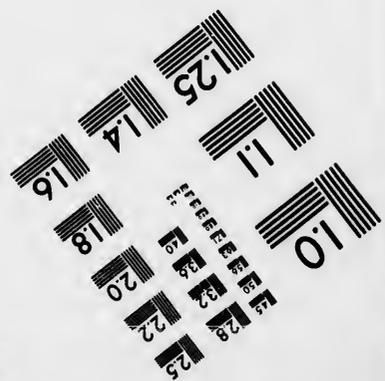
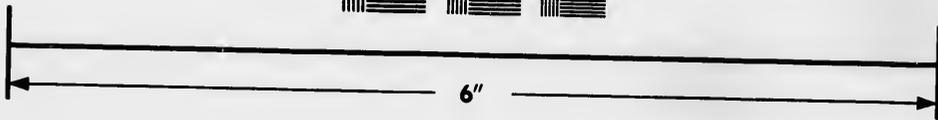
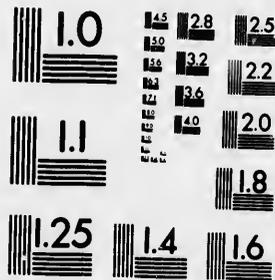


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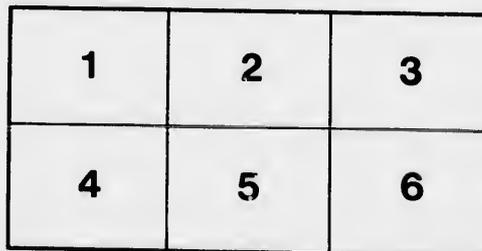
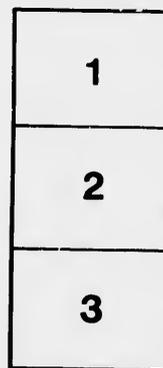
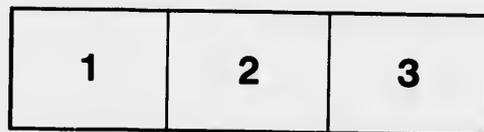
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THE MOSAIC ACCOUNT  
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CREATION OF THE WORLD  
AND THE  
NOACHIAN DELUGE,

GEOLOGICALLY EXPLAINED,

BY

T. W. GOLDIE, ASSIST. COM. GENERAL.

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SECOND EDITION,  
REVISED AND ENLARGED BY THE AUTHOR.

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# PREFACE

TO

FIRST EDITION.

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IN launching this little Work on the wide waters of the world to buffet its way against the storm that I feel aware will arise around it—against the howling waves of Ignorance, and the fierce thunders of the Bigot—I must premise that it was not written for publication; it was not written for the world, but to prove that the Science of Geology is not contrary to Scripture, as is supposed by so many well meaning but ignorant persons.

It is, in fact, more the answer to an attack than the commencement of an argument.—It must not be for a single instant presumed that I am broaching altogether a theory of my own upon so grand a subject as the Creation of the World. Most of my statements are upheld by the great professors of the Science; but as these high authorities have generally written for those who altogether believe, because they comprehend what they read, and not for the many who have no leisure to pore over what at first sight appears a tissue of technical terms, I have thought it right and fair to attempt to meet the opponents of Geology on their own ground, and with their own weapons; I therefore set out on the

momentous task of taking the first chapter of Genesis, verse by verse, and of giving its Geological interpretation in lieu of that generally received.

The grand principle is this, which I opine few will deny; it is—That the Word and the Works of God cannot contradict each other—and therefore the strictest religionist need not fear for the truth of the fundamental portions of the Bible. In all likelihood many who will read this small Treatise, have had a certain crude idea of Creation all being begun and concluded in one little week.—This idea has grown with their growth, and strengthened with their age, until at last they have begun to consider it a part of their religion. These must not be scared because a new light is placed before them—these must not start like a frightened steed because another view is taken on a point on which they have a preconceived idea. I say to these as I would to the startled horse—Look at it! go close to it! compare the old idea of Creation with that now laid before you. Make use of your own intellects, and choose for yourselves.

# PREFACE

TO

SECOND EDITION.

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In consequence of the favorable manner in which the first edition of this short treatise has been received, and many of my friends having stated that it cleared the doubts which they had entertained respecting the subjects discussed, I have been induced to bring it again before the world.

Although, as I expected, in a few instances, the howling waves of ignorance arose around my little bark, when first launched on the sea of public opinion, the better educated and most intellectual of my readers at once adopted the plain and common sense view laid before them. They did as I desired the startled steed to do—they looked at it, they went close to it, they compared it, they made use of their own intellects and chose for themselves.

DO THOU LIKEWISE.

## THE CREATION.

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*Genesis 1st Chapter, 1st Verse.—“In the Beginning God created the Heaven and the Earth.”*

THE Beginning here mentioned does not specify any time, or duration of time. It may have been countless ages before the commencement of the 2nd verse, and it merely seems to imply that the creation of Heaven and Earth, or rather their component parts, took place. Likewise, during this Beginning, material substances appear to have been divided, to have taken the globular form, and as such to have had allotted to each formed world its position and path in the boundless infinite.

With regard to the Heaven here mentioned, it can scarcely be supposed to represent the destined abode of the blessed; as we are led to believe that Angels were in being before the Creation of the world, and must have had some habitat, which we may reasonably opine to be the true or spiritual heaven. Indeed, from the succeeding verses merely treating of the Creation of the Earth, and things relating to the Earth, it (the Heaven) would appear to signify the whole of the heavenly bodies, including the Sun, and not the blue expanse as seen by us, and called by the vulgar the heaven or sky, which merely depends on the refraction and reflection of light by our atmosphere, and the watery vapor contained therein. It must also be remembered that at the time of the writing of this narrative by Moses, it was not known that the world was globular—it was considered to be a flat surface, overhung by a blue semi-opaque canopy,

studded with little stars, and upholding a large quantity of water, which dripped through for rain, and beyond this canopy Heaven was conceived to be.

In pursuing this inquiry, we must not lose sight of the almost inconceivable smallness, and utter insignificance of our Earth in this system of the universe; so that we perceive how absurd it would be to suppose that the laws by which the Almighty has thought fit to govern the enormous amount of worlds which Astronomy reveals, should have been altered or reversed, to suit the convenience of such a comparatively contemptible object.

The Creation of the whole of the universe appears to be thus summarily treated of in consequence of its being obviously of small importance, in a religious point of view, to know how, when, or why it was created.

The Bible is a Book the avowed object of which is the teaching Religion, and not Natural Philosophy, and those who attempt to learn Natural Philosophy from it, and thus divert it from the purpose for which we are expressly told it was given us, may rest assured that their own vain imaginings will lead them into error. If then it can be shown that the Book of God, and the revelations of the Book of Nature, are not at variance one with the other, it is all we ought to look for.

The Creation of the Universe being thus merely stated, the account descends more into particulars as to the mode in which the Creation, or rather the moulding or preparing for the abode of organic life of the surface of our globe, and of what otherwise affects us, took place. In my opinion none of the subsequent verses relate to anything else than the concerns of our earth.

I must now beg my readers to entirely divest themselves of the idea of the whole Creation having been performed in six days, according to our ideas of that period

of time; that is twenty-four hours, the period of the turning of the earth upon its axis; and shall now proceed to show, not that the Almighty could not perform this wonder, but merely that he did not. Remember that to him one day is as a thousand years, and a thousand years as one day.

For the sake of shewing the absurdity of a day meaning (as applied to Creation) twenty-four of our hours, we will suppose, for an instant, that there were people in Jupiter, Saturn, and the Earth, and that all parties were informed that the Creation of the Universe took place in six days. What would they all have to believe? The Saturnians would have to believe it took 63 hours to create, Jupiter 60 hours, and we should think it took longer than both the other two, namely, 144 hours. I would ask, is this reasonable, or according to common sense, to have Creation taking place, not to say in three, but three dozen periods of time. The days mentioned in Scripture are, without doubt, unnumbered ages, and I propose, for the sake of perspicuity, to term them the Epochs of Creation.

### First Epoch.

Without stopping to examine the theory which supposes our globe to have at one time been in a state of fusion, which if it ever occurred, may have been in the period of time represented in the 1st verse, I shall pass at once to that mentioned in the 2d verse, when it would appear that "*The earth was without form, and void.*" "Form," does not seem to signify shape, but that every thing was in confusion, and it was "Void," because not yet fitted for the habitation of living creatures, "*And darkness was upon the face of the deep*" In this state it appears that the earth was yet chaotic, perhaps one vast ocean covering the entire surface in all probability to no very great depth, and holding in suspension

and solution, the constituents of our older stratified rocks.

