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A table of contents for *Journal of the Transactions of the Victoria Institute* can be found here:

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ORDINARY MEETING, APRIL 19, 1869.

THE REV. W. MITCHELL, M.A., VICE-PRESIDENT, IN THE CHAIR.

The Minutes of last Meeting were read and confirmed, and the following election announced :--

SECOND-CLASS ASSOCIATE :- Robert O. Turnbull, Esq., Bishop Auckland.

Professor Macdonald then read the following paper :---

ON MAN'S PLACE IN CREATION; GEOLOGICALLY, CHRONOLOGICALLY, ZOOLOGICALLY, ETHNO-LOGICALLY, AND HISTORICALLY CONSIDERED. By W. MACDONALD, ESQ., M.D., F.R.S.E., &c., Professor of Civil and Natural History in the University of St. Andrew's.

THE Duke of Argyll, in a small volume just published, "On Primeval Man," which had already appeared in Good Words, gives an able analysis of the views on this subject held by the late distinguished Archbishop of Dublin, Dr. Whately, the great logician; contrasting with them the opinions which Sir John Lubbock expressed at the meeting of the British Association, at Dundee, in 1867. The Duke subsequently, however, submits his own views upon this subject.

The Archbishop maintains that mere savages, in the lowest degree, or even in anything approaching to the lowest degree, of barbarism, in which they can possibly subsist at all, never did and never can, unaided, raise themselves into a higher condition; and even when in contact with superior races it is extremely difficult to teach them the simplest arts; they never invent or discover anything beyond what is absolutely necessary to keep them alive, on the barest subsistence. Even necessity, the mother of invention in races having some degree of thoughtfulness and intelligence, produces no effect on these low savages. Whatever the natural powers of the human mind may be, some instruction from without is required to prepare even for a start. The Archbishop holds it to be a complete moral certainty, that men in a state of nature, with the faculties born with them neither unfolded nor exercised by education, never did, and never can, raise themselves from that condition. Therefore, according to the present course of events, the first introducer of civilization among savages must have been in a more improved state. In the beginning of the human race there could be no man to effect this; therefore it must have been the work of another being; in short, there must have been something of a revelation to the first or early generation of man. The soundest conclusion is that a Divine Creator and Instructor had effected this necessity.

I think there is great logical acumen and soundness in this view by the great logician, which will be more fully noticed in the sequel.

Sir John Lubbock undertook to refute this argument by concluding that the *primitive condition of man was one of utter barbarism*, from which certain races have, independently, raised themselves; and that instead of existing savages being the degenerated descendants of more advanced ancestors, all the races now civilized arose from those that were in a state of barbarism. A further conclusion is indicated that the first man, "worthy to be called a Man, was in advance of the condition of some *animal progenitor*"; evidently tending to the gorilla speculation of Professor Huxley. This is an expression which I think to be unworthy of the subject, or of the high and distinguished position in science which Sir John Lubbock holds. He pursues the argument by the two following propositions, which he undertakes to prove :—

I. "That there are indications of progress, even among savages;" and

II. "That among the most civilized nations there are traces of original barbarism."

The Duke of Argyll has long had an impression that Whately's argument, though strong in some points, is at others open to assault, and that the whole subject requires to be handled from a different point of view. On the other hand, that the argument in favour of the "savage theory" is the weaker of the two, resting on a method more inadequate and incomplete. He proposes to set forth the reasoning on which his convictions rest, after noticing some preliminaries.

Both the Archbishop and Sir John Lubbock advance arguments which are purely scientific, founded on natural knowledge, using only as evidence of truth such facts and inferences as are ascertainable by pure reason, avowedly conducted irrespective of any support from the Mosaic account of Creation. Whately expressly says that in his argument he has not appealed to the Book of Genesis as an authority, as he thought it important to show, from what was actually before our eyes, viz., the existence of civilized man, quite independent of, and superadded to, the conclusions of the Bible narrative, from which there is no escaping.

The opposite argument, of course, starts also from the basis of scientific independence, without professing or caring to reconcile the conclusions of the Bible narrative. Sir John Lubbock says emphatically, at the close of his paper, "These views follow, I think, from strictly scientific considerations." If the inquiry is to be pursued at all on the scientific basis, it must be conducted rigidly and honestly, and only those conclusions legitimately accepted which are justified and supported by the nature of the data, and the reasoning employed.

The question upon such a speculative subject is often shirked, from the apprehension that it transcends our faculties to ascertain the truth. The timidity of this confession ought to receive but one answer, viz., that the explanation of a question which ought to be understood by all, so far as our mentality permits, when prosecuted with the simple and humble desire for truth, is for our own benefit and that of our brethren of mankind.

When the Archbishop of Dublin entered on this discussion, declaring that, independently of all Bible authority, certain conclusions can be shown to be unavoidable by natural reason, we cannot prohibit others from entering upon the same ground and producing such arguments as enable them to support an opposite conclusion. This shows that the subject must be encountered as a matter of necessity, though some tender consciences may deplore this, if only on the ground that the thirst for knowledge may be carried to excess when mere idle and vicious curiosity impels it. But surely, when directed to the higher pursuit of intellect and science, it may not only be permitted, but is praiseworthy; as David says: "Lord, my heart is not haughty, nor mine eyes lofty: neither do I exercise myself in great matters, or in things too high for me." (Ps. cxxxi, 1.)

On the other hand, it must be admitted that nowhere are human speculations more liable to the delusions of superstition than in the conception of subjects of this nature, leading to ideas which are forbidden to investigation, did we not observe the cautious restriction proposed by Baron Bünsen, "That all speculations, however lofty or obscure, should be subject to the strict dictates of common sense." It is well known that many of the wildest fancies of our generation have

VOL. IV.

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attempted to reach bounds beyond the limits of our minds to analyze, and that such early dreams, accounted as vain fancies by some, have been received as true and adopted as facts by the succeeding generation, ever subject, however, to change by the progress or diffusion of knowledge.

The physical laws of nature,—now so familiar even to schoolboys, that the law of gravitation which immortalized the name of Newton is now so universally understood that he that runs may read, and is regularly explained in every popular assembly in small towns throughout the country,—were held by the early Greek philosophers as restricted to the profoundest secrets of God, which were beyond their scope; while they preferred to engage themselves in studying the phenomena of their own mentality as more comprehensible by their understanding. Thus they plunged at once into all the many refinements of metaphysics, from which it is devoutly to be wished that the human mind might at no very distant date be slightly relieved by its becoming more amenable to the dictates of common sense.

The pursuit of speculations was at first carried on by the restless thirst for knowledge as to the nature of matter and its constituent properties; the time of man's first appearance on the globe; his primary condition; his distribution; the localities where he rose from; and the generations which followed him, approximating the utmost limits of our powers to analyze. Still, the mere appearance of the limit need not deter us, because we well know that "whatever is inaccessible to reason is strictly interdicted to research," as Mr. Lewes This is reproducing the old priestcraft interdicts, detersays. mining what is *inaccessible to reason*. The priests of this new philosophy tell us, if all proofs of mind are to be received as evidences of purpose and conceptions of plan and design in the history of creation, it merely indicates the product of the weakness of human intellect.

In spite of all these attempts arbitrarily to restrict the bounds of knowledge, we can never really know its limit until the way of access has been fairly tried. The interests of truth demand the resistance of any interdict against research, whatever school may have presumed to raise it, evidently from feeling a dread of free inquiry. On these principles such subjects are accessible to research as the age of man's appearance and his condition during the pre-Sabbatic period, as well as the contemporary history since the creation of Adam and Eve in Paradise, the "*ish*" and "*isha*" indicating the spiritual form in which they were at first created, prior to the events recorded in the third chapter of Genesis, where they submitted to the premonished condition which resulted from partaking of the fruit of the tree of the knowledge of good and evil, by which they instantly saw that they were naked in the flesh; evidently the real purpose of their creation in the garden of Eden, in order to become the true source of the peculiar people of God. The events of this chapter have been generally believed to be the transgression and not the fulfilment of a conditional law, which resulted in their expulsion from Eden; and the few following chapters refer to the history of his family and descendants, among some of the earlier races of mankind, previously created during the sixth geological or pre-Sabbatic period (Gen. i. 27, and following verses).

