cement of this description; the mire becoming hardened by infiltration or concretion, so that the marks have been indelibly preserved. Had not these leaves and footprints been thus suddenly enclosed, no vestige of them would have been left; they would have crumbled into dust; and, as we may now see in Autumn, for a few days the leaves falling around us, but, ere winter commences the worms have drawn them into the ground, and devoured them, or they have rotted into dung; but any observer may know that whatever is suddenly and closely covered up from the effects of air and light, is well preserved; but the percolation of water through the substances above referred to, has converted the relics into silicious or crystallized carbonated calcareous hydrated matter. It is only during the present century that geologists have begun in earnest to make their calculations, so that more than 4,000

years have passed since the flood to the commencement of that time, which allows of ample time for all these changes to take place in metamorphical structure. But what is hard rock now was not all so at the time of the flood; the admixture of various substances by the deluge produced what soon afterwards became hardened into rock: in this manner have numerous strata been formed in extensive planes—formed entire during one mighty rush of that overwhelming flood; and whilst forming they have in many instances been cut asunder by what is termed a "*Fault*." And now, what constitutes a "*fault*"? It is simply a contraction in the new formed layer of substance from the hardening of its material and a slip of the lower part upon the harder rock below, towards the depth of the "*great deeps*." These would naturally occur in such a vast and sudden re-formation of the earth's surface. In other instances, a stream from a different source or direction has washed out a part and left its deposit of substances contained in it; such stream may or may not have been of nearly pure water, or regurgant sea; it may have been a stream of some other coloured mud settling down and forming another layer of rock: and that these changes have been



coeval, the universality of their appearance within a few thousand feet above or below the surface of the ocean, in varied parts of the world, fully confirms. That we should find in these rocks of former mud, different kinds of organic remains in different places, only proves what kinds of living creatures had lived in the neighbourhood from which they were derived; but not that they had lived in the neighbourhood in which they are now found; they may have been brought from a distance; thus the Kilkenny marble, and the Purbec marble, both consist of shells; but they each have their respective kinds of shells; yet the one has every appearance of being just exactly as old as the other. Again, some of the rocks at Portland consist of minute shells, but they have been differently placed and circumstanced previous to the deluge, hence they have been hardened into rock, and not into marble, and throughout that rock we find abundant traces of Portland cement, which is not found to any great extent in either kind of the marbles referred to; but in the place of it a crystallized carbonate and silicate of lime; yet, from its position, constitution, and appearance, it is evidently of the same age of formation as the marbles,

Purbec shales, and chalk of Kent, and the *blue lias*, before referred to, at about 2,000 feet elevation at the Cape of Good Hope. If there had ever been an age when any peculiar rocks only were formed, they would be found to have been universally spread over the earth, as with the portions of granite, old red sandstone, &c.; but we find no such universal appearance and order in the stratified rocks; but we find, as in South Africa, vast tracts of land that have been washed bare, and have been left in that bare and rugged state ever since the flood that denuded them: and we find the character of those barren rocks identical with primitive formation; and that the character of the flood that washed them bare has all the identical appearance of having been the very flood we have described. And why were not deposits also placed upon them? Why are they bare there? Because they are high above the sea level; and because, until the sides of the mountain chain which surrounded them gave way at the Gouritzs River, which let out the water and its deposits from the Karoo, of nearly 2,000 square miles, the floods washed over, forming a vast inland sea; and on the mountain bursting, the contents of the valley, except the



boulders, were washed out and not again restored. Yet, on the plains and valleys surrounding those mountains of South Africa, we find corresponding characteristics, though differing in kind, with those found on the same and different levels in England. There are there no chalk beds as in Kent and Wiltshire, but extensive collections of mountain limestone. No beds of marble as yet found, but extensive collections of sand cemented with lime, and in it are particles of sea shells, and some of these shells not altered by percolation. There is no Bath, Purbec, or Portland stone as yet found, but there is the blue lias with its accompanying sea shells, and that blue lias makes a splendid cement; in fact it is a cement hardened into rock. There is, then, throughout the world a grand similitude of devastating action, which has occurred at the same period throughout the world, by water, showing its hydraulic powers of action, and the chemical results of its effects; grand in its results, impenetrable to the research of a man whose longest life *now* could only pierce it in an isolated spot, or traverse it imperfectly and very superficially throughout the globe.