Possibly chemical affinity had not yet come into play, and the gases that compose the atmosphere which surrounds us were amalgated with this primordial liquid, and the sun although created did not yet give light.

*3d Verse.—And God said: "Let there be light, and there was light."* This cannot refer to the absolute creation of light, but rather to its being called into action so far as concerns us, for no one can for an instant imagine that the habitation of the powers of heaven was in utter darkness until the creation of our globe or that it even now receives light from our sun.

We are not told how or from whence this light came, but on the supposition that the sun was not yet luminous during this and the two following days or epochs, light must have been encircling the entire globe, therefore the expression, "*And God divided the light from the darkness,*" must have referred to the division of their names—in fact was merely naming the ideas connected with the absence or presence of light, as there could be no division in any other manner, unless indeed light came from the sun, in which case the darkness would of course be caused by the earth turning on its axis.

*5th Verse.—"And the evening and the morning were the first day"*—or more properly rendered, "The evening was and the morning was"—that is to say, we have had the commencement and are come to the end of a grand Epoch. The evening and morning here mentioned, could never have meant night and day according to our acceptation of the terms, because night is not an actual departure of light, but occasioned by a part of the earth turning itself away from the sun as it revolves on its axis. Now on the other hand, if we are to believe that light was at this period all round the globe, no

revolutions, let them have been few or many, could have effected it in this respect so as to have caused either day or night, and we must not forget in concluding this subject, that neither Moses or his people were aware that any such revolutions took place.

### Second Epoch.

*6th Verse.*—“ *Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.*”

That is, let chemical affinity begin to act, and let there be a separation of those atmospheric gases forming our firmament with its clouds, and dividing the waters above from the waters below, which we may opine to mean that the atmosphere surrounding the globe was for the first time capable of holding water in suspension.

During the period, let it be long or short, in which these gases were rising from the primordial liquid, a simultaneous chemical precipitation of our mineral and granitic strata took place: thus forming a crust of the earth of one shell of rock (some hard and some soft) surrounded by the sea, perhaps to no very great depth. In all probability the sea now for the first time became salt.

*8th Verse.*—“ *And God called the firmament Heaven!*” But we are already told that Heaven (or rather the host of the Heavens) was created in the first verse, so this Heaven and that there mentioned are different and distinct, neither being the true Heaven as I before implied: and now the termination of a second epoch occurs.

### Third Epoch.

*9th Verse.*—“ *And God said: let the waters under the heaven be gathered together into one place, and let the dry land appear! and it was so.* *10th.* *And God called the*

*dry land "earth," and the gathering together of the waters called the seas, and God saw that it was good."*

Sedimentary strata were depositing during the last, and in all likelihood were still at the commencement of this era. And now by the last great act of volition an awful expansion of the interior of the globe took place; forth from the depths of the encompassing ocean arose the giant peaks of granite, tossing the scared waters from their scorching brows; forth into light arose the ancient continents, together with some of ours, and some of our great chains of mountains, the tops of which in many parts formed islands in the early sea. This upheaval of the land in some places naturally deepened the bed of the sea in others, thereby throwing the waters into one place, and leaving the land in some parts cavernous beneath.

This point, as it more properly belongs to the Noachian Deluge, will be more fully discussed when we enter upon that subject. We have now rock upheaved above the ocean, and some length of time must be permitted to elapse to allow sufficient abrasion by the action of air and water to form a covering of soil or mould. This being done, the earth is fitted for the production of vegetable life, and consequently—*Vide 12th Verse*—"And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit whose seed was in itself after his kind, and God saw that it was good." It appears that at the command of the Almighty, vegetation spread itself over the surface of the ancient lands, the lowest tribes first according to their stand in creation.

We have no reason to suppose that this command to the earth to be productive, ceased to have effect at the termination of its era, or that every tree we possess sprang from those early ones, but rather that every part

of the earth whensoever it comes to light, past, present, or future, is by that uttered law to bring forth vegetation suitable to its soil and to its climate.

#### Fourth Epoch.

16th Verse.—“ *And God made two great lights, the greater light to rule the day, and the lesser light to rule the night, he made the stars also.*”—It is generally supposed that this verse refers to the creation of the Sun and Moon, but this is not stated in the text, but merely that they became lights. In this first supposition it would appear, that until the fourth day or era of Genesis, there were neither Sun, Moon, or Stars, and that our planet, although one of the least, was the only created body of space, and according to this view of the question must have been a stationary dot in the midst of illimitable emptiness, or otherwise flying through space on its headlong course, there being no Sun, no centre of gravity to confine it to an orbit. Is it not much more in reason to suppose, (if there be any primogeniture in the case,) that the great luminary who holds by his vast attraction this earth, and all her sister satellites in check, and keeps them in the paths that they should run; is it not more reasonable to opine that he should be the first, or in any point of view, not the last created. I may as well here state for the information of those who are not conversant with the subject, that the respective dimensions and distances of the Sun and our little earth, are about equivalent to a globe of two feet in diameter, and a pea placed about 215 feet off.

This is a plain statement of facts, make use of your own intellects and judge for yourselves, without bias or prejudice on either side.

The gravitating power of our sovereign orb having

no connection whatever with his light, we may read the text that this latter property was now first conferred on him, for as I before remarked, it is not stated that the Sun was now created, but only that he was made a light. It must not be for a moment imagined that the Sun is a globe of fire; he is in fact a large dark body of earth, but of infinitely less density than our world, being only one-fifth heavier than water. About fifty thousand miles from his surface he is surrounded with a vast ocean of phosphorescent clouds, which is what is visible to us and gives us light, and the dark spots that sometimes appear on his surface, are occasioned by the terrible hurricanes that sweep along his equator, and rising in mighty whirlwinds, tear apart his phosphorescent atmosphere, and shew to our admiring view masses of the giant orb many thousand miles in extent.

I may here express my obligations to my friend Staff Surgeon T. P. MATTHEW, for the following information on the properties of light, and for his reading of the texts of Genesis which treat of that power. here inserted, but also for much valuable assistance during the compilation of the pages:—

“ Light we are told existed in the first epoch, but it would appear not to have come from the Sun in particular. This certainly is a difficulty hard to surmount, but when we reflect that even now, we are totally ignorant what light is; that the celebrated theory of Descartes of undulations of ether, has by discoveries since his time, especially by some facts connected with the polarization of light, been in a manner overturned, and that light may with more probability be considered a *substance*; there is no reason why it might not have existed independently of the sun, as it does to this day in incandescent bodies, hot iron for instance, or the flame

of a candle, which is merely carbon, heated till it becomes luminous; or the best example of all, Lime, heated under the oxyhydrogen blow pipe, which almost rivals in intensity the direct rays of the sun. Here again we are at fault from our very imperfect knowledge of nature; for the sun's rays are compound, there are at least three kinds which may by artificial means be separated the one from the other. First—Light recognized by the optical apparatus, which again is decomposable into three colored rays. Second—Heat recognized by the sentient part of the nervous system in general, as well as by its effects on inanimate objects, such as the Thermometer, producing combustion, &c. Third—Chemical rays which are not appreciable by any of our senses, but are recognised by the effects they produce in forming certain chemical combinations and decompositions. These three kinds may be entirely separated one from the other.

“ It is perhaps possible to explain the text in this manner.—The abstract idea of light was created in the 4th verse, and perhaps the Sun was even then endowed with the light giving property, but there was yet no atmosphere around the Earth, still the Sun's rays may have shone on what we have termed the primordial liquid. In the sixth verse, the atmosphere with its firmament is created, and now again the Sun's light becomes a diffused one as on a dark cloudy day, and the luminary is not visible, there is an intensely humid atmosphere, which is very favorable to vegetation, and may be one cause of the great palm and fern fossils that we find embedded in our older stratified rocks. The 14th verse may signify that this atmosphere became more rarified, and was no longer able to hold in suspension such a large amount of liquid, and consequently now the

Sun and Moon became apparent to the Earth, as two great lights or luminous bodies, whereas previously only a diffused light was visible, which, however, would have been quite sufficient to have brought to maturity many species of vegetables. The bringing forth by the Earth of vegetable products before the mentioned creation of the Sun as a light, is an additional proof, if it were needed, that this body (the Sun) existed before the 14th verse, both as a gravitating power and a light giving body, though in consequence of the mists which arose on the formation of the atmosphere, it was not visible from the earth as a light."