I have long held these opinions, and am every day more and more convinced of their substantial truth. If churchmen were more freely and firmly to examine and expound the first chapter of Genesis with a sufficient knowledge of physical laws, they would not permit the materialists declaring it to be a myth from its being opposed to hazy myths of their own fanciful imaginations. I also consider that the idea of the savage origin of mankind is not applicable to all races as regards the definition of Sir John Lubbock, when he speaks of "the first being worthy to be called a man"; intimating that he was developed from some pre-existing creature not worthy to be so called, with evident allusion to the Gorilla theory of Professor Huxley.

However boldly the Archbishop and Sir John, as well as the Duke of Argyll, may restrict their investigations to the mere demonstrations of science, not necessarily unheeding the mysterious declarations of Scripture, from which the Archbishop admits there is no escaping; the facts remain, however, unheeded; even the more sceptical are tolerably familiar with them when they attempt to avoid them as intruding in their paths of speculation.

One thing which, as much as anything, has tended to confuse the subject of man's antiquity and his first appearance on the stage, is the restriction of his race to the Edenic source, from the Sabbatic Adam and Eve, and the unity of the human race. And so strongly prejudiced is the Duke of Argyll "on the unity of the human race, in respect of origin," that, he says, "it is not easily separated from some principles of high value, enabling us to understand moral duty and religious truth. And precisely in proportion to our value of the belief in the unity of the race, we should be willing to accept the evidence of man's antiquity. The older the human family can be proved to be, the more possible and probable it is that it had descended

р2

from a single pair." He then expresses his firm belief that all science supports this conclusion, which tends to establish the antiquity of man on a firmer basis. He then resolves his examination of the subject into three divisions for its full exhaustion, which, though connected, may be treated separately as three subjects :—

I. The origin of man, considered chiefly as a species, as regards his creation and his admission into the world.

II. The antiquity of man, or his time in the geological history and preparation of the earth for his appearance on the globe.

III. His mental and moral culture.

Evidently dissatisfied with the utter barbarism proposed by Sir John Lubbock, as the condition of "the first man, worthy of being so called," as well as the inuendo referring to the gorilla or some other creature not worthy to be so called, he clearly points out "that utter barbarism is by no means a necessary consequence of all the races of mankind, however, whenever, or wherever originating"; but that the first communicated knowledge, and the special powers of acquiring knowledge and the other powers of usefulness, were inseparably connected with the created organization "which made him worthy of being called man."

As a person from this country intending to emigrate to a distant colony, naturally examines a gazetteer or geographical account, to obtain some information as to the proposed land of his adoption; or, as a student of English history, without lingering on the period of the Conquest (as the Duke and others do on the Pair of Eden), anxiously inquires who our British ancestors were, under the guidance of Lysons; so I boldly press into the dawn of Bible history, sure to find there the very earliest record of events, with the order of their progressive course marked with clearness. Without resting merely on the data afforded by the inspired record, I search the works of the same all-pervading creative force, and there step by step, in the same regularity, the finger of God, as on Sinai, has affixed His testimony on the solid masses of the earth's crust; proving the reciprocal accordance of the Word and the Work. Had the Duke commenced with his second division—the geological—he would have been able to trace mankind and its various races much anterior to the Edenic Adam.

It is with the object of tracing out the first glimpses of man that I begin with the first chapter of Genesis, as containing a succinct though brief account of the events of the first Creative Week or Period, throughout which each day is marked with one or more of the characteristic plants or animals that have been named.

Adopting as my chart the Bible, which is believed to contain the full evidence of truth, I propose the following as the order of treatment :---

I. Man's time and place in geological history.

II. His origin as a zoological species; and the method of his creation.

III. His mental state and condition when first created.

The first two of these divisions may be considered as introductory to the main subject, and should be well understood and possessed by all, previously to taking up the inquiry. They will thus be well prepared for deciding on the When and the How, as well as on the Where and the Why, to be treated of in the present communication.

These preliminaries being settled, I now begin by stating my ideas upon the origin and antiquity of man, referring to Gen. i. 23, where we are told that the evening and the morning concluded the fifth day.

The next verse details the creation of living creatures, cattle, creeping things, and beasts. In ver. 27 we read that God created man in His own image and after His likeness, with dominion over the fish of the sea, fowls of the air, and over all the earth. God created man in His own image, "male and female created He them." It is particularly necessary to retain distinct ideas conveyed by the expressions in the text, in order to contrast it by-and-by with those views subsequently detailed in the creation of the Sabbatic Adam.

Starting with the earliest or pre-Sabbatic chronology, the first few stages recording the creation of plants and lower animals, the detail of scattered events of the first five days may be passed over as concluded by the evening and morning of the fifth day, in order to arrive at that period when mankind—male and female—were created by the will of the Triune Heavenly Council, in the image and likeness of Elohim, or the Word who created all things.

The first events of the sixth day were the creation of living creatures, cattle, and creeping things, and beasts. During this sixth very eventful period of man's creation, I feel strongly impelled to place the creation of all the various races of mankind, with constitutions fitted and well adapted to pass their lives in the different regions and climates in their best and happiest state, increasing and multiplying, replenishing and subduing the earth according to their varied capacities. \mathbf{All} these different races may be supposed to have been created at subsequent stages in the sixth geological epoch of the earthcrust, on the same zoological principle as shown in the accompanying zoological table, beginning with the less-developed species.* It is generally maintained that Man is a single species; in fact, a single order, family, genus, and species, subject only to varieties or races. M. Virey and some other naturalists considered Man as two species; however, the more elevated estimate of mankind in relation to the animal scale is now beginning to be entertained, by raising him to a higher rank above the vertebralia, as the class of Spiritualia, "a little lower than the angels of heaven." Man, thus being separated from the lower animals, has an internal structure constructed on a similar principle. Like them, he is vertebrated, segmented, and generated in the same manner, being developed from an impregnated germ in an ovule included and fully developed within his maternal parent.

The very important doctrine of "unity of organization" is beautifully supported by this view of man's construction, though separated by spiritual mentality above the "beasts that perish," supporting the view that one type of organization evidently demonstrates one primitive creative force. On this principle we can recognize the gradual perfecting from the different races of mankind through seven distinct classes, up to the period detailed in Genesis i. 26, 27. When the determination of the Divine Triune Council decided "to make man after their image and in their likeness," mankind, male and female, were in consequence so created, "to increase and multiply, replenish the earth and subdue it." From what is known of the progress of mankind in regard to civilization and extended dominion, it will be readily admitted that the white race more completely represents that form of mankind best fitted for dominion, and to represent the Divine Vicegerent. Man is, in fact, the only animal possessed of the power of estimating infinity; and thus the only one that can apprehend the Deity. The instinct of other animals readily leads them to display their affections and submissions to man, but entirely restricted to friendly social relations. There is in them a marked progressive improvement in their development, habits and instincts, but no true approach to mentality. The most highly organized mammal may possess instincts, habits, and powers vastly superior in some points to several of the lowest human beings, especially when in an imbecile or fatuous condition, or in savage barbarism, approaching the

lowest condition referred to by Sir John Lubbock, as "worthy to be called a man." Omitting the imbecile and fatuous human beings, the most savage and uncivilized individuals of the human family possess a marked characteristic of not only defending themselves against lower animals by means of their natural structure, but can construct weapons of offence and defence, which the highest anthropoid ape never has been able to do. Though capable of being trained to imitate many of the actions that they see man performing around them, they can only make use of nuts, hard fruits, stones, and branches of trees to act offensively either upon man or other animals. In domestication, although a pet monkey has long been accustomed to sit by the side of a fire or stove, and daily seeing it kindled and kept up by the addition of fuel, it has never yet been known to add a small billet of wood or bit of coal to the fire, but continued to sit shivering at the cold stove, with plenty of combustibles lying around. This is certainly a very marked characteristic of the most elementary kind, capable of separating man from mammals. Man by his language is still more distinct "from the beasts which perish," and also by his inventive arts and intellectual operations of his genius, and the boundless sense of the Infinite, which raises in him the true sense of devotion.