But we have not yet examined the coal fields; and,



before we do this, we must know something of the nature of coal itself. There are many different kinds of coal, but they all have a peculiar characteristic in containing bitumen, or concrete carburetted hydrogen, and this sometimes appears as a fluid oil, and of various degrees of hardness from this, to that of cannel coal. The pitch lakes of Trinidad being about the medium hardness of these. We have evidence, then, that coal was not always solid ; and at Para, and other parts of Brazils in South America, we have this diffused through a kind of porous clay, from which the oil can be obtained by distillation as from some kinds of coal in Scotland ; and if we go to the coal fields of Australia, we have full evidence of the coal there having been poured out in a liquid flood, enveloping large forests ; some of the trees still standing erect ; yet its level, and the state of the petrefactions it contains, all go to prove that the era of that flood, or outpouring of fluid coal from vast mountain resources, was identical with the evidences of the time of the deluge, both there and elsewhere : although we have proof, from accurate narration, of similar, though not such extensive, bursting forth of liquid coal in the north-west of Europe, only a few centuries

back; but the evidences it produces are not similar to the former, and readily define its more recent occurrence; still, it proves how the coal formations have taken their present positions in basin-shaped hollows, or have been stratified between layers of rock; for instance, magnesian limestone, as at Newcastle, where layer after layer of coal and rock occur. Coal has therefore, doubtless, been originally formed in vast rocky caverns in, at ordinary temperature, a fluid state, yet perhaps condensed by extreme cold high up in the mountains beneath the ice, until liberated and brought down by the flood and melted by a warmer atmosphere; and it still appears to be found hardened in some such positions in Wales and other parts, and is sometimes extensively mixed with sulphuretted ores, which may have been from the same cause forced into it before it was hardened into coal, or have been originally formed therein. But at the time of the flood, while the greater part of the coal was still fluid, as the immeasurable hydraulic pressure came onward with its volume of water, the fluid coal would be forced out into the hollows of the plains in front, and then covered over by the subsiding mire from the mountain or destroyed surface, which

hardened afterwards into rock; and this course must have occurred time after time, many times, as the waters returned; but, as the height of the mountains wore away, the force and pressure lessened: hence we find, as a rule, the thickest strata are those which are below, caused by the first pressure, and the thinnest, those which are above, when that pressure was diminished, and the quantity of the coal to be poured out was lessened: and, with a powerful wind behind the waters, these miry rocks would be quickly dried and sufficiently hardened to allow of the next deposit taking place, as the flood came round: yet, not so dried but that the concussions of an approaching fresh recurrence of the hydraulic pressure, have left their indellible marks in the frequent occurrence of "Faults" in the new formed stratifications. Many of the substances which now form these rocky strata were no doubt formed in creation in the form of impalpable powder, the outer crust only of which had become hardened by water passing over it, or, perhaps, frozen in upon it high up in the mountains, so that in such a violent commotion these crusts would be broken, and a hitherto preserved cement would be set free to be



mixed with water and other substances forming the constituents of the rocky strata now existing. But strata have not always been formed in this manner; for, as with Table mountain, the stratified appearance has been produced simply from the wear and tear of water constantly trickling through the pores of the rock; and this process may have been very rapid just after the flood, when the newly exposed rock was far softer than it is now; hardened since, by more than 4,000 years' exposure. I have chemically examined many of the stratified rocks, and I find they nearly all contain more or less of some kind of cement, which, with the addition of water, and the action of the air, or even without this, would cause their speedy solidification; and even some of what are termed the primitive rocks are similarly cemented; we can therefore see how "serpentine" and rocks of that class, or even perhaps the new formed granite itself, may have been forced up, as a pulpy cement not yet concreted, from its first site by the pressure of the increasing size and weight of the mountains as they were first formed under the power of central attraction, before having time to harden, in the first days of formation after creation; how, in the after destruction of those

mountains by the catastrophe of the deluge, the same kinds of rocks which had occupied some of the interior caverns, or hitherto hidden parts of those mountains, remaining as created, unwetted, or, at least, not hardened by time or exposure, became wetted, mixed, and forced up, down, or through various water courses, or new rents, cleft in the trembling hills, or mountain sides and tops, into their present positions. For this flood and force of water was not only over the tops and down and along the sides of the mountains, but through the vast caverns of the internal parts of the concrete structure of the mountains; and the results of such a force are plainly observable in almost all the chief hills around the mountains of the Lange Berg Range, in South Africa, and many other parts of the world, but more especially on the south side of that range, where nearly every hill shows the effect of violent pressure from within, bursting their sides, overturning the tops; and, to this day, many have perpetual fountains flowing at their very summits, watering the lands below, evidently supplied from the mountains, through caverns connected with them; but in many instances these fountains have been closed by an amygdaloid cement of the hardest

kind, forced up when in a softer form, through what has evidently been the orifice of a fountain.