The summary manner in which the creation of the so called lesser bodies of space, is passed over by the last sentence in the 16th verse, "*He made the Stars also;*" merely implies their immateriality as far as we and our religion are concerned, without in the least detracting from their grand position in the scale of creation, many of them being larger than our Sun. Look for an instant at the nearest fixed star, the splendid and gigantic Sirlus, whose mighty globe is more than equal to thirteen of our Sun, who, from the distance of nineteen billions of miles, flings his glittering rays upon our ocean, with a light undimmed by the Moon of the tropics. Think for an instant what his satellites must be, what noble worlds whirl around his fiery orb, although too distant for our imperfect vision. And what must we be compared with them, what must this earth and her little sister planets be when our Sun, our great centre of attraction, would be overwhelmed amidst the glare which pours from the globe of the stately Sirius? And doubtless there are many equal to him, far, far away, in the unfathomable depths of the eternity of distance. I cannot, for my own part, conceive how any man could for a moment suppose that all

these innumerable worlds were formed for his private convenience, and to give him light, when he cannot see one thousandth part of them; in fact, I do not believe that the 17th verse, "*And God set them in the firmament of the heaven to give light upon the earth, and to rule over the day and over the night, and to divide the light from the darkness,*" applies to the Stars at all, but to the Sun and Moon, the fact of the creation of the stellar bodies being read in parenthesis.

The only manner in which I can see any actual utility in these bodies, in a mundane point of view, setting aside purposes of navigation and a small degree of light, is that they may uphold an equilibrium of gravity in the mighty void, each individual globe being poised by the hand of the great Father, adds its iota to sustain the balance of the grain sand hosts of its myriad sisters. This is the question in a philosophical light, in a religious one it only concerns us to know that they were created, and by whom. This is shown in the shortest and simplest manner, no astronomical details entered into as not required by religion, for had Moses written his account contrary to the then conceived notion of things, (which as we are all now perfectly aware was very crude, or rather completely wrong,) he would have thrown discredit on his whole narrative.

We may therefore consider that the being of the Stars concerns us in the exact ratio in which they are mentioned by the great Lawgiver of the Hebrews, that is, in the smallest possible degree. As to whether the worlds of space are habitations of life, or not, is also a subject, religiously speaking, of no concern to us; the Book of their Creator says nothing on either side, but if we may judge from the innumerable forms of life on this little planet, of the pleasure taken by the Almighty

in dispensing the greatest of earthly enjoyments, as life manifestly is, may we not reasonably opine that the countless hosts of Heaven are not all "Void"? But although some may still be "without form" (as in all likelihood the Moon) that others are even now covered with masses of life, vegetable and animal; while others again may be advancing towards that climax which our Earth has now attained.

Should these bodies be inhabited, their principal denizens may be inferior, equal, or superior to ourselves. We have no right to limit the power of our Creator to placing human beings on this globe alone, especially as we do know of a superior created race, and we do not know of its whereabouts, perhaps in some of those mighty and distant worlds? But this is trenching too much on a subject, to the grandeur of whose altitude embodied man can never attain, to the depths of whose glory he can never dive, and betwixt the materiality or immateriality of whose Being, his finite mind can never discriminate.

### Fifth Epoch.

*20th Verse.—"And God said: Let the Waters bring forth abundantly, the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven."*—In entering on the creation of Fish and Fowl, as stated in this and the following verse, I would first observe that this is merely a statement of the formation of these beings by the Almighty hand, leaving to human research to discover which was first and which last, as a point quite unnecessary to religion which this chapter is intended to teach, and not the natural sciences, which are only borne on in a vague manner, but sufficiently so to show us "that all things were made by him."

The different eras of separate creations, during each of which whole tribes of life were swept from existence, as shown by Geology, appear to have been entirely omitted in the Mosaic narrative, as being out of the line of writing of a religious teacher, but as it has never been stated to the contrary, there is no heavenly reason why these successive creations should not have been, but a very strong earthly one why they should.

During this Epoch ages of time elapsed, the secondary rocks were deposited and upheaved, commencing with the Old Red Sandstone, and passing upwards through the Mountain limestone, the Coal measures, the New Red Sandstone, the Lias, the Oolite, the Wealden, and the Chalk. This vast series of strata is many thousand feet in thickness, two distinct assemblages of terrestrial plants flourished, and became extinct, the marine Zoophites were changed, the gasteropod and cephalopod molusca were equally altered, the trilobites were swept away, two vast creations of fishes vanished from the scene before the deposition of the chalk, while on the earth and in the sea thousands of gigantic reptiles held unquestioned sovereignty, until the bed of the vast cretaceous ocean upwards of a thousand feet in thickness rose above the wave, back fell the rushing waters as the now green fields of England burst upon the light, then died those giant dragon forms whose shattered skeletons we delve from the debris of their watery tombs, then died those fearful Lizards, one of whom with a single sweep of his mighty tail, could have bade defiance to the united fury of an hundred Lions. The uppermost secondary rocks are glancing in the sun light, the broad breast of the new earth is teeming with vegetable life, her old existences have passed for ever, she smiles to the hand of the great Father of life, and lo! her answer is come, for

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"the evening and the morning are the fifth day," and it is the commencement of the

### Sixth Epoch.

For the Brute rises on the scene, and the Reign of the Reptile is passed.

*24th Verse.*—*And God said let the earth bring forth the living creature after his kind, Cattle and creeping thing, and Beast of the Earth after his kind, and it was so.*"—This verse which we now propose to discuss is that in which a superior order of animals is called into life. It would seem that at this period the Earth, that is the surface of the ancient continents, was sufficiently dried, and the air sufficiently purified, from the consumption by excessive vegetation of vast quantities of carbonic acid gas, which would have prevented the development of the higher order of Mammalia. Now, therefore, we perceive the creation of this the highest kingdom of nature, with the superior Man, last.

In this opinion the Bible and Geology go hand in hand. Moses passes over the Brute with a plain statement as usual, without entering further on the subject except to specify that his creation is of later date than that of the Bird, the Reptile, or the Fish, but prior to that of humanity. It was left for man to discover who took the lead on the great stages of life.

In two or three places in this treatise I have stated that the lowest forms of life were the first created.

As I find that this has by some been misunderstood, it appears needful to explain that it is not a gradual perfection in the same class of existence which has taken place; far from it, the earliest Zoophytes and Mollusca are not inferior in organization to their living prototypes but greatly superior in size. Of all vertebrate animals,

fishes rank the lowest and appear first on the stage of existence, but then they are not imperfect formations, many of them occur in the highest state of affinity to the reptile, and not in a low stage of development, as if risen from a worm.

As the fish precedes the reptile so the latter precedes the brute, but then on earth, in air, and in ocean, he roamed with undisputed sway; the terrible Ichthyosaurus and Plesiosaurus spread terror through the waste of waters — the Pterodactyle of every size, from that of a Snipe to that of a large flying Dragon, swept through an atmosphere on whose waves the wing of bird had never beat, with a vast expanse of pinion, twenty feet in extent. On the earth the Megalosaurus, a large carnivorous monster, about 40 feet in length, with teeth notched like a saw spread terror around him. And mightier far than him the vast Iguanodon stood supreme in England, the Lion of the desert and the Tiger of the Ganges would have fled like kittens from his path, the savage Rhinoceros would scarcely have power to raise a scale from the iron ribs of the lord of the reptile world. Inferior in organization, but superior in size, to his successor, his doom went forth, the hand that made him sovereign on the earth swept him from its surface, to make room for a higher intellect and more perfect form.

As the Tertiary Geological era comes nearer home to us than those gone before, on account of the first appearance of Mammalian life upon the earth, it may not be deemed irrelevant to give a short account of these early animal forms, for the benefit of those who have not studied Geological work, to those who have I need make no apology for recapitulating the names of our ancient friends.

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This formation is composed of mingled sea and fresh water deposits, and is divided into the Eocene, the Miocene and the Pliocene, the first being the lowest, but lying above the Chalk.

In the great fresh water formation of the Eocene, nearly fifty extinct species of Mammalia were discovered by Cuvier, the greater number of which belong to the order Pachydermata, this class of animals delight in wallowing in shallow water, and thus we find their remains entombed in the beds of ancient lakes and morasses.

**Extinct species of extinct Genera.**

Palæotherium, 12 species.

Intermediate between Rhinoceros, Horse and Tapir :

Anoplotherium, 5 species.

Between Rhinoceros and Horse in one respect, and in another between Hippopotamus, Hog and Camel :

Lophiodon, 15 species.

Linking the Palæo and Anoplotherii to Rhinoceros and Tapir:

Anthracotherium, 7 species.

Allied to Hog.

Cheropotamus, 1 species.

Linking Anoplotherium and Peccary :

Adapis, 1 species.

Allied to Hedgehog.