In strong contrast to the most elevated anthropoid apes, who have never yet succeeded in constructing any offensive or defensive weapon, we may refer even to the lowest and most uncivilized of the human family who can not only construct weapons but use them for the best purposes of offence. I beg to notice the Yacoots, an arboreal human race living in the forests of the Malay peninsula, who construct weapons, spears, and arrows tipped with metal, and by means of a long tube of hollowed bamboo discharge their small arrows with such dexterity and precision that they can, at the distance of forty yards, strike a mark of the size of our half-crown, three times out of four chances; a degree of precision not easily equalled among more highly-favoured races; which is evidently a compensation for their other disadvantages of bodily weakness and low mentality, evidently exemplifying a physical law of nature.

The next, or Black variety, including the Caffre, Hottentot, and Bushmen, as well as the Polynesian, show a higher development of mentality in a more varied construction of warlike weapons, and of canoes and other means of transport.

When, again, we rise to the Ethiopian race (those on the coast of Guinca and in the interior of Africa), there can be no doubt of the vast progressive rise in the human scale of bodily powers and mentality. Their history, from the earliest times, has recorded the existence of populous kingdoms, governed by sovereigns leading them to aggressive wars, or repressing the aggressions of others. This has been recorded from the earliest history of Egypt in the Mosaic record, and still obtains, as is described by our enterprising explorers Livingstone, Speke, Sir Samuel Baker, and others. This race, consisting of many and various tribes, first indicates the execution of the second prerogative contained in the divine command. The first, "To increase and multiply," being amply and fully performed throughout the whole animal kingdom ; but the second, "To subdue the earth," has been for the first time exhibited by the Negro race in the usual form of subjugation, brutal wars, turbulent despotism, and oppressive slavery.

The history of Egypt must early have exhibited the powerful mixed races alternately, brown or black, in superiority. The ancient Egyptian hieroglyphic paintings, exhibited upon the pyramids and other ruined structures of ancient Egypt, indicate, even before the reign of the Pharaohs, the existence of negro sovereigns; and there are other indications that the religion was a compound of Asiatic and Nigretian elements. The Brown, or Egyptain race, were evidently Asiatics, consisting principally of the Brown, and a certain mixture of the White races. Connected with these you find along the coast some of the Red variety, which were an advanced class when compared with the Africans. This Red or Brown variety was much more fully developed on the western continent of America, where the remains of the early structures of Mexico and Central America are the great monumental records from the earliest date of these races; exhibiting structures very analogous to those of Egypt.

The great discoveries in other parts of the world also show an early extension of the Brown race, as in the splendid monuments of Cambodia. Although we look to a very early date for the chronology of mankind of the sixth pre-Sabbatic day, still there must have been several fresh flows of population as the world enlarged. Thus we are inclined to consider that the Hindoo belongs to a later flow, possibly contemporaneous with the Adamic race. It is stated in North America that the Red Aztecs appeared in North America at a comparatively recent date; about the 12th century. It is amongst these later races contemporaneous with the Adamic that we all enjoy the promises to Abraham.

In opposition to the view of mankind being the offspring of a single pair, I would urge in regard to the Yellow, or Mongol race, from its very scattered points of existence, that neither the race *in toto*, nor the numerous scattered situations where we find the Yellow race, could have originated from any single pair, but that each gradually extended, dependent on facilities around their original centre. The great body of the Mongol, or Yellow race, is spread over China, Japan, and the east of Asia, while the Laps and Fins and Esquimaux along the northern coasts of the Arctic Ocean, and the Malays in the promontories and islands of Asia and the Eastern Archipelago, are found extensively distributed.

The White races (sometimes restricted to the Caucasian) were very early distributed over all the world; and from their great advance in civilization, literature, and science, we are tempted to consider that a particular reference to this race may be discovered in the Genetic record. Although it is not absolutely necessary that they should have been created altogether so early as the Turanian, or Yellow races, yet we must claim that they were created along with the pre-Sabbatic races. I am also inclined to maintain that they were early distributed over several parts of the old hemisphere, especially of Europe, and many of the localities of the Celtic inhabitants were already peopled, as by the Picts, &c. I am also inclined to consider that the later flow of Celtic population from the lofty Himalaya, proceeded westward in three main streams, one along the north coast of Africa, crossing at the Straits into Spain, and, as an Iberian branch, crossing to Ireland, spread out in the dark-eyed brunette races of the south-west; while another stream, traversing Greece, Tuscany, Switzerland, France, and Belgium, landed in the south of England, crossing to Devonshire and Cornwall from Brittany. These also spread through Wales. The third, or northern branch, sweeping through Scandinavia, Norway, Denmark, and the Danish isles, landed in the Hebrides, and spread over the mountain regions of Scotland, and the east and north of Ireland.

The aborigines of the British isles, as well as of France and Belgium, may have been the same races, though overspread by the tide of population from the lofty mountain regions of India. In the Hebrides, and northern islands of Scotland, these eastern Celts encountered the Pechts, or Picts, a people having the same race-character, and after various struggles and conquests, became amalgamated with them; and a similar result may possibly have followed the case of the other branches of the eastern tide of population. The name of the Western Isles is Ii Bridan—the islands of Briton. The early inhabitants of Wales, who encountered Cæsar on his descent into Britain, had the same name. Crossing the Channel to France, the natives of Britain encountered a similar race, and the country still retains the name of Brittany. If we trace the history of the nations of Europe, we find

similar successive tides of population spreading over the land; and even at the present time the tide of emigration is becoming every day more and more wide-spread over the world. Possibly the late diggings among the caves and gravelpits of France, Switzerland, Denmark, &c., which have discovered some human remains mixed among flint, bone, stone, and other implements, may indicate the primary inhabitants of these countries covered up by a slight deposit of Pleistocene gravel and clays, extending within certain limited bounds; thus indicating traces of the early population. But I have much more confidence in the account given in the Genetic record. Chronology, properly studied, ought to embrace the whole period of that record when, "in the beginning omnipotent force, boundless and eternal, first initiated the universe by His word." The early period, however, can only be expressed in relation to the order, there being no means of defining very accurately small portions of time, except in very familiar popular language. A day is measured, of course, by the diurnal revolution of the earth; a month by the changes of the moon; a year by an annual revolution round the sun, which was established in the heavens on the fourth day of creation—"To be lights in the firmament, to divide the day from the night; to be for signs and for seasons, for days and for years."

We now come to that period when God rested from the works which He had made; and we are led to consider the Why Adam was created in Paradise,—for the purpose of serving the Lord ("Obed in Adami"), as we find that was his first act of service after his being told,—" Of every tree of the garden thou mayest freely eat," but at the same time warned that "Of the tree of the knowledge of good and evil thou shalt not eat of it, for in the day thou eatest thereof thou shalt surely die." From succeeding events recorded in the Bible, we know that this did not result. We will explain this further afterwards.