Taking, then, into consideration the nature of these vast caverns in the mountains, and the outlets for streams in the surrounding hills, and in the deep valleys below, and the marks of devastation we now behold in connection with them, we may clearly understand the nature and meaning of the Scripture words, in Genesis vii. 11: "The same day were all the fountains of the great deep broken up." No other words could so briefly and yet so perfectly describe what had existed, and the results still to be seen! We have yet to revert to the tops of the mountains, which we have described as originally crowned with pyramids of ice—for snow must have been a rarity, as it could only have been formed in first formation of the earth, or from a portion of the dews as they collected before they reached the summits of the mountains and were condensed as night came on, as still occurs in some mountains in various parts of the world.

As the waters of the flood rose, the larger animals, at least, and many smaller ones also, would seek refuge as high up as possible, and might, in some



instances, either gain the neighbourhood of the icy parts, or be brought into contact with them, as they were glided or forced down, or when they were floating on the surface of the water; hence they would become entangled and frozen in with the large blocks thereof, as they came crumbling from the mountain tops into, or were already being borne along with, the raging and increasing flood; and we now find the elephant and rhinoscerus have thus been deposited on the shores of the North Sea, and parts of Siberia. And in a similar manner have large masses of rock been separated from the mountains, fast bound in the ice, and drifted along far from their original site; even many tropical productions have been found on the shores of Greenland, and other parts where the washings of the ocean have again exposed them petrified to our view, having been first borne up from their place of growth by the waters of the flood, then frozen to blocks of ice, have ultimately been deposited, and then embedded by the revolutions of that same flood in far distant lands. But there they are—the *lasting land marks* of ETERNAL TRUTH! What vast effects then does this contemplation of the deluge reveal. With such hydraulic power, a

block of rock a thousand feet in thickness, and of still far greater extent—extent we cannot calculate—could be raised up and overturned! Blocks from the tops and sides of the mountains of as great a thickness, and far greater size, with the assistance of the ice could be carried away from its first site to other parts of the world, to be deposited in some strange position, causing geologists, with all their wisdom, many years of contemplation and wonder as to how they could have come there, whose erroneous calculations have deceived men; who, in their own wisdom, have thought themselves wiser than the recorded word of the Almighty; and have thought they could overturn and set aside the record of the great Creator: and have thus invited the kings of the earth, and the rulers to take counsel together against the Lord of the whole earth—the God who laid the foundations of the world, and overturned the mountains because he was wroth: therefore saith the Psalmist, in Psalm ii. 4, “He that sitteth in the heavens shall laugh: the Lord shall have them in derision.” Nevertheless, we are not to suppose that all these great scientific men have made their statements with the intent to lie; on the contrary, they have, many of them, if not all,

sought to unfold the TRUTH, only they thought to do it by their own wisdom, yet they have recorded some of the most important facts. And such men scorn a lie. They revere the truth, and strain their brains to comprehend it and explain it, only casting aside the delineations of Scripture; they, in their theories, have relied on their own wisdom, and their own calculations, ignoring the revealed sacred word of the testimony of God! Therefore we may, and must feel the necessity for the delineations and explanations of Holy Writ. For these reasons we may place reliance on the facts related by, and the actual observations of, these great philosophers, however much we may dispute their theories. Even Bishop Colenso, who labours to disprove parts of Scripture, unknowingly and unwittingly records a most important fact in his introduction to his Review of the Pentateuch, and says "that the sun and moon could not stand still in conjunction, for if they did they would draw all the waters of the earth up into a heap on one side of it." Now, this is exactly what I have described, and what Scripture has stated did take place at the time of the flood (Habbakuk iii. 10): "The sun and moon stood still in their habitation"—