Besides the above we find of extinct species of existing Genera :

Bat, Wolf, Fox, Coati, Raccoon, Genette, Opossum, Dormouse, Squirrel, Buzzard, Owl, Quail, Woodcock, Curlew, Pelican, Tortoise and Crocodile.

In the Miocene or middle system of Tertiary deposits we still find some remains of the animals of the first period, showing that a universal destruction had not taken

place, although a new creation had arisen. The Mammalia of this period consists of :

Dinotherium ..	2 species..	18 feet long.
Tapir.....	2 “ ..	Larger than the living.
Chalicotherium	2 “ ..	Allied to Tapir.
Rhinoceros....	2 “ ..	..
Tetracaulodon.	1 “ ..	Allied to Mastodon.
Hippotherium.	1 “ ..	Allied to Horse.
Hog.....	3 “ ..	..
Cat.....	4 “ ..	Size of Lion.
Machairodus....	1 “ ..	Allied to Bear.
Glutton.....	1 “ ..	..
Agnotherium..	1 “ ..	Dog large as a Lion.

In the Pliocene division of the tertiary fresh water deposits all traces of the Palæo and Anoplotherian families are lost, but they abound in extinct species of existing Genera of Elephant, Rhinoceros, Hippopotamus, and Horse, here also are for the first time abundant remains of vast Oxen and Deer.

In the deposit of the diluvium or drift this last creation appears to have continued, but many new species added more approximating to those which now surround us.

Mammoth or Elephant, several species, with long red wool ; Mastodon, 7 species ; Rhinoceros, 9 species ; Hippopotamus, several species.

Then the plains of South America teemed with the Megatherium, the Megalonyx, and the Mylodon, huge sloths of elephantine size and more than elephantine power, then roamed through India the great proboscidean Antelope of Siva who could have scathless shaken from his four-horned brow the fiercest of Bengals brindled sons.

Then England rang to the yell of the Wolf, the roar of the Tiger, and the howl of the Hyena. Then Europe swarmed with gigantic Bears in myriads, there also lived a mighty Dog, who could have heard unmoved the challenge of a charging Lion. And where are they? Gone! gone for ever! They have ran their allotted course, the fiat of the great Father of Life has gone forth. Man rises on the scene; and the reign of the Brute has passed.

I would now draw a distinct line between the rest of the earth, and that portion on which the first man first saw the light of heaven. That light which has for ages ceased to brighten those vallies or gild those mountain tops, where stood the homes of our primeval fathers. I conceive it not improbable that some of the tribes, (for instance the great Elk) were for a short period contemporary with Man; not, however, on the same portion of the globe, but distributed on large raised patches or islands; the part inhabited by Man we will term for the sake of perspicuity the "Adamite Lands."

It would appear that the Brutes created immediately around Man, were those, and only those, which were intended to be of service to him, for this reason every creature, beast, fowl, and insect, is given by the 30th verse—"Every green herb for meat." Now, those animals which are of service to Man, and which it appears Man possessed (by the fact of Abel being a keeper of Sheep,) are the very ones which live on grass. "Cattle" are expressly stated as being made, together with the "Beast of the Earth." The term cattle may comprehend the Ovine, Caprine, Bovine, and perhaps some of the Antilopean families, the two former of which are never found in a fossil state. This fact, together with an expression taken from some of the Old Heathen Mythologies, that

Noah was the first "who tamed the Bull, and submitted his neck to the yoke," leaves me in doubt whether I am not going too far in admitting him amongst the Adamite brutes.

The next question is what is meant by the "Beast of the Earth"—is it a comprehensive totality of brute creation, or a specific race? I am perfectly aware it is by most conceived to be the Mammoth of Northern Europe, as the translation of the word signifies as much. True he was graminivorous, and might well have been one of the inhabitants of the Adamite earth to keep in check the still luxuriant vegetation, but for one reason, he is no longer in existence! The door of that miracle ship that saved male and female of all life was closed against him! He could not have been there to save. But we trench upon the deluge!

I would here hint at the possibility of this beast being the Camel and Dromedary, his fossil existence being at best very doubtful, and his great utility to those who dwell in tents as a beast of burden, as well as for his flesh, milk and hide, together with the fact of his never being found in a wild state, speak volumes in his favour. These are the only specific Mammals in Genesis, whether the suggestion of this last named quadruped be correct or not.

I shall now take the opportunity of answering an opinion that I have heard broached, to the effect that by "Beast of the Earth" is meant the great Felinæ, but that they did not at that time eat flesh.

I would maintain that no Carnivora existed on the Adamite continent, as it is physically impossible that any of *them* could have lived on *green herbs*, and no end could have been answered by a miracle being called into

action for the purpose of enabling their stomachs to digest vegetable matter, as some suppose, and an alteration made after the fall of man, not only in the exterior appearance, but in the interior economy of these creatures to suit their change of diet. In fact this alteration is a bona-fide new creation in every sense of the word, unless indeed the progressive development theory be adopted, which permits a calf, or any other animal, at will to alter all his interior functions to suit the diet he may fancy, binding his offspring to live on the same, until one more aspiring than the rest rises by another wish to be superior still. But to return. When we look at the Book of Nature, we see every being formed to suit its station in life, both outwardly and inwardly, from the insect to the man, and nothing to excite a smile in any one of them. To the eye of the naturalist the incongruous specimens of brute creation which the alteration theory would produce would be truly astounding, however immaterial they might appear to the tyro. I will now proceed to shew the absurdity of this idea, but in as concise a manner as possible proceed to define the alterations required to qualify the present carnivorous races to subsist on vegetable diet, or in other words to shew them as they must have been if denizens of the Garden of Eden.

I take for examples the Sovereigns of the two great kingdoms, the Lion and the Eagle.

In the first we require the teeth to be remodeled, to be brought forward at a different period of the animal's existence, and to have flattened crowns. We require the condyles of the jaw to admit of a lateral motion, instead of a perpendicular one, like a pair of shears as at present.

Any person may comprehend this difference by ob-

erving the lateral and crushing motion of the jaws of the horse or sheep, and comparing the chopping or cutting movement of those of the dog or cat. Substitution of hoofs for useless talons must also take place, including of course a reformation of all the bones of the extremities. In fact every muscle and every bone must be changed, as also the powers of sight, the intestines must be elongated, and all the digestive organs, together with the action of the gastric juice, completely altered.

The feet of the Eagle must lose their hooked claws, which would prevent his travelling with ease on the flat ground to seek his food, or when found to scratch it from beneath the surface; his beak also must be straightened, and lose its serrated edge, he must also be furnished with a gizzard, and an elongation of the colon, his great powers of wing and vision would also be useless. I hope I have now made clear what I before stated that these necessary alterations constitute new beings, and be it remembered that no remains of any such horrid abortions have ever been discovered. Before taking leave of the alterationists, I would remark that their theory not only detracts from the prescience of the Creator, but falsifies those often written words "And God saw that it was good," by shewing that all were *not* good, that some were not suitable to the circumstances in which they found themselves—circumstances unforeseen and unprepared for, shewing the fall of Man and his expulsion from Eden, to have overthrown all the plans of Creation in an instant, that a remodelling of all life was necessary, in short that there was a mistake which required correction.

Now look at the subject in its expanded sense, mark in every creature the Omniscience of the Almighty Father who placed it on that spot of earth where its

presence was required, who looking from the vistas of pretemporal ages determined the place and time each order of being should rise to life. A creature is required; at the fitting moment he springs to being, to do his duty on that Earth to which it has pleased his Maker to call him.

No mistakes, no miscalculations, no errors to be amended in the setting of those types from which is printed the great volume of nature, the living Book of God! The species like the individual runs its allotted course for its allotted time, and like it is swept away, and another rises; so like the shifting scenes of a Diorama move over the face of this terrestrial ball its hosts of life.

Let us now proceed to take a glance at the Creation of Humanity. It appears by the 27th verse, that after animal existence in its varied gradations from the Mollusk to the Mammal was complete, that "God created Man in his *own* image, in the image of God created he him!"

We are taught to believe that God is a Spirit, and on this belief I am induced to think that His image in the likeness of which he created Man, is a spiritual one although immeasurably inferior, "even a little lower than the Angels," and not as is generally opined, the material figure to be the image of the Creator; whom while knowing to be the essence of power, goodness, and glory, we can hardly conceive to be in the similitude of a body formed of Carbon, lime, magnesia, gases, &c., or in the words of Scripture "the dust of the earth," in fact materials of His own creation.

The Almighty appears to have given Man dominion over the Earth, and the creatures that were upon it, he also appoints Corn and Fruit to be the food of Man, while

for the animal creation he "gives every Green Herb for Meat."