The first service, then, which was imposed on Adam was to give names to "every beast of the field, and every fowl of the air, which were brought to him, and whatsoever name he called every living creature, that was the name thereof." As he was still without "a help meet for him," God formed Eve, and Adam named her in right of power of nomenclature, "This is now bone of my bones, and flesh of my flesh; she shall be called woman;" *i.e.* "womb-man."

The very important events which are recorded in the third chapter of Genesis, and generally described as the temptation by the serpent, may be fairly interpreted in a somewhat different manner to that commonly expressed. "Naghash," translated "serpent," and fancied to be a reptile, may also be translated "anxious and impulsive desire" to acquire the knowledge of good and evil.

Next we read that "Adam and Eve hid themselves from the presence of the Lord among the trees of the garden." (This explanation is more rational than the sewing together of fig-leaves to make aprons.) The rest of the subject exposes the paltry cowardice of the now carnal man, consciencestricken, attempting to exculpate himself from transgressing, or risking the danger of eating or even touching the tree of knowledge of good and evil, and shifting the blame on the woman. The curse on both, of toil and labour in the earth, and the pains of childbirth, was completed by their expulsion from Eden, and their return prevented by Cherubim and a flaming sword turning everywhere to prevent all access to the tree of life in the condition in which they then were.

The following chapters of the record give the genealogy of the Sabbatic Adamic race.

In the sixth chapter, "When men began to multiply on the earth, and daughters were born unto them," from both streams of creation, "the sons of God" (probably referring to the sons of the Sabbatic Adam) "saw the daughters of" pre-Sabbatic mankind, "that they were fair, and took them to be wives of their choice," as Cain had already done in his progress eastward of Eden among the people of Nod. The conduct of mankind from both sources seems to have displeased the Lord. When the wickedness of men became so great, and their imaginations and thoughts continued to be only evil, the Lord is represented as grieved, and declared,... "I will destroy man whom I have created; both man, and beast, and creeping thing, and fowls of the air; for it repenteth me that I have made them."

It is necessary to keep in view that the term "son" does not always mean the offspring of generation, but it often includes the stranger within the domestic circle; as I will fully notice shortly.

Noah being divinely selected and directed to build an ark of gopher wood, with a most complete specification of its length, breadth, and structure, for the purpose of containing a certain number of the different animals living, it may be, upon the great inter-continental island in the Atlantic (the Atalanta of Plato), and connecting the two continents, with marked traces of the westward repression of the North American continent just beyond the tropics, evidenced by the plications of the strata first noticed by Professor Rogers, late professor of natural history in Glasgow, who had formerly been one of the surveyors, and published in the report of the geology between the Atlantic and the Mississippi. This Gulf Stream has been described by the late physicist of Cambridge, Mr. Hopkins, as likely at one age of the earth to have flowed north into the Arctic Ocean. We may therefore speculate that it was not restricted to its present size till by the crushing back of the continent above referred to.

After all things were prepared, and its important living cargo stowed away in the manner we are so familiar with, "in the second month, and seventeenth day of the month, the same day were all the fountains of the great deep (tohu, vohu) broken up and the windows of heaven were opened," and rain poured on the earth for forty days and forty nights, during which the waters increased so greatly as to float it above the surface of the earth on which it was built. The Diluvian waters rose above all the eminences and high hills of the Atlantic region : thus the great rivers described as flowing from the garden of Eden may have been situated upon this peninsula during the early age of its formation, when the diameter of the spheroid, and the axis on which it revolved, were different from what now obtains.

This may be inferred palaeontologically from the reptilian fossil remains of gigantic size which are stored up in the lias formation, and found largely distributed through the southeast of England, and almost restricted within a short distance of that locality.

To return from this digression. We may suppose that the ark floated upon the surface of the ocean by way either of the Straits of Gibraltar, or on the sea of the Sahara, the now sandy desert of north Africa, but now closed by the upheaval of the volcanic isles of the Canaries and Cape de Verde, &c.; or it may even have been carried over the Landes (the narrow neck of land along the base of the Pyrenees) into the Mediterranean, and so eastward to the locality described in the record as in Armenia, near the peak of Mount Ararat, 16,000 feet high; and till very lately unscaled by man.

In order to reduce the Diluvian flood, God caused a powerful wind to pass over the earth, and the waters assuaged. The fountains of the deep were stopped (possibly by the submergence of the isle from expansion of the Earthcrust), the rain from heaven being also restrained.

There seems no necessity for detailing minutely the several events with which you are all acquainted from your Bibles, but I mean to suggest a different mode of interpretation from that usually adopted. I believe it is now very generally believed by Biblical scholars that the extent of the Flood was much restricted, to what used to be considered its universality. "That the waters prevailed exceedingly upon the earth, and all the high hills under the whole heaven were covered fifteen cubits upwards above the highest mountains"; now ascertained to be more than 30,000 feet, or between five and six miles high. Possibly it principally occurred within the narrow region of Atalanta, as described by Plato, and a few of the regions immediately adjoining, as in Amiens in France, and in the south of England.

Possibly the cave and other diggings in Denmark and Switzerland may relate to a somewhat more recent period.

The more important consideration, however, I consider to be the chronology, which becomes more easily determined when the streams from the pre-Sabbatic and Sabbatic unite, and we begin to perceive, from an earlier post-Diluvian period, when the descendants from Shem, Ham, and Japhet are described as the sources of the human population of the earth. As I have already suggested, Shem may be viewed as the lineal descendant of Noah by generation, but Japhet and Ham represent two of the pre-Sabbatic races of mankind, the Black and the White, at the time existing in the neighbourhood of Noah.

The description of Noah's conduct after the Flood may be supposed to be so well known as not to require a minute detail, but I must protest against the grounds stated in the Bible, or to credit that the curse of Noah, awakened from his drunken fit, should have so changed the colour of Ham that his descendants shall be servants or slaves, which continues till this day.

Passing to another important chronological term, we come to the account of the Tower of Babel, and the miraculous confusion of tongues, 2247 B.C.; the genealogy of Shem, who was 100 years when he begat Arphaxad, two years after the Flood; and then follows the genealogy till we come to the very important descendant Terah, who, when seventy years old, begat Abram, Nahor, and Haran, 2056 B.C.

We now arrive at perhaps the most important theological period—the call of Abram. This is the ground of our share in the blessings of the Gospel, promised to all who accept the promise to Abraham. Then follows the history of Abraham, who departed—Heaven-directed—when seventy-five years old, out of Haran, taking with him his wife Sarai and Lot his brother's son, and all their substance they had gathered, and the souls they had gotten in Haran, and journeying into the land of Canaan. This region derived its name from Ham, of the household of Noah, lying between the Mediterranean on the west; the wilderness of Paran, Idumæa, and Egypt on the south; Arabia on the east; and Lebanon and Phœnicia on the north. Its length from Dan to Beersheba is about 200 miles, and its breadth across, from the Mediterranean to its eastern frontier, about 90 miles. The course of his journey lay through the country then peopled by the Canaanites, where the Lord appeared to him in Shechem, and said, "Unto thy seed will I give this land." He there built an altar, calling on the name of the Lord. And as there was a famine in the land of Canaan at the time, he journeyed southward into Egypt, where the great chronological monuments continue to determine, not only the age of the Hebrew patriarch and the human race from which he sprang, but also to evidence that the other families of the earth were derived from a much more ancient chronology.

It will be necessary at this stage to return to a view of earlier chronology, in order to trace the tide of population as it passes the current of the Sabbatic race, and in order to an intelligent comprehension of all the races of mankind till the Adamic and pre-Sabbatic families unite in the stream of the early population of the earth, it would be necessary to consider the different chronologies of China, India, and the northern regions of America, as well as their systems of astronomy, which have been greatly dwarfed by the prejudice that all mankind have been derived from the Adam of Eden; but as this would lead to a vast extension of the present communication, already too long, I must leave that out of consideration.