verse 15, "Thou didst walk through the HEAP OF GREAT WATERS." But though the sun and moon "stood still in their habitation," yet the commotion produced by the heavenly bodies did not entirely prevent the rotation of the earth on its axis, except, perhaps, for a short time ; but, having collected the waters, they perhaps augmented its motion afterwards, or caused it to vibrate in different directions ; therefore, each rotation or vibration of the earth would cause the heap of waters to move onward, and produce the "coming and going" of the heap of waters described in Genesis viii. 3. But how can this accord with the command of Joshua, and why was there not a flood also then ? Because the sun and moon were not in conjunction, the sun only stood still at first—the moon not until she came over the valley of Ajalon. The sun standing still, or as stated in the Hebrew, being silent, but for a little moment in its own rotary motion, upon which the diurnal motion of the earth chiefly depends, would, without any other applied force to alter it, cause a retarding of the motion of the earth on her axis ; and the latter would affect that of the moon soon after as stated, and the whole time occupied in the *delay* thus

occasioned, *i.e.* in stopping, standing still, and re-commencing motion, is stated in the following verse to have been "about a whole day;" but the motion of the earth, though retarded, does not appear to have been checked entirely, for the Scripture expressly states "the sun HASTED NOT to go down." But a remarkable phenomenon occurs, which may have had great influence either as a cause of the perturbed motion, or, in some measure, as a result of that perturbed motion; for the earth had evidently come within the sphere of attracting a number of floating spheroids which fell upon the earth; for in the same chapter in Joshua, we are told in the verse preceding the relation of the command to the sun and moon, "That the Lord cast down great stones from heaven upon them unto Azekah"—and "They were more which died of the hailstones than they which the children of Israel slew with the sword." And if we refer to other writings, we find that the thunderstone which fell in Crete, mentioned by Malchus, and regarded as the symbol of Cybele in the Chronicle of Paros i. 18—19, may have been one of those very stones, as well as others recorded in the same writings; although the dates recorded are not exactly

the same, yet, as the heathen mode of records relative to dates differs from that of the Hebrew, we are not without reason to suppose, that the dates refer to the same period;—therefore, if so, that shower of stones must have been one of vast extent, and, not unlikely, to have been concerned greatly in the perturbation referred to, which caused a deviation in the motion of the earth, and we may observe, how exactly everything in nature is appointed by the Creator to serve its predestined influence and effect at the exact time appointed. And it was this fact, in connection with the other evidences mentioned, that appeared to suggest to me the great perturbation before referred to, which occasioned the deluge.

Before concluding I must beg to refer to the following Memoranda, &c. :—

MEMORANDA ON THE “MEMOIRS OF  
THE GEOLOGICAL SURVEY.”

*Report on the Geology of Trinidad—or Part 1. of the  
West Indian Survey, by G. P. Wall, from the  
Govt. School of Mines, Fermyn Street, and J. G.  
Sawkins, F.G.S.; published by order of the Lords*



*Commissioners of H.M.'s Treasury. London : printed for H.M.'s Stationery Office ; published by Longman, Green, Longman and Roberts ; 1860.*

An examination of these surveys, for which the authors deserve the highest commendation, as they have been more earnest to establish facts than to offer or maintain theories, although they have given theoretical views to some extent, in which can be seen the school of their education, shows such convincing proofs of the Scripture statements, that I cannot suppress my remarks upon them. Situated as the island is, where the remnants of mountains destroyed and overthrown in the first destructive power of the flood would receive the gradually subsiding debris and deposits of the extensive tracts of South America, we have here the deposits of the various revolutions of the waters of the flood beautifully portrayed, and in an order coincident with the deposits in England, yet of different character. We perceive also, that these deposits have been deranged from the island's vicinity to volcanic action, evolved and produced about, or soon after, that same period. In Fig. 6, page 15, of their work, we

have the most perfect delineation of the subsidence of heavy pieces of quartz in shale, while the latter was hardening; we can see them, as it were, gradually sinking and accumulating at the bottom, afterwards washed out and strewn on the beach by the action of the tides on the upper part; and on the right hand we see the strata of the shale hardly disturbed; while in the lower part, especially on the left, we can plainly see the contortions produced by the gradually sinking pieces of quartz. The strata of the shale has most likely received its dip from volcanic agency, immediately, or soon after, its formation, but this may have occurred from other causes. In Fig. 5, we have an accurate representation of quartzose slate, either as the vestige of a destroyed mountain, or of large pieces of rock *thrown down* from the upper regions of such mountains, or where they may have formed hills at the base of such mountains, and have been rent and torn in pieces from the pressure of water within caverns they had previously contained. In Fig. 7, there is again the same appearance of the quartz subsiding in shale, the strata of both the shale and the sandstone having been disturbed by the same volcanic agency; in Fig. 8, the strata of the shale