There is one point connected with the creation of mankind which will never be solved to the satisfaction of all parties. It is this, whether or not the different races which people the earth are originally from one stock. My own opinion is, that at the best it is very doubtful, and there is much to say on both sides. The grand hold-fast for the unity of mankind is, that all the races, let them be Black, Red, or white, are prolific one with the other, and likewise their descendants also. This is certainly a powerful argument, and one most difficult to refute, but in glancing through the first few chapters of the Pentateuch we come upon some rather extraordinary statements, which makes me believe that there were other human beings in existence at the time of Adam, independent of him, although in all likelihood under his Sovereignty.

The more we study the Book of Genesis the more it appears to me that it was not the intention of the Jewish lawgiver to imply that all mankind sprang from Adam and Eve, as the original stock of the human species, independent of anatomical differences and cases of analogy in the brute creation.

Before mention is made of Adam the Chieftain, the creation of mankind as a totality is stated in 27th verse of the first chapter, "So God created man in his own image, in the image of God created he him, male and female created he them."

Again in the 5th chapter, vide 1st verse, "This is the Book of the generations of Adam. In the day that God created man, in the likeness of God made he him." This verse seems to apply to Adam the Chief, the next, to the race or mass of the people, vide 2nd verse, "male and

female created he them and blessed them and called *their* name Adam in the day when they were created." Thus it appears that the tribe was Adam, and the leader Adam, as is the case with many Eastern and Arabian tribes to the present day.

Adam is certainly stated to be the father of all living, the word "Father" being taken in its literal sense has occasioned great misapprehension in those parts of the world where the people are not accustomed to Oriental figures of speech, even as far west as Spain, the people address those who are set in authority over them as their father, although they may be years junior. This holds entirely in the Eastern tongues, vide 4th chapter, verses 20th and 21st. "And Adah bore Jabal, he was the father of such as dwell in tents and such as have cattle." "And his brother's name was Jubal, he was the father of all such as handle the harp and organ." This cannot be intended to signify their paternal parent, but rather their patriarch or chieftain.

The latter seems to indicate the first who brought the science of music to perfection, while the former appears to have been the leader of a wandering horde. In fact no one is mentioned of the descendants of Cain, but the eldest sons or heads of the tribe. By the 1st and 2nd verses of 4th chapter, Cain and Abel appear to have been born, and in the 8th verse, on account of a difference in religious opinions, the two young chieftains quarrelled, and the younger was slain by the elder.

Cain is for the crime expatriated, but he fears to fly into the wilderness, for he says in the 4th verse, "And it shall come to pass, that every one that findeth me shall slay me." 15th.—"And the Lord set a mark upon Cain lest any finding him should kill him." Now I would ask (if there were no people alive but Adam, Eve, and Cain)

who was Cain afraid of? I am usually answered in reply to this question, "the sons of Adam and Eve!" but I can scarcely opine that Cain would have thought at once of looking so far into futurity as to have secured himself against a set of people, who he knew perfectly well were not yet in existence, and would assuredly take at least sixty years to grow up, quite sufficient time for him to be at such a distance as to be out of danger; should it be asked on what data I have taken sixty years to have elapsed before the Antidiluvian patriarchs attained the age of manhood, I beg to refer to the entire of the 5th chapter, in which it will be seen that no children were born to any one of them before the age of sixty-five and up to 187 years; and this has nothing to do with the question as to whether these years were equal to or shorter than our own.

It also appears on reference to 4th chapter, 16th and 17th verses, that "Cain went out from the presence of the Lord, and dwelt in the land of Nod, on the east of Eden, and Cain knew his wife, and she conceived and bore Enoch, and he builded a city, and called the name of the city after the name of his son Enoch." Who was this wife, and where did she come from? Assuredly she was not the daughter of Eve. By 3rd and 4th verses of 5th chapter we perceive that "Adam lived a hundred and thirty years, and begat a son in his own likeness, after his image, and called his name Seth, and the days of Adam after he had begotten Seth were eight hundred years, and he begat sons and daughters."

We see by this that Abel was slain, and Cain fled, before the birth of Seth, who took their place as head of the tribe under his father. Here again it is only the eldest son who is mentioned by name, and the younger portion as merely "sons and daughters." A little work of the

late Mrs. Hannah More, entitled the "Death of Abel," has misled many, she has included amongst her dramatis personæ, the wives of both Cain and Abel, and termed both the daughters of Eve. Scriptural tracts and dramas, both in poetry and prose, together with Milton himself, often get so jumbled up in people's minds that at the end they are not always altogether sure whether it is the Bible they are believing or not.

I think, as my readers will admit, that there is no true data to support the idea that Cain's wife was his own sister, in the chapter under consideration, but rather that she must have sprung from another source, we may now touch on the next, not a little extraordinary performance on the part of Cain, namely, that of building a city.

On the supposition that the homicide was in the wilderness with only his wife and an infant, this would be, to say the least of it, rather a gratuitous labor, to be preparing for generations yet unborn, especially as he must have had to procure sustenance for his family, by either tillage or hunting. But on the assumption that he was surrounded by his people, nothing could be more probable or reasonable, not only that a fit dwelling place should be erected for habitation, but also for defence, and that he should call it after his son Enoch, to confirm the fealty of the tribe to their infant chief.

With the creation of man closed the sixth Epoch, and as the next two chapters, with the exception of the temptation and the death of Abel, are mostly occupied with a genealogical tree, I shall abstain from entering on them, as being beside the matter in hand, and unconnected with the science of Geology, but proceed at once to inquire into the Mosaic account of the Noachian Deluge.

## THE NOACHIAN DELUGE.

THE events into the detail of the history of which we are now about to examine, are no less than those which took place at the last great convulsion to which our Globe has been subjected.

We shall enter on the examination of the Scriptural texts as connected with Geology and Natural History, on the same principle as adopted in the foregoing Treatise on the six Epochs of creation, viz. : That the works of the Almighty Father can never falsify his word.

The more or the deeper we look into the Natural Sciences, the stronger we find their confirmation of Holy Writ, if read and understood in a liberal manner; but if we read the Mosaic Bible in the literal way in which the greater portions of the New Testament may be read, we shall find as to the scientific portions, that one part contradicts another, on account of the real nature of things not being then known.

I will give one example. The rotundity and motion of our Globe. I believe in these enlightened times there are few who will deny this fact, yet it is not many centuries since it was dangerous to life and limb to broach such an idea. Look at the difficulties the great Columbus had to surmount, when his theories on this point led him to attempt a voyage to an unknown world. Look at the fulminations thundered from the Vatican on all who dared to broach such an heretical doctrine, when Galileo was forced to recant on his bare knees before an assembled crowd his enlightened opinions, and who when rising muttered to his few surrounding friends. "But it does move!" And why was this? They feared for the truth of the Scriptures, because they read them literally.

In the 10th Chapter of the Book of Joshua, 12th and 13th verses, Joshua commands the Sun and Moon to stand still. Now as far as regards night and day, the Sun does actually stand still, although he may be in progression in an orbit, which progression does not in the least concern us. If there was any thing stood still during this miraculous prolongation of light, it must have been the Earth; but had the Israelitish leader commanded the earth to be stationary, no one would have known what he meant; and in fact he himself not being aware of its motion would not give it a command, but rather addressed himself to that body whose motions he fancied he understood.

Would it not be probable that this wonderful extension of light may have been effected by the refraction of the Sun's rays upon masses of cloud, rather than by the Globe ceasing to revolve on its axis, as in this case a simultaneous cessation of all the laws of nature must have obtained, as otherwise all loose matter, both animate and inanimate, must have flown off into space at the rate of 1,000 miles an hour, that being about the speed at which our Equator is whirling along.

Having made this digression to shew how careful we must be in taking literal readings, we will return to our subject and commence with the Almighty's revelation of himself to Noah previous to the Deluge. 6th Chap. Genesis, 13th verse—"And behold I will destroy them with the earth." The more proper translation of this verse is, "I will destroy them and the *earth* with them." It appears by this that the term *earth* does not here signify the Globe, but the land then inhabited by man. Vide 1st Chap. 10th verse—"And God called the dry land earth!" It was therefore the destruction of the ancient Continents, which in the account of the Creation

I have termed the Adamite lands, that was foretold to Noah.

The first point which presents itself to our notice is the Ark, in which two individuals of each species of unclean beasts, 14 of clean beasts and fourteen of birds, had a twelve month's lodgement.