The CHAIRMAN.—I now call upon you to thank Professor Macdonald for the paper he has read upon an important subject: and I now invite the fullest discussion, which the paper, indeed, seems to require.

Rev. C. A. Row.—I cannot allow this paper to go forth from this Society without uttering a strong protest against it from one end to the other. When I read a paper once and cannot understand it, I am willing to attribute my want of comprehension to my own stupidity. When I read it a second time and cannot understand it, I question whether the fault lies wholly with me; and when I read it a third time and înd, though I know something of the subject, that I am equally unable to understand the paper, then I lay the blame on it, and not on myself. Now, this has been the result in the present case. I cannot see the point of the paper at all, nor can I understand one single argument it contains, or one single position laid down in it. (Hear, hear.) There are in the paper a number of curious words which I fail to find in any dictionary, a number of most obscure phrases, and a number of whole sentences which are positively incomprehensible. I am inclined to think that the printers must have made many of the blunders; but I think the Professor would have done well if he had taken care to correct the proof-sheets properly. Here is one passage, on page 204, which has puzzled me vastly, and I suspect it must be some blunder of the printers :--

"Evidently dissatisfied with the utter barbarism proposed by Sir John Lubbock as the condition of 'the first man worthy of being so called,' as well as the inuendo referring to the gorilla, or some other creature not worthy to be so called, he clearly points out 'that utter barbarism is by no means a necessary consequence of all the races of mankind, however, whenever, or wherever originating."

Now, what that means I cannot tell, any more than the man in the moon. (Laughter.) I think the word "consequence" is a misprint, for I know from my own experience that the printers do make curious blunders sometimes. I remember that in one of the papers I read here myself, I quoted the words of St. Paul :—"The Cretians are always liars, evil beasts, slow bellies."—(*Titus* i. 12); but the printers made it :— "The Cretans are always lions and low-minded bullies." (Laughter.) I have, therefore, good reason to know that they make serious blunders sometimes——

Mr. REDDIE.—But this is a quotation from the Duke of Argyll. I have no doubt, however, there is some mistake in it.

Mr. Row.-I am inclined to think there must be----

Professor MACDONALD.-Lay all the blame on me. Do not find so much fault with the printers.

Mr. Row.—The next thing that strikes me is that where the Professor merely asserts a thing, or says he thinks it possible, he imagines he has proved it to be a fact. That is a fault running from one end of the paper to the other. Take page 212, where he says :—

"To return from this digression. We may suppose that the ark floated upon the surface of the ocean by way either of the Straits of Gibraltar".--

Of course, we may suppose it, but that does not prove the fact.

"-or it may even have been carried into the narrow neck of land along the base of the Pyrenees."

That is also possible, but I want a proof. Then he says, further on :---

"In order to reduce the Diluvian flood, a powerful wind passed over the earth to cause the waters to assuage. The fountains of the deep were stopped (possibly by the submergence of the isle)"—

Of course it is possible; but we want a proof. It is possible that you may put a $\pounds 1,000$ note into my pocket, but I do not think I shall find it there when I come to examine it. There are many people who are in the habit of continually referring to the bank of Messrs. Possibility and Co., and who allow people to draw on them to any extent, but they pay only in paper which

no one will cash. (Laughter.) That is the case with many of the possibilities in this paper. I do not wish to go through them all, but I have a number of most serious objections to urge. Let us take up the main theory of the paper, that there were several creations. I am aware that it is a very debateable point, and that there is much to be said on both sides, but I fail to find anything in the shape of reasoning here, either on one side or the other; and we cannot be called upon to believe anything on the mere ipse dixit of any one. I want a distinct and good reason for what I believe, and I expect a person will tell me not only what he thinks but his reason for thinking so. I do not wish to occupy your time in discussing the negative portions of the paper; but I want to call your attention to the fact that its historical statements are entirely unsupported by historical evidence as facts. I am unable to find any evidence of these various migrations. No doubt they are possible, but it does not follow because they are possible that we have any evidence of them in history. Let me turn to the beginning of the paper, and to the important question raised though not debated there. I mean the important question raised by Archbishop Whately as to the impossibility of barbarous races raising themselves up to civilization; and I regret that I have not had time to read the Duke of Argyll's or Sir John Lubbock's observations on the subject. This question of the origin of civilization is a most important one. The Archbishop of Dublin has maintained, and maintained justly, that so far as history goes, it is impossible to prove or quote an instance in which a barbarous race have civilized themselves by their own power. It is some time since I read Archbishop Whately's book, and I am not prepared to say whether the reasoning he pursued is that which is described here by Professor Macdonald ; but the Professor seems to think that he proved that could not have been the case, and that the Archbishop inferred the impossibility from the fact that it never had taken place within historical knowledge. Now this is most important, although it does not involve the whole argument. If it can be shown, as I think it can, from any real, apart from mythical history, that no savage race have ever civilized themselves, that is a strong ground for believing that man did not originate in a savage, but in a civilized So far I think the argument is exceedingly sound; but now let state. us have a look at the facts of the case. Let us look at the first stage of historical knowledge; and I will not deal with a mere set of myths. The Professor has referred to the myth of the island of Atalanta, and no doubt there is allusion to it in Plato; but I believe it is a pure myth, and I do not think it is worthy of being dignified with the name of history. The Greek race can unquestionably be traced back to a very early period. We have the Homeric poems, which furnish the strongest possible testimony to the fact that the Greek race was not in a savage state when they were composed ; and it is certain, from the structure of the Greek language, that it did not originate with a race which was in a savage condition. Now, I have several times made observations upon language which have been misunderstood. In speaking of language, I have not meant the mere framework of speech, but the actual history of man which is recorded in language. I apprehend that the Greek language contains proof that, from the earliest dawn of history, the persons who used it were, long previous to their first use of it, a civilized race of men. I maintain further, that the changes of that kind in language are exceedingly slow. No doubt savages rapidly change their language; but their languages are not the vehicles of thought, while the Greek language contained the whole previous mental history and thought of the people using it. The word used by Homer for man shows the civilization of the race, and that they had observed that it was one of the prominent features of men to speak articulately. We trace a similar progress of language in the Saxon and English. We are all aware that the names of living animals in the English language are of Saxon origin ; but when we get them in the form of meat upon our tables, their names are all of Norman-French origin. Now, any one can see at once that it must have required a considerable lapse of time for such a change to take place. In the same way we find, with regard to the Greek tongue, that whenever it originated, it shows that the Greek race must have existed in a previous state of civilization. If we trace the Greeks back to their ancestors, the same thing applies ; and whether we trace them back to India, or wherever we go, we can find nothing to show that they originated in barbarism. We may do the same thing with regard to nearly all the civilized races of man, and we arrive in each case at a similar conclusion. (Hear, hear.) So far as history guides us, I do not know of any testimony whatever to show that during the historical periods any race of men whom we should call civilized have acquired their civilization, apart from some external agency which has been exerted upon them. Let us look at some of the savage races of the ancient world, who were not in that savage state in which we now find the savage races of Australia or the more degraded types of Africa, but who were still not what we call civilized. The first instance of a savage race of which we have any authentic account in history is found in the case of Scythians, who invaded Asia in the time of the Lydian kings. We get their character from Herodotus, who is certainly not always trustworthy, and who is too much in the habit of putting speeches into the mouths of persons when there was no reporter present to have reported what they said, and which speeches were no doubt composed by himself. Herodotus was a man who united in himself a singular, though not uncommon, admixture of credulity and scepticism, and no one can read him without being struck by that characteristic. Still it must be said for him, that, though he was in the habit of giving reports which show the extent of his credulity, he never exaggerated what he saw himself. The earliest accounts of the Scythian race we find in Herodotus, and then we find them again at the destruction of the Roman empire in the time of Attila. They were then existing in a greater degree of barbarism than is found in the modern Tartars, my knowledge of whom is drawn from the accounts of Huc and Galé, which, I think, may generally be taken as tolerably authentic, so far as the habits and character of the people are concerned. There is a considerable admixture of civilization among the Tartars of the present day, but they have had a mighty influence VOL. 1V.