appears but little displaced or affected by that agency. In Figs. 9 and 10, we have the contortions of shale, limestone, and gypsum produced, perhaps by the simultaneous action of upheaval from the discharge of some gas or water, and the subsidence of the end of the strata, when formed and consolidated, into a softer material, or a hollow produced by volcanic action; or the strata may have been formed over a rounded incline. In Fig. 11, we have the quartz producing deflection in the softer mica slate not yet hardened. Figs. 12 and 13, the authors state that "the violence of these flexures is illustrated." The quartz may certainly, as expressed by the authors, have been formed after the flexion and torsion of the mica slate in its softer form and primary state, or the water in filtering through it may have deposited the quartz; if so, the quartz will be likely to be somewhat more crystalline than usual, and more blended and mixed with the mica slate, or it may have been deposited in fissures of the shale by water infiltration subsequently. Relative to Figs. 14 and 15, I will quote the authors' own words: "General contortion exists when a number of adjacent strata, the harder and softer alike, are affected



by the same flexures"; this shows the disturbing volcanic agency at work soon after, if not at the time of subsidence. "Fig. 14 (see page 22) is a singularly beautiful instance of this appearance, which is very common, and seems dependent on the general movements which the system has undergone." So that if the authors had been delineating our own view, they could not have written with a clearer decision. For the shale being one of those cement-like substances, would concrete and settle down early on the subsiding of the waters, and would be liable to contortions and effects afterwards by other matter. The joints described in Fig. 17 I have found frequently to occur in micaceous sandstone and other rocks in South Africa, and it appears to me to originate in a contraction of the substance, the crevices being filled either with a breccia from the enclosing strata, or other crystalline substance deposited by infiltration. Fig. 20, instead of being, as the authors state, a "gradual change of position," is, I conceive, simply the border or edge of a disturbed tract. Figs. 21 and 22—Caverns like these may have been formed over deposits of sand or other substance, by limestone or schist, and the sand subsequently

washed away; hence the arch and contortions; but caverns to a vast extent no doubt existed before the flood, which, in many instances, became broken and distorted at that time. Figs. 29, 30, and 31, show the altered positions of strata, resulting from causes before mentioned, as well as the beautiful plates—Figs. 23 and 24. In reference to petroleum, at page 37, the authors state—"These circumstances seem to indicate that the asphaltite proceeds from some depth below the surface, but all efforts to ascertain what the origin really was, have been unavailable. The whole subject of its derivation is, in this instance, involved in much greater obscurity than at La Brea, and it is necessary to hesitate before ascribing its production to the same causes." This is a candid confession, and shows the sincerity of the authors. For the authors seem to suppose its origin to be in a decomposition of lignite. But very extensive beds of lignite occur near the Cape of Good Hope, and many other places, where none of them contain, especially so far as has been observed in South Africa, the least appearance of petroleum; but, when the petroleum is forced up from distinct causes, the lignite, as they have shown, evidently

often forms a channel for the petroleum, and having once imbibed it, the lignite would continue to yield it for a long time, in the manner they have described. See appendix G. by the same authors, in which they have given their theoretical views at great length. Hence the carbonaceous or vegetable deposits, according to my views, may be the channels, but not the sources, of the petroleum, which is, no doubt, a distillation or forced exudation produced from the sources of coal, and other bituminous substances, very deeply seated in the neighbourhood of volcanic action; especially, where that action is dependent upon pyrites, or sulphur associating itself by chemical action on metallic substances, such as iron, with the decomposition of water in the neighbourhood of deep-seated carbon or bitumen, in its original sites, as formed at the time of creation, but which were brought into collision in the destruction of the deluge. And this view seems fully developed in the Authors' account of the pitch lake, referred to at page 140—Fig. 55.

The whole contents of this work, without one exception as regards the facts related, and the illustrations contained in it, are a continuous chain



of arguments and demonstrations of the truth of my views of the Scripture narration, relative to the Creation and the Deluge, and the results thereof.