The family of Noah consisted of eight persons, and it is reasonable to suppose that a vessel fitted to contain such an immense host of life, together with a supply of provisions and water, sufficient for twelve months' consumption, must have been of large size. The dimensions of this fabric are laid down in the chapter under discussion, and it appears that calculating the cubit at 18 English inches (or the measurement of a man's arm from the elbow to the end of the middle finger), we shall find the bulk as undermentioned:—

	Feet.	
ARK.	{ Length..... 450 }	} 1,518,750 cube feet
	{ Height..... 45 }	
	{ Breadth..... 75 }	

There appear to have been three decks, each containing 33,750 square feet, or in the whole 101,250 feet of flooring. I shall now proceed to show the physical impossibility of even this enormous specimen of Naval Architecture containing the creatures generally supposed to have been saved from destruction in its mighty hold.

It can easily be shown that a very far larger number of animals than the generality of people suppose, would be required to be preserved in the Ark to form the germ of our present animal kingdom, at least between sixteen and seventeen hundred, averaging about 325 pounds each. The bulk of their bodies will be over half a million pounds weight, and I propose for the sake of calculation to provide for 6,500 sheep of 80 pounds each.

The space required in an hospital is 800 cubic feet per man, and this computation I think will be found fair data to proceed upon, I therefore allow for each animal, for movement and respiration, say 500 cube feet.

As we have condensed the totality of brute life into sheep, purposely to admit of their consuming hay (this being the nearest approach to a green herb which can be arrived at) I do not think it can be considered as too abundant a supply to give each a daily allowance of 4 pounds of hay and one quart of water for his sustenance.

Each ton of hay will measure about 150 cube feet and each cubic foot contains 25 quarts of water.

There are in Museums alone 6,000 species of the feathered tribes, this number multiplied by 14 gives 84,000 individuals to be provided for.

The respiration of birds being more active than that of Mammalia, as evinced by their well known higher temperature, they require for their size a larger consumption of oxygen, and it must not be forgotten in granting allowance of air to each being that there was but one window and one door to the Ark, which were shut, vide 16th verse 6th chapter, and 16th verse 7th chapter. I therefore propose to allow each bird a space of 25 cube feet, which is less than a yard, 1-6th of a pint of corn, and the same proportion of water can hardly be considered too much for the daily consumption of each. The thickness of the exterior walls of the vessel, the interior divisions, roof and decks, also the width of stairs and passages to admit of ingress to the different pens and cages, together with space for some two or three thousand tons of ballast has to be deducted from the allotments of the animals.

The following statement will show the preceding calculations in a tabular form, all parts of hundreds being dispensed with:—

FAMILY OF NOAH.

Eight persons at 800 cube feet each, 6,400  
 Provisions and water..... 600— 7,000,

BEASTS.

6,500 sheep at 500 cube ft., 2,600,000  
 4,364 tons hay at 150 " 654,600  
 611,000 gallons water at 25 }  
 quarts to the cube foot. } 97,700— 3,352,300

BIRDS.

84,000 birds at 25 cube feet, 2,100,000  
 5,264,000 pints corn } { at 50 pints } 210,500  
 5,264,000 " water } { per foot } 2,310,500

Total space required.....	5,669,800
Dimensions of the Ark.....	<u>1,518,750</u>
Deficient space.....	<u>4,151,058</u>

By this calculation we perceive that the Ark would not contain the birds alone, that there are above four million of cube feet short, and that nearly three vessels of the specified dimensions would be requisite to perform the service required.

We have besides omitted four great classes of life.

1st. The extinct Mammalia, including many of most gigantic size, and larger than any at present existing.

2nd. Reptiles, fossil and modern.

3rd. Insects and allied classes, above 100,000 species.

4th. Fresh water Fishes.

I shall now touch on a point which I believe has escaped the notice of most commentators on the subject, namely, the immense amount of labor necessary for feed-

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ing, watering, and cleansing the numerous creatures which are supposed to have inhabited this great floating menagerie. In the first place we have only eight persons, male and female, to attend on upwards of 80,000 living beings! More than 10,000 to each, and if these poor people worked day and night, without allowing time for sleep or food, they must each have fed and cleaned about seven creatures a minute, or eight seconds for each, in the meantime carrying at least 10,000 lbs. weight of food and water, and 1000 lbs. of manure, in round numbers. The idea of an Angel having been employed in this undertaking every morning has been suggested to me: I abstain from entering into the argument, but leave my readers to draw their own conclusion, merely observing that, for my own part, I should object to being an Angel under the circumstances.

Having made these few rough calculations to prove the incapacity of the Ark of Genesis holding the germ of our present animal kingdom, I will proceed to shew other reasons why neither the extinct or the living tribes could have been tenants of this mighty ship.

It will, I opine, be admitted, that if Noah had taken into his vessel (supposing it could have contained them) some of all creatures that ever had been on earth, there would of course be their descendants contemporaneous with ourselves. Where are the Elephantine forms, whose debris are scattered over our Continents, from the frozen shores of the Northern Ocean to the banks of the Ohio and the Mississippi?

Where are those herds of giant Cervi, whose branching Antlers have tossed in pride through our ancient forests?

Where are those vast Bovidæ, who with one stamp of their mighty foot could have scared our fiercest Bulls,

save perhaps the Lithuanian Aurocks, or the Bison of the Susquehanna! Where are they? And more again. Where are the Sons of the gigantic Saurians, who fed on the forests of our island, and basked upon our coasts?

Where are the Tapirine tribes of France? Where the Ursinæ of the caves of Germany, and the Hyænas of England?

They have passed away, leaving no trace of their existence, but their shattered skeletons. Not one is left to brook the sway of man upon that Earth, where his huge progenitors both lived and died masterless.

I dare not commence to recapitulate the hosts of the dead. I know not where to begin. We are not in a land where the bones of the mighty ones are ready to vouch for my assertions. But England has swarmed with a Guana 70 feet in length, her seas have been devastated by monsters half Lizard and half Fish, between whose jaws of iron, the strongest Shark of the Tropic would have striven in vain for life.

A huge Tortoise has existed of 12 feet in length, who could have borne with ease the mightiest Elephant that earth ever saw. Europe has teemed with nine species of extinct Rhinoceri, the Hippopotami varied from the size of a Swine to the modern standard. Another Elephant was there, from whose enormous jaws protruded tusks 12 feet in length, and whose hide was clothed with shaggy hair and wool. And last, but not least wonderful, the Lizards rose into the air and flew, waving their expanded wings, and anon plunging in Ocean, tore their prey from its depths.

I shall now attempt to shew why those animals at present alive upon this Globe are not (excepting some of the ruminating tribes,) at all descended from the Ark, totally independent of its size.

First.—Food proper for the sustenance of the large Carnivora of both kingdoms, could not have been preserved, and the number of other animals taken was not sufficient to supply them, without reference to the former, never being alluded to in the Scriptural Account. The Insectivora also, both quadruped and biped, come under this head as regards difficulty of supply.

The Phocidæ, or Seals, would also require Fish, and to be kept in great reservoirs of water. These are animals of large bulk, one tribe is about 25 feet long, 15 feet in girth, and would weigh about 20,000 lbs., or nearly double the size of a large Elephant.

Second.—Each portion of the present earth has, (be it hot or cold) its animal tribes for the most part totally distinct, and perfectly consonant to its herbage and its climate; for example, the Polar Bear and Walrus of the North, the Ornithorhynchus and the Marsupial tribes of Australia, and many other forms in all the kingdoms of nature. Looking at the differences between these creatures, and the generality of creation, is it not reasonable to think that the command issued in 1st chapter, 24th verse, for the earth to bring forth the moving creature after his kind! should be in force over the whole Globe, and not be limited to one spot of ground called the Garden of Eden.

It appears to me that independent of many successive Preadamite creations, each preceding one being swept away, we have had one nearly coeval with that of Man. each set of animals being suitable to the land from which it sprang. From certain tribes of life, both terrestrial and marine, being confined to certain localities, it appears as if not only the living forms, but also those long passed away, had radiated from creative centres.

I am aware that this is a new theory, and I am also aware that there will be many dissentients, but to those I will put a few questions. How did the different tribes and species reach their present abodes, after emerging from the Ark on Ararat? Does any one mean to state that by some supernatural gift they knew their way and walked? Fancy a Walrus trotting from the middle of Asia to the North Pole, and a Puma getting in some manner (for I opine he did not swim) to South America; the Kangaroo and other Marsupials to Oceania, the Bison also to the wilds of the far West, where by the bye he must have picked up a couple of pair of extra ribs. But supposing for one instant that this was possible, the remains of those individuals who died on the road would be found, and in all likelihood some of the species would have left their types in the lands they passed through. Now neither of these proofs of travel anywhere occur, there are no remains of living American Animals scattered through the old world, there are no living specimens of these beings to shew that by the increase of animal life around Ararat, individuals were obliged for self preservation to emigrate to a distant country.