exerted upon them from without. They have had the Bhuddist religion introduced among them ; and whatever we may think of that religion, it is, at any rate, a much higher stage than pure barbarism could have invented, and would tend to soften and improve very much the character of the people. Here we have a plain testimony that the change which has taken place has been introduced ab extra. Let us take another race in the time of Julius Cæsar-I mean the Gauls. They had then a certain degree of civilization among them, but they were certainly not what we call a savage race; and in them we have a remarkable example of a race in which, prior to their conquest by the Romans, we have small evidence of change; but as soon as the Roman conquest took place, the change in them was astonishing. Within the period of a century the Gauls were so changed that they became practically Romanized ; and here we have a remarkable example in our favour, showing that a race not perfectly savage, but yet not civilized, made but small alterations; but the moment an external influence was exerted upon them, they changed with the utmost rapidity. If we go into Egypt, we have no trace of the Egyptians having originated from a previously savage state. Professor Macdonald has expressed his belief that prior to the time of the Pharaohs there were Negro rulers in Egypt, which may be proved by the engravings on the pyramids; but from my acquaintance with the history of Bunsen and the other various sources of Egyptian history, of which I have read much, I cannot see any evidence of this. Certainly, the Negro race does afford a wonderful example of a race continuing the same from the earliest times until the present day; but that is a great proof of Archbishop Whately's position, that a barbarous race left wholly to themselves have never succeeded in civilizing themselves. It is undoubtedly the case that the Negro race, from the earliest times to the present day, have remained pretty much the same. We cannot say that they have greatly improved during the past 3,000 years, or that they have made any efforts to civilize themselves. If we go to other parts of the globe, we shall get the same testimony. We cannot, however, get that testimony from America ; for though undoubtedly a civilized race did precede the Aztecs, yet we cannot go beyond them for any authentic testimony, and we must beware lest we take mythical history for real historical evidence. A great many of the things spoken of do not rest on anything like substantial historical evidence. It is impossible to say whether the Egyptian race owed its civilization to a Negro origin, or to a far higher one. So far as the Assyrians are concerned, their civilization existed, and was evidently of a high type, at the earliest dawn of history. That is a fact, but all the rest is mere speculation, beyond the range of history. If we go beyond that range, we get launched into a region of speculation where all things are possible-

Mr. REDDIE .-- Do you not accept monumental evidence ?

Mr. Row.—Oh, yes; I accept it to a certain extent, but it requires careful interpretation; and you may adduce a great deal of monumental evidence which is useless for the want of careful interpretation. The monumental evidence as yet adduced has a large admixture of theory with it. There is so much of a theoretical character about it, that though I do not deny there is a considerable substratum of historical truth, a great deal of it is mere unproven speculation. I feel the greatest interest in all that is connected with Egyptian history, and I should like to know what has been the result of the attempt to decipher the new tri-lingual stone which has recently been discovered in Egypt. I should like to know whether it has at all enlarged our power of deciphering hieroglyphic inscriptions. But I maintain that the very character of the earliest hieroglyphs themselves presupposes that the Egyptian race possessed a considerable degree of civilization from the earliest

times. (Hear, hear.) Mr. REDDIE.-I did not quite mean what Mr. Row supposes I did by monumental evidence. I was not referring simply to the interpretations of the hieroglyphs. I have very little faith in them, and I find that Sir George Cornewall Lewis gives little credit to them. I was referring to the proofs which the existence of the monuments of antiquity themselves afford of the anterior civilization of the people who constructed them. There are a great many instances of this kind in Central America; and some of the most recent discoveries, even in North America, go to prove that a race more civilized than the Red man (who was once supposed to have been the original American) had existed where the Red man was afterwards found. But the whole of this question has already been discussed by us at some length. I read a paper myself, both here and before the British Association, on the subject; and I go further than Mr. Row as to the negative and positive proofs of anterior civilization ; for I maintain not only that savage races have never civilized themselves, but that among the most degraded races, almost without exception, you will find what I call monumental traces of a previous civilization. And you must not altogether throw over traditions and myths. You need not believe in the myth itself; but the very existence of an ingeniously constructed story is evidence that the people among whom you find it handed down were originally equal to the task of constructing it; and when they have such stories, and cannot invent them now, that itself forms an argument that their ancestors were superior to them-

Mr. Row.—I do not believe a myth, but I quite admit that a myth may be evidence of something else.

Mr. REDDIE.—I called attention to this matter in our first session, and then alluded to the fact that Mr. Pritchard, the consul in the Fiji Islands, who had lived there so long as to be almost a Fijian himself, gives an account of the stories current among those people which are quite Homeric in their character. Those stories are handed down among the people, not by a written literature, but from mouth to mouth, and repeated just as the *raconteurs* of the Continent, or the story-tellers of the middle ages, used to tell their stories. Mr. Pritchard's account of these Fijian stories is published in the memoirs of the Anthropological Society, and they go far to prove that those people have descended from an ancestry infinitely superior to themselves. We have not only no proof that savages have ever raised themselves to civilization; but Sir Samuel Baker goes even farther than that, and bears testimony to the

Q 2

great deterioration that has taken place in some of the African tribes, even within the memory of man. In many of those tribes you will find existing a mode of extracting metals from the ore which these people, in their present state, are thoroughly incompetent to invent, and which they only retain by handing it down traditionally from father to son. Sir Samuel Baker speaks very strongly upon this point, and he is perhaps the best authority we have upon African travel except Livingstone; and his accounts and Livingstone's perfectly coincide. Then, for another proof of the antiquity of civilization, you must take astronomy, which is common to almost all nations where they are not altogether sunk in barbarism. You not only get a knowledge of astronomy, but the same sort of knowledge as regards the constellations existing among all the ancient peoples; and that incidentally affords a strong argument against the whole theory of Professor Macdonald. I am sorry now to be obliged to advert to the paper before us, because I must say I quite agree with Mr. Row respecting it. The Professor treats his theories and his. facts something like a magician, conjuring them up whenever he wants them in the most marvellous way, and just as they suit his fancy. He gives us three or four different creations-of yellow men, of black men, of men of all sorts, at his will; but he does not tell us, after all, whether the Adamic race were black, or white, or yellow-

Professor MACDONALD.—They were neither black, white, green, nor yellow. (Laughter.)