I must next make a few comments on the statements of the Colonial Botanist, Herman Crüger, contained in the same work just referred to; who, in speaking of the fossilated woods, tries to maintain the modern geological views of a gradual change on the surface of the globe, and not of a change as the result of a "revolution" or "cataclysm;" but he unavoidably supports the reverse, and at page 175 he describes No. 11 specimen, and states it would look like wood of "*Carica papaya*"—"it appears to have been a soft and and loose textured bark;" such a substance, then, if long exposed, would soon decay, yet he states that "this substance has not undergone any change such as is brought on by decay." Therefore it must have been suddenly embedded, and in that state have received the asphaltum forced into it, and which perhaps caused the resistance to petrefaction and maintained it free from putrefication. Other specimens again very clearly show that they were *suddenly* embedded in a *decaying state*, caused by previous age, or while

lying in the waters of the flood ; such as Nos. 12 and 14, for the *fungi* and *worms* and *insects* have all been *preserved* ! which could not have been the case in a gradual entombment. His concluding paragraphs, page 176, proves the *isolated nature* of certain vegetable growths, as well as animals, previous to the deluge, and to which I have before referred. And however I may differ from him in opinions, the descriptive facts he has related, which neither of us doubt, most eminently confirm my own geological views. Finally, all my views are beautifully portrayed and delineated in the valuable geological maps—actual surveys—published in the same work by these excellent authors.

In a brief account recently published of Robert Hedges, by Miss Buckland, and in reference to and comment upon a lecture delivered in Manchester, by Mr. Pengelly, she tries to prove the measure of the lapse of ages by the time occupied in the covering up of the name of Robert Hedges, carved in a cave in Devonshire in the year 1688, by stalagmite. But it is no proof of measure at all, for what she has shown to have taken nearly 200 years to produce in this instance, I have known to be produced to as great an

extent in other places in a very short period. I will relate an instance. When I went to school at Rochester in 1821, the tunnel from Rochester to Gravesend was being excavated; I think it was completed about 1824: and in 1828 I walked through it, examining the sides where water was draining through the chalk roof, and found stalagmite formed of an inch in thickness. This, therefore, shows a very different calculation to what the cave does; and the fact is that the time taken to form stalagmite merely proves the freedom of transit to water by percolation, and its quantity, and the quality and thickness of the substance through which it passes; and that when the pores of such substance have been more or less stopped by the stalagmite itself, or anything else, its formation below such stoppage must be proportionately slow, or nil. This however is important, as showing how readily we may be deceived by viewing a fact in only one light or one position!

We thus find, then, evidences on the earth now which lead to the same conclusions as we before arrived at, in relating the history of the deluge and its effects, and all those evidences confirmed and explained by the Holy Scriptures. The Scriptures



and Science are therefore so interwoven that the one is in perfect accordance with the other ; the one being a source of explanation, the other of demonstration, as to the nature of, and changes in, all the wonderful works of God.

In conclusion, I must state how perfectly well aware I am of not having done full justice to the subject of these pages ; but were they materially lengthened, which such justice would require, they would not, perhaps, be so extensively read as I trust they will be in the smaller compass now presented. I ought to have more fully related and shown the nature and composition of LIGHT, and illustrated its effects ; as also of the other imponderable materials ; but as I have already lectured and written on these subjects it may not be so needful now ; yet, if my declining years permit me, I may perhaps condense, hereafter, what I have written and stated, and compare my statements with the ideas of, and facts related by, other authors : and I hope also to be able to answer the criticisms upon these pages. At present, I trust I have shown successfully that science not only proves the truth of and illustrates Scripture, but proves itself to have been established by God in creation, as

the foundation of the order and perfection of all His works.

Having, then, found the evidences of the true God, in the delineations which Science portrays in the creation as a work of that eternal God, and the truth of His Scripture, let us believe the words spoken by His holy prophets, and we shall find their statements confirmed by the testimony of the Evangelists and Apostles of Jesus Christ, who hath declared "that as it was in the days of Noah, so shall it be in the coming of the last day!" Woe to them who believe not in Him, saith the spirit of my God! Amen!