If indeed the animal creation of both hemispheres were similar, there might be some reason to suppose that all sprang from the same source, but we see a difference in the animals, not only in the American Fauna, but also in that of what some please to term the older continents. many of the same genus are specifically distinct. The Elephant of India for instance, and his African congener. The Zebra and the Quagga! The Bison, the Aurocks, and the Bull. The Jaguar and the Leopard. These and many others whose differences are considered trivial by those who have not studied the subject, are in fact as much removed from each other as a Fowl from a Phea-

sant, or a Jackass from a Horse. Few of the existing tribes resemble entirely their ancient types, the genus may be the same, but the species totally distinct, so much so that they never could have sprung the one from the other, any more than a tiger could have risen from a cat.

The subject now appears to resolve itself into these two simple statements.

If the ancient tribes were preserved in the Ark, we should see their descendants. We do not!

If the modern tribes were preserved in the Ark, we should find their remains. We do not!

Ergo, neither party could have been there! Then comes the question: What creatures were there? In all probability, (I will not say entirely,) but for the most part they were confined to goats, sheep, &c., together with some other animals and birds that are useful to man. It must be remembered that none of these last mentioned quadrupeds existed prior to the creation of humanity: no goat or sheep was coeval with the Mylodon, the Mammoth or the Mastodon. The Ruminantia appears to have been confined to giant Stags, and enormous Oxen, whose armed brows could have shaken defiance even to the huge Carnivora who swarmed around them.

With the exception of those individuals which were preserved in the Ark, from whom our present race of domestic animals have probably for the most part risen; these creatures were living with Man on the ancient continents, and were with him and them submerged in the womb of the destroying waters. They lived with Man, they died with him, and they never lived without him; and the one who did escape, while preserving his own life, preserved the lives of those who surrounded him, and were necessary to his comfort, and who for the most part were perhaps his own.

I think it not improbable that Noah received into the Ark some of all the Brute inhabitants of the Adamite lands, and that there were no dangerous or carnivorous animals on that part of the world, it must be remembered in the early stages of human existence that man had no arms to cope with the Lion and the Tiger, none of these creatures are mentioned in the Bible history, and I think we may safely consider that the Almighty only created around man those creatures which he could with ease control, and which lived on the green herb. On the broad islands of that early sea many forms of power roamed, many a stately Elephant browsed on their forests, many a lordly Lion roared unheard by man through their tangled glades, then as now the huge Rhinoceros stood on the desert plains of his native Africa, and the brutal Hippopotamus wallowed in its mire.

I will make one quotation to show that Moses clearly understood and to my reading clearly expresses that there were many animals in existence at the time Noah left the Ark, besides those that were with him.

In the 9th chapter of Genesis, 9th and 10th verses :  
“ And behold I establish my covenant with you and with your seed after you, and with every living creature that is with you, of the fowl, of the cattle, and of every beast of the earth *with you*, from all that go out of the Ark, to every beast of the earth.”

Does not the repetition of the words “with you,” joined to the expression of “all that go out of the Ark,” establish an evident distinction between the species of animals which Noah had taken into the Ark and which had come out of it with him and “All the beasts of the earth.”

Passing from the animal kingdom we will next proceed to examine into the action of the Deluge itself, in rela-

tion to the past and present land. From the extraordinary fall of water for forty days and forty nights, there resulted only a first inundation of the habitable parts of the land, which "bore up the Ark, and it was lifted above the Earth." This part relates only to the continuance of the rain, and here would have terminated the inundation, had it been produced by the rain only. But, "The fountains of the great deep were broken up." "The waters prevailed exceedingly upon the earth, and all the high hills that were under the whole heaven were covered."

The expression "under the whole heaven," signifies only the whole horizon of the inhabited lands, for we must not forget that the sphericity of the earth was then unknown to its inhabitants. The first upheaval of land above the surface of ocean by vast subterranean forces, necessarily left large tracks cavernous beneath, so when at the commencement of the Deluge these caverns were first partially broken up, the gases escaping from their recesses and mingling with the atmospheric air, occasioned the great fall of water mentioned above.

The breaking up of the fountains of the great deep or sea, shew that the disruptive power of earthquakes progressed with increased energy at this period; down sank the plain and mountain, the city and the forest, to find a fearful grave in their own vast interior; dragging to destruction their manifold hosts of life!—Down went the Man and the Brute in one overwhelming ruin, mingling their shrieks of terror with the roar of the advancing waters; on came the waves of the ancient ocean bursting over the sinking forest and the tottering hill, swamping the ruins of the Earthquake, and the fires of the volcano; pouring its enormous masses to shroud for ever from the sight of man the terrific tomb that their incensed Creator prepared in wrath for our primeval fathers!

I am aware that the usually conceived idea of this fearful catastrophe is, that the whole world as it at present stands was covered with water over the tops of its loftiest mountains. In taking the liberty of doubting the correctness of this opinion, I would inquire of its supporter, where the immense amount of water came from to form the Deluge, and afterwards where it went? Also whether it was fresh or salt?

Perhaps it is but fair to inform those who make broad assertions on this subject, without ever having considered it, of the quantity of extra water over and above our present sea, for which they will have to account, in fact above three times its volume.

The superficies of the Globe is in square miles as follows:—

Water.....	144,473,427
Land.....	52 363,231
Total.....	<u>196,836,658</u>

This amount multiplied by 5 (which is the depth in miles required to cover the top of the Himalaya mountains in Asia) gives us 984,183,290 cubic or solid miles of water.

Now how is this vast extra ocean to be procured? There is on our Globe and in our atmosphere a certain amount of liquid, which must either be in one or the other, this liquid can neither increase or decrease. Our rain is nothing but the return of water which has ascended from the sea, and therefore could have occasioned no very material difference in its level, even had the whole of the upper waters descended on the land.

It is not supposed that the atmosphere is capable of holding water in suspension at more than five miles from the earth's surface, on account of its great rarity at that

elevation, (being barely able to sustain animal life,) and then not to a greater extent than six grains to the cubic foot. This quantity condensed and brought to the ground in the form of rain, gives somewhere about one inch of water in depth to every cubic mile of atmosphere, so we see that even were twice the quantity capable of suspension, it could not form a flood of more than a foot deep, from which there would be very little difficulty in escaping.

Having disposed of my first question to the Universalists, I hope to their satisfaction, I must now be allowed to revert to the second: As to whether their Deluge, supposing they procured it, was salt or fresh water? Let me remind them before they answer that there were large quantities of fish in being. Now fresh water fish cannot exist in the sea, or vice versa; there are a few isolated exceptions such as the Salmon, but they may depend that a flood of fresh water would destroy the entire of oceanic life, while one of salt would annihilate the fish of the lakes and rivers all over the Globe, and thus enforce the necessity of a new creation.

But for all scriptural purposes, the movement of a great volume of the ocean from one part of the Globe to the other is sufficient, the destruction of the land on which existed the erring race of man had to be effected, and it was so in the simplest manner. I believe in these enlightened times few are so ignorant as not to be aware that our continents were once the bottom of an ocean. Where is that ocean? is the next question which must obtrude itself on the mind.

We are sure that it has been here, and as sure that it must be somewhere; we are also certain that there was a land on which dwelt the race of Adam; that land is wanting.

Now the natural deduction from this appears to be that the departed ocean has taken the place of the lost land by filling up the cavernous recesses occasioned by the disruptive powers of subterranean fires, and thereby (on the common law of all liquids finding their own level) naturally left the more elevated portions of the earth dry by falling into its depths.

As the water of the ocean prevailed over the sinking ruins of the Adamite land, swamping in its vortex both animate and inanimate creation, insomuch did it retreat from its ancient bed, while the Ark appears for some months to have floated hither and thither at the mercy of the winds and currents. It appears by the 1st verse of the 8th chapter that for the assuaging of the waters a wind passed over the earth. This must have been the equatorial or trade wind wafting it from the eastward. Then it seems to have lodged on some portion of the mountains of Ararat, the uppermost peaks of which then being islands in the early sea. Perhaps the point on which the Noachian ship first grounded, was at that time under water, but still at no very great elevation above the present level, but must have been in the vicinity of an island then a higher peak of Ararat, for Moses never could have made or expected to make the Israelites believe that a Dove plucked an olive leaf from a mountain of any altitude, as they well knew none ever grew there, and indeed none grows on Ararat at all, it being at present capped with eternal snow. But as an island the gradual retreat of the water from its shores would not for a time affect its climate, which would of course be genial to the growth of trees and plants. Does not the expression in 9th chapter and 3rd verse, "Even as the green herb I have given you all things," represent the family of Noah as surrounded by verdure on Ararat, and

it would have been ridiculous to have represented this mountain as covered with vegetation, and Noah as planting a vineyard on or near its peaks, the highest of which had just emerged from the oceans, as it requires but little knowledge to see that in such a state of things, the whole face of the earth would be a mass of mud and slime : not even the smallest blade of grass could have remained alive under such a volume of water, as would be required to top the peaks of the mountain.