Mr. REDDIE.-Well, the addition of another colour only makes it still more puzzling. (Laughter.) He doubts the scriptural account of creation, and treats all the arguments on that subject very much as he treated the map of America on the wall, by ripping it up, in order to show us the direction of the Gulf Stream-cutting them up remorselessly. (Laughter.) But it is of no use to treat the matter thus. It is very easy indeed to tear up a paper map, but you cannot cut up a continent in that way. His various separate creations are obtained in a very curious manner; wherever he wants a migration or a new creation, he simply conjures it up with his wand in the most surprising manner, which reminds me of nothing so much as the kind of processes which were continually gone through in the tales we used to read, when we were boys, in the Arabian Nights. (Laughter.) But I do not think the polygenists will cordially accept his theory ; for certainly the polygenists of the Anthropological and Ethnological Societies do not now believe in many separate creations; they seem always more than contented even with one ! Professor Macdonald is evidently an anti-Darwinian ; and there is a strong argument against the theory that the first man "worthy to be called a man" originated from some animal progenitor, in the simple question : How was the first human baby nourished ? (Laughter) For a human baby is a most difficult creature to bring up, and a gorilla would certainly not take half the trouble that would be necessary. As to the further question of the possible growth of civilization, I referred at some of our previous meetings to the case of the Sikhs, who, though not in the most degraded state of barbarism, were still far from being civilized, and under the influence of Nanaka, a sort of Indian iconoclast and reformer,

a far superior condition, and, like the Mahommedans in the vale of Cashmere, have very much advanced, both physically and morally; which I attribute to the influence of a purer worship. When we thoroughly consider what is the very essence of civilization, I think we shall find it flows from the exercise of the rational powers in that highest of all modes in which they can be employed, namely, in the worship of the Deity; which is the result of the being able to find out something higher and above all that is visible in nature, instead of bowing down ignorantly to stocks and stones, than which I can conceive nothing more degrading in its tendency upon the whole life. I do not agree with Mr. Row in his estimate of Herodotus and Huc. I think old Herodotus 'is a much safer guide than the modern. In fact, I do not believe Huc's book at all. He seems to me to be not only credulous, but he fills up his book with silly and nonsensical gossip, whereas Herodotus not only narrated what he saw most truly and carefully, but he was most cautious in distinguishing what he reported from others, and he frequently says he does not believe what had been so reported to him. I think it was Dr. Thornton who pointed out to us one night that the only instance of a thoroughly savage people mentioned by Herodotus was what he repeats about the Troglodytæ, and it may be a question whether they were not monkeys, and not men at all. As to the Scythians, they were not degraded into utter barbarism. I unquestionably believe that the human race sprang from but one man and woman, created in the image of God, and that the savage races have degenerated from them. When part of a tribe got once away from the rest, they would go down rapidly in the scale of civilization, as even we see our own degraded classes do in our own midst. I believe that when Herodotus and Homer and Hesiod lived and wrote, there were no such degraded beings in existence as there are now, but that they have been gradually going down and getting more and more degraded. I believe that is the only result which can be maintained from all the evidence of history, whether afforded by monuments or by myths. But all history should be used reasonably and critically. You are no more entitled to believe a statement contained in a book written by Huc or by Herodotus simply because it is there, and without careful and critical judgment, than you are entitled to believe a myth. But sometimes a myth itself is a great testimony to something beyond, even though you cannot take it literally and in the way in which it is put forward.

Mr. REGINALD STUART POOLE.—I should not have ventured to address you this evening had it not been that I think I can afford you some information with regard to the tri-lingual stone which has been referred to. That tri-lingual tablet, or, as it has sometimes been called bi-lingual, (because the third inscription runs round the edge and was not at first seen,) was discovered at Taunis by M. Lepsius. Two other gentlemen, MM. Reinisch and Rossla, have also deciphered the inscription, and all three of the translations agree. The inscription is a complete one, and any one who will be at the trouble to take the three existing dictionaries of hieroglyphs by Chabas, by Young, and by Dr. Birch, will be able to translate the hieroglyphic inscription him-

The time has come for us not to place so much reliance, as some have self. done, upon extravagant theories on this subject, but to bring to it a little sober criticism, and to take the best evidence we can find, doing as De Rougé, in France, and others elsewhere have done, and endeavouring to get correct information. I wish to speak with all respect of Bunsen, who has been much That large-minded, God-fearing old German, though he misunderstood. differed from most of us, was a man of most extraordinary fancy. He was not a hieroglyphic scholar himself-he was only imperfectly acquainted with hieroglyphs; but he used these monuments, not to tell men exactly what they told him, but to build hypotheses upon ; and in doing that he did great service. The man who raises hypotheses does a great service, because he exposes himself to attack, and a great deal more light is thrown upon the subject, even if his hypotheses are destroyed in the discussion. That is what Bunsen did, and I hope you will be careful always not to fall into the mistake of taking Bunsen as the type of Egyptologists. If you take the works of Lepsius and Reinisch in Germany, of De Rougé and Chabas in France, and of Birch in this country, you will find they have treated these Egyptian monuments as fairly, perhaps more fairly, than Greek and Roman authors have been treated by many historians. They labour over and over again in most difficult ground to arrive at the truth; and if you examine their work, you will find that, chronologically, they carry back some of their inscriptions to 2,000 years before Christ. In support of that, you have a succession of monuments of different ages and of different styles, as in Greece you have work of the time of the temple of Ægina, of the time of Praxiteles, and of the time of Lysippus. So in Egypt you have a succession of ages as well as a growth of art, which you see at once could not have been brought about in a day. I should warn you not to expect strict accuracy in these monuments, because there you get, for instance, typical colours representing the different races of men-the Negro, the White and the Brown man of Egypt standing between the Black and the White. That, however, would bear strongly on the age of the different races, and also on the antiquity of the barbarous races, because there you have the Negroes represented in the matter of clothing in the same condition as in the present day. And now, in conclusion, let me beg you to treat with the greatest respect all attempts-I will not say to harmonize, because they must be in harmony-but to point out the connection between Scripture and science, when they are made in so thoroughly reverent and God-fearing a spirit as that which has been exhibited by Professor Macdonald. I think that everything he has said has been said in that true God-fearing spirit to which we must all arrive.

The CHAIRMAN.—What is the length of the inscription on the new stone ? Mr. POOLE.—It is somewhat shorter than the inscription on the Rosetta stone, but it is a very clear inscription.

The CHAIRMAN.—Does it contain any new words?

Mr. POOLE .--- Yes.

Mr. REDDIE.--I have a few words. I would wish to add, in consequence of the concluding observations of the last speaker relating to the Scripture references in the paper of Professor Macdonald. On page 208 the Professor says :---

"The divine command 'to subdue the earth' has been for the first time exhibited by the Negro race in the usual form of subjugation, brutal wars, turbulent despotism, and oppressive slavery."

Now I must protest against the command to "subdue *the earth*" being supposed to have any connection with anything of the sort. It was a command to cultivate the earth, and had nothing whatever to do with fighting and cutting other people's throats. Then there is another instance, on page 210, of this strange misapplication of texts. Professor Macdonald says man was warned—

"That 'of the tree of the knowledge of good and evil thou shalt not eat of it, for in the day thou eatest thereof thou shalt surely die."

And adds-

"From succeeding events recorded in the Bible, we know that this did not result."

Now I say that what was stated did result, for man became a mortal being. To say that Adam was to drop down dead at once on eating the forbidden fruit is to say that which common sense repudiates. Then, in another passage, the Professor "protests against the grounds stated in the Bible," or " to credit that the curse of Noah should have changed the colour of Ham." But the Bible does not assume or state that the curse of Noah changed Ham's colour. It says nothing of the kind. Probably Ham was of a dark complexion, and it is a remarkable thing that the name of his son Cush in Hebrew means black, and Egypt is called Cush after him. But there is nothing in the Scriptures which tells us that the curse of Noah made Ham grow black.