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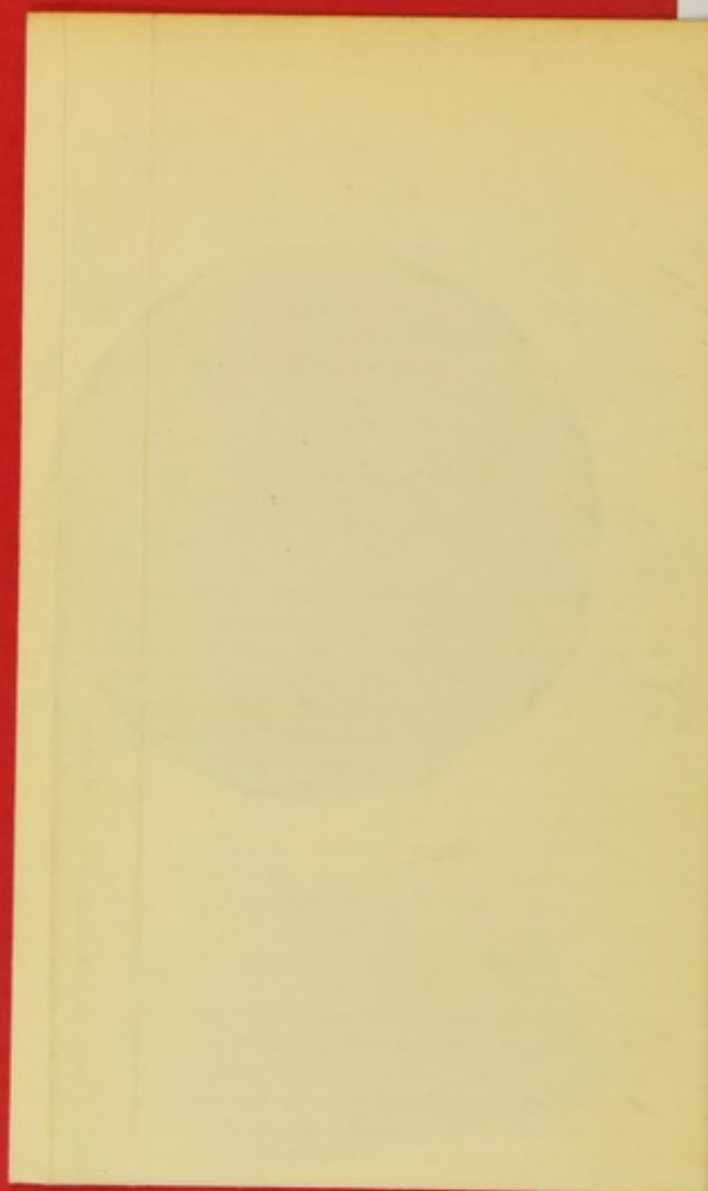
Jesus Christ, who

says of Noah, so

day!" Woe to

the spirit of my





DESCRIPTION OF THE DRAWINGS, AND REMARKS  
THEREON.

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It must be borne in mind that these plans are necessarily exaggerated in many details in order to render the views of the author more readily observed, as on so small a scale, they could not otherwise be made intelligible.

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PLAN No. 1 is an ideal representation of a *section* of the earth previous to the deluge, and for the sake of delineation is supposed to represent it at about 20 to 25 degrees south latitude. The mountains are here represented as though their height was about 100 miles above the sea level; as on so small a scale they would hardly represent clearly the author's views had they been limited to his statements of 10 or 15 miles, or even more, in height. The distance from mountain to mountain is, at that latitude, represented at about 20 degrees (or about 1,000 miles) from centre to centre; and the names of parts mentioned are those near where vestiges of mountains still remain visible at that latitude; but different sections would of course represent different views, as the mountains were certainly formed in ranges, and at irregular distances. The *green* colour represents the cultivatable or habitable parts, extending on the slopes of the mountains for about 800 miles from "sea" to "sea," with a depth of soil, as seen in the plan, of 40 or 50 miles.

Now, were the mountains and soil proportionately reduced in the plan to the author's statements and views, it would at once be readily seen that the water of the seas, accumulated as a "heap," on one side, would readily pass over the mountains; that is to say, there would not be so much of the obstructions which the mountains in this plan now represent.