I will now attempt to bring this matter more completely home to the minds of my West Indian readers. Suppose for an instant that the entire of the American continent was gradually to be submerged, without, however, interfering with the bed of the present sea; what would be the effect on the Islands of the Charibbean Archipelago? The first sinking of the main land, if for not more than 100 yards, would occasion a vast influx of the ocean; and a terrific deluge which would destroy everything on the flats would result; the sea would retreat from the shores of the different islands, but at first to no great extent, still the subsidence of the continent would be in progress, and the gases bursting from the interior of the sinking volcanoes would occasion immense floods of rain from the heavens, slowly and by degrees the doomed lands would sink beneath the ocean, as slowly would its dark waves roll over them, the man and the brute would die together, the forest and the city, the mountain and the plain, would sink, may be, for miles to one fearful grave.

And what would be visible to our wondering eyes? A vast and mighty continent would glitter to the rising sun, our Islands would be peaks of its long chains of mountains, perhaps a mile or more beneath our present shores would stretch far away the new born prairies; an-

other climate would exert its influence on our mountain tops according to the altitude above the ocean level; our tropical plants, the cane, the aloe, and the cocoanut, would have to descend where now rolls the waves of the broad Atlantic; the summits of our little hills then would become the ice capped tops of a mighty range of mountains, around whose stormy brows the winds of unnumbered winters would heap eternal snow; eternal, or until such time as the will of the great Father should doom them to sink beneath those waters from whose deep recesses they first sprang to light.

The supposition of the continent of Asia having been the site of the Adamite lands, has of itself produced many unbelievers from the numberless difficulties in which its supporters find themselves involved when they bring their theory into collision with Geological facts. Not the least appearance of the remains of any being destroyed by the Grand Deluge is to be found in Asia or anywhere else; all fossils are considered by some people to be the debris of the flood, they do not consider that it is impossible for any amount of water to wash a bone, a shell, or a fish, into the interior of a hard rock; they assert that the bones of a man are of a different texture from those of other animals, and that therefore his decayed whilst the others were preserved: this assertion does not happen to be a fact. But the skeleton of man would be the least part of his remains that we should look for. Where are the ruins of his cities? Where are his works in iron, and in brass? Where are his harps and organs? Would not in some part of the Asiatic continent (covered as it has long been with the troops of Britain) be found some small trophies of the doomed race? Not one is there! Not one sign of man! nor of any creature whose existence is coeval with his!

But still in the face of everything, in the face of their own senses, these would be religious men vow that the whole contour of nature was caused by the flood; that the destruction of long past creations was swamped beneath an ocean that was incapable of washing the leaves off an Olive tree, and yet could plunge living fish hundreds of feet deep into a sandstone rock with the loss of scarcely a single scale; they are in that rock stricken by the hand of death, and apparently struggling for the last hold on existence.

The dragon forms of England are embedded deep in her white cliffs, the mighty Mammoth of the Lena with the hair and flesh still encircling his gigantic bones is found lapped in those bands of ice, where he has lain entombed perhaps for ten thousand winters. And is this the Deluge?

Geology crushes the idea in the bud; Geology points to her numberless facts in refutation: to marine shells and fish embedded in the highest hills. She is told the flood placed them there! To her Mammoths and her Mastodons! The flood again! She throws her glance backwards to more distant ages, and recalls the forms of her reptile world! She calls her children around her! her mountains of sandstone! her vallies of chalk! her fields of coal, and her blazing volcanoes? She gazes round her, and she waits her answer! The flood did it! all the flood!

Poor Flood! what an awful responsibility it has cast upon its broad shoulders. And when Geology turns in scorn from the nonsense shouted in her ears, she is taxed with open infidelity to the Scriptures, by those who neither comprehend her or them!

Is there not one to vouch for the truth of her words? she remembers her of one! she bends her knee upon that earth which she has fashioned, and casts her glance up-

wards to the throne of her mightier sister, who seated amidst her revolving worlds, flashes her answer from her myriad suns. "I have known thee for twice ten thousand centuries !

But to return : Had the continent of Asia been the site of the Adamite earth, a horrible scene of death and destruction would have presented itself to the eyes of Noah and his family on their descent from Ararat. The crushed and broken remnants of the dwellings and the works of man, mingled with the rotting and unburied remains of brute and human corpses mixed in one mass of misery and death. Such a scene of woe would never have been passed over by the Jewish lawgiver if only as a warning to those he ruled.

Another great confirmation that Asia was the bed of the ancient ocean, is to be found by examining into the origin of our fresh and salt water lakes, especially of that vast one the Caspian sea. When the waters of the ocean left their ancient bed to entomb the ruined habitation of fallen man, there were many hollows even in the higher parts of the new land, still full of the remains of the departed sea.

These were of course at first all salt lakes; and it remains to be shewn how some became fresh, while others retained their waters still impregnated with salt. In those instances where the extent of mountainous or raised land around these new born lakes was sufficiently great to convey rain water and melted snow in such abundance as to cause an overflow at the upper part of their basins, the fresh water mingling with, and carrying away the salt as a natural consequence by degrees took its place, as for instance as Lake Baikal, or the Holy Sea of the Russians, a body of fresh water of 20,000 square miles, with 160 tributary streams, while through a deep though narrow mountain gorge its surplus waters are conveyed far away to the Arctic Ocean.

But in the instance of the vast basin of the Caspian, which we are aware is still saline, we find that the waters from the surrounding lands, as well as those from its great tributary rivers, the Volga, the Ural, the Kur, and the Aras, could not have supplied the necessary waste by evaporation which must have taken place on its broad expanse; in this case we perceive there could have been no overflow, and therefore no decrease of the saline particles, on the contrary, these waters are excessively salt for this reason. The Caspian has an area of nearly 160,000 square miles, while the supply of fresh water was at first unequal to the continued evaporative waste, which from each square mile of surface amounts to between six and seven thousand tons every twenty-four hours, and consequently this lake to a certain extent diminished, while its saline particles remained; this diminution continued until the surface was so reduced as to enable the fresh water to maintain an equilibrium with the necessary waste.

Reader, my case is now before you. I conclude as I commenced—make use of your judgment. Should you conceive what I have advanced to be incorrect, I do not ask you to believe it.

But ponder the matter well, take the Bible verse by verse, see if I have urged anything in contradiction to what is there stated, if you examine faithfully and truthfully you will see that I have not. But if you enquire if I deny what is the usually received opinion of the Mosaic records, and what in all probability has been for many years your own, I reply unreservedly that I do.

I deny that from the moment the Universe was called out of nothing by the voice of God, until it was his pleasure to place man upon the earth, that only one hundred and forty-four hours elapsed. I deny that creation after

creation sprang to life to be swept away in six days. I deny that the Adamite land was in the middle of Asia, and that an ocean of five miles deep ever surrounded this Globe, and I deny that Noah had thousands on thousands of living creatures shut up for upwards of a year in the Ark, and more than all, I deny that the great Lawgiver of the Hebrews ever made the statements that are put into his mouth.

Reader, do you, can you believe that vast series of strata, many thousand feet in thickness, pile above pile, with all their embedded hosts of dead, were formed in a week—look at the grain sands of which your mountains are composed—look at the vast forests which have been submerged to form the fields of coal which are spread over all parts of the habitable world—look in almost any rock that is beneath your feet—mark the fragments of shell, of fish, of lizard or of brute—the ancient tenants of a land and an ocean long passed away.

Can you believe the flood placed them there? Can you believe that in one short year a Deluge could have formed sufficient sand to have composed mountains by the side of which, those which surround you are but as Ant hills—and yet not have had the power to wash the leaves off an Olive tree.

Reader, you may still doubt. But wait until you have, as I have, torn from the iron bosom of the rock the debris of the giant dead, till you have stood, as I have, alone amidst the relics of a bygone world, until the soul felt awestruck at the thought that once the pulses beat and the blood ran warm in those colossal forms—that eyes of beauty and of fire flashed light from those empty sockets—that many a call to battle has burst from those fleshless jaws.

Then and not till then disbelieve the mighty monstrous children of Creation's God.