And this will be more readily seen in plan No. 2, which represents a section of a portion of the earth extending only so as to include a section of

three mountain ranges, and in which the mountains are represented as of a height of about 30 miles above the level of the "seas," or still double what the author has supposed to be more nearly correct. It may be asked, why not put the supposed correct height at once? Because a small scale is more readily grasped by the eye and comprehended by the mind; and so small a scale requires the peculiar features to be made more prominent than natural, to be readily perceived; while, at the same time, it shows the different views which different proportions would give. Should the author be able to produce, as he desires, a more extended work on this subject, all these different views and proportions will be given.

In No. 1, the *blue* represents the "seas" with a surface of about 200 miles across at the margin or circumference, from one habitable part to another, and situated in what are termed the "great deeps" in Scripture, and which are considered to have been formed by the contraction of the solid parts of the earth, as it was hardening during and after formation; and which extended from cavern to cavern, as these cavernous hollows were formed, while the crystallization of the earth was taking place; thus forming "*the channels of water*" which, as the Psalmist says, "were seen, and the foundations of the world were discovered, at thy rebuke, O Lord;" and through these channels the water could have been readily and quickly driven under the violence of such a convulsion as has been described; as they must have formed connecting "channels" between all "the great deeps," even through the earth. For it is only natural to suppose that in such a sudden formation of the earth there should be formed large caverns studded with crystals; and that during, and for a long time after, formation, condensation should produce, as it were, cracks arising from contractions, as communicating channels into which, as they occurred, the superfluous water would have oozed out of the hardening rock and have risen towards the surface from, as it filled up, the interior of the earth, while other streams from the mountains descended to meet them, where they formed "the gathering of the waters" which were called "seas," in the great deeps—which are represented in No. 2 as about 20 to 50 miles wide.

We can thus more readily understand the nature and connections of the caverns and supplies of water the author has referred to at pages 128 and 152, and which can still be seen in many parts of the earth; although, as will be seen in No. 3, many of those cavities and fissures are choked up



with the subsiding sediment, as well as with concreting deposits, breccia, and crystallized quartz or minerals, &c., deposited by the oozing water, which, as it was evaporated from the surface and rose in vapour by the heat of day, and was attracted towards the mountain tops to descend in dew watering the earth, continued to rise by gravitation and filtration, leaving crystalline deposits in its constant circulation. But as these water communications became greatly choked, partly before, but mostly at the time of the flood, a wider extent of water, but with less depth, was naturally inevitable in its reconstruction; hence, **No. 1** shows an extent of only one-fifth water surface; but the earth now reveals, as in **No. 4**, an extent of three or four-fifths of water surface; most of the previous "channels" and "great deeps" being filled up with other materials subsiding and forced into them by the pressure of the force of water at the flood. And many of these caverns and cavernous channels may have been filled, in the formation of the earth, with bitumen and substances of that nature, which, while the earth was undisturbed, being heavier than water, would remain there, but when the waters were forced through these channels, their pressure would force out the still fluid bitumen, and form, as before described, the strata and beds of coal.

**No. 2** is therefore an enlarged view of **No. 1**.

**No. 3** shows the flood accumulated; one mountain range is destroyed, and the "channels" where it has passed filled up; the "channels" and "great deeps" in front of it are sending up their waters with destructive force, as "fountains" in the exact words of the Scriptures, "*the fountains of the great deeps were stopped*" only after 150 days. Now such could only occur under some such view as I have formed of it. Therefore, in **No. 3** is also seen one of these "great deeps" being filled up and the sediment of the waters being left behind, while the destruction and desolating fury are in front of the "heap of waters," which, with the "fountains of the great deeps" more in front, are attacking and destroying another mountain range; and, floating on the hinder part of the waters in a comparative calm is the ark, to be ultimately left behind on the mountains. In each of these views the line describing the line of the circuit of level has been maintained, so as to show the depth to which the flood would act in reconstructing the earth. **No. 4** shows a section of the earth as reformed, the vestiges of mountains and high plateaus corresponding with the former mountains, shown in **No. 1**, where, as in Africa for instance, a space

between two ranges, appears to have been filled up in No. 4, forming the extensive plateau and lakes there found. And the channels and fountains of the great deeps are shown filled up and the waters spread out.

In these rough sketches I have endeavoured to show, as in the work throughout, that the sacred Scriptures are an exact delineation of all the discoveries in the sciences of geology, astronomy, chemistry, and natural philosophy. And anything appearing to the contrary I will thank the reviewers and critics to point out, so that I may answer and explain in the next edition.

Amn.      w