The CHAIRMAN.---I need scarcely say that I differ almost entirely from the conclusions of Professor Macdonald. I think it is important, as Mr. Poole has said, that these subjects should be discussed in a reverent spirit; but when theories are brought forward they should be supported by facts, and I cannot see that Professor Macdonald has supported his theories by any facts. I do not believe that his theories are consonant, either with a fair interpretation of Scripture or with the facts of science. As to the manner in which we are to determine whether mankind sprang from a single race, or whether they sprang from several centres of creation, there are two ways of dealing with that subject. One way is to believe that the truth has been revealed to us by God, and that we find that revelation in the Bible; and we then come to determine the question from a plain, fair, and honest interpretation of the words of Scripture. That is one way of arriving at a decision ; but there are some people who tell us that the Bible has no more authority than any other book, and that the subject must be decided on purely scientific principles. The subject is one that has long been discussed ; and those who maintain that the various races of men sprang from many centres of creation, have striven to bring forward all the evidence they can from science, while those who oppose them have brought forward all the arguments open to them to combat those views. That, I think, is a fair and legitimate mode of dealing with the subject; but I cannot say that Professor Macdonald has dealt with it in that way. He has stated various things as probabilities, but he has not given the slightest direct scientific evidence in support of them. He has given no geological evidence, and no evidence from history. He has stated what were the antagonistic views of Sir John Lubbock, on the one hand, and of Dr. Whately, on the other; but he has not combated the views either of one or the other in the slightest degree. And now, perhaps, I shall be unable to avoid repeating to some extent matters which have already been made the subject of discussion in this Institute. A few years ago it was supposed that there was direct physical evidence that the whole human race could not have sprung from a single pair. That view was held for many years by those who were antagonistic to the Bible; but what do we find is the case now ? We find that those scientific theories have disappeared; that they have been supplanted by other theories which are now more popular; and those who still say that the human race did not spring from a single pair, are forced to admit that there is no scientific objection to offer against the whole human race having sprung from a single pair. I think, therefore, that we may now get rid of the physiological objection. The physiological testimony is now admitted by all the most distinguished physiologists, even if you take Mr. Darwin or Professor Huxley, to be, if not in our favour, at all events, not antagonistic to us. The majority of physiologists tell us that there is no reason in the science of physiology for attempting to maintain that the whole human race could not have sprung from a single pair. Professor Macdonald tells us that that is negative testimony, and that, if we are to meet this question scientifically, we must have positive testimony. I maintain that science gives us not negative testimony, but strong scientific, positive evidence in our favour. The perfect hybridization, if we may so call it, of the whole human race stands as a great positive fact, and not a negative fact, to assure us that the whole human race could have sprung from a single pair. Let us turn to another branch of science-history, the history of civilization, and all history, give us one testimony which is antagonistic to the idea of man having risen from an original state of barbarism, or from any improved animal or irrational creature. The whole of history, as a science, is antagonistic to that idea, and history goes further back than the time of the Greek writers. I think that old saying which calls Herodotus the father of history should be set aside, for surely the Bible has every right to the title, if only as an authentic historical record. It brings truths of direct and positive human history which can be proved far anterior to the Homeric poems, or to anything that can be found anywhere else-

Mr. REDDIE.—I always understood that Herodotus was merely considered the father of profane history; and I do not think that the Bible should be included with profane history, as if it were nothing more.

The CHAIRMAN.—But we must take history as history, whether profane or sacred. I am leaving out of consideration the inspiration of the sacred record; and I say that, looking upon it merely as a historical record, it is the most ancient history which we can find anywhere, and it always leads us

up to the highest degree of civilization. Then, not only the Bible, but many subsidiary matters, lead us to the notion of the unity of the human race ; and evidence of this is found especially in the progress and diversities of language. Language is not only a most marvellous instrument for the articulation of sound, but those who use it show that they have a unity of mental organization which to my mind proves that they came from one single stock, because the peculiarities of that organization can be traced through all the differences of so-called different races of the earth. There is a unity running through them all which is most striking. Not only have you unity in the structure of language, but you find a unity among them in the myths of history, and a unity of traditions. When you take the language, the traditions, and the mythology of the human races into consideration, you find that some of those races which you would have thought were furthest apart, approach most closely towards each other. Some of those who, from their personal appearance, seem to belong to different species, are really most closely allied. For instance, it was thought at one time that the Hindoo and European races were as separate and distinct from each other as black and white. The Hindoos, though not negroes, are essentially a black race, and some of them you will find to be quite as black in the countenance as negroes. But yet it is now acknowledged by the common consent of all scientific men, that the English and the Hindoos are descended from the very same race, using the same type of language, and not so far separated from each other as are the Englishman and the Jew, who are both white men. Indeed, so much are the Jews white men that it is sometimes hard to distinguish them from the English-although you also have black Jews, which gives us another independent proof of the point I am laying down. There is one point in Professor Macdonald's paper which I confess I cannot understand. I cannot understand why he restricts the Flood to the region of Atalanta. If there is anything whatever to be depended upon, or any knowledge to be derived from the universal traditions of the human race-and this is a phenomenon not easily explained-it is that the Flood certainly did overwhelm all the races of men which were upon the earth. There is not one single human race from which, however barbarous it may be, you cannot find evidence in its traditions, in the midst of all its barbarism, of the destruction of mankind by a flood. As to the Professor's theories of the number of original creations of different races, I cannot find any support for them anywhere. I cannot find the slightest reason for such a belief in the inspired book ; and I fail to discover anything in its support in any scientifice evidence, from whatever source it may be derived. All the scientific evidence points out most strongly, and by the most powerful arguments, not only the possibility, but the extreme probability, of all the How any man can take human races having descended from a single pair. the inspired record-the New Testament and the Old Testament togetherfor his guide, and maintain that that Bible gives any authority for such a doctrine as that of these diverse races, I cannot at all understand. We therefore find that the Professor, when he is obliged to get over the idea of the universality of man's form, tells us that the Adamic race fell. But what According to his theory, they fell into the position of the did they fall to ?

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pre-Sabbatic races : they became degenerated. They fell into the condition of the races that were created originally in a state of degradation, and yet those pre-Sabbatic races, according to the Professor's own hypothesis, were created in the image of the Elohim ! The Bible tells us that a single pair were created in a state of holiness and perfection, from which they fell, and that all who have succeeded them have consequently been born in that fallen state. That is a plain honest statement by which I will stand, and I cannot find any contradiction of it in science, if you mean by science those facts which are displayed by the world itself. Trace back all past history, go among all the human races with which we are acquainted, and you will find that they all bear the sad impress of the fall of man from innocence. Nowhere will you now find perfect beings : there is always a want of harmony to be found amongst the human races in their moral development, which you do not find existing in any of the other parts of God's creation ; and nowhere but in the Bible do you get anything like a full, plain, and accurate account of how such an awful jar or discord could have made its appearance in the creation of an all-wise and all-good God. I think natural theology proves indisputably that we are the creatures of a God of infinite wisdom and goodness; and the Bible tells us that we have fallen from the state in which He created us; but He has appointed a remedy by which the whole human race may be restored to their former position. One of the greatest proofs of man's unity of origin is found in the effect which the truths of Christianity have exercised on mankind. The truths of Christianity have been found perfectly adapted to all races. There is no race which is too barbarous to be civilized, and there has never been such a civilizing influence in the world as the doctrines of Christianity. Christianity has shown itself capable of raising the most degraded savages to a state in which they were to be envied by the most highly cultivated. Take a child of the lowest Negro type-a child of the Fijian Islanders, or the child of a Bushman-and it has been proved over and over again that such a child can be made as good and upright a creature as any one among ourselves could be. I say, therefore, that all races of men are capable of being raised from degradation to high moral excellence; and we find that there is no great and impassable gulf separating one race from another, and rendering one race more incapable than another of being raised to that high position in which man was originally created. I have the greatest possible respect and friendship for Professor Macdonald, and I trust he will not suppose that anything I have said to-night applies personally to him. I have a strong feeling of friendship for him, but I think these papers should be discussed fully and fairly. I am sure that in his own mind Professor Macdonald has the greatest reverence for the Bible, and would not willingly state anything which he thought would be offensive to those who hold their faith in that Bible as he does. But we must meet these questions on the grounds of pure science ; and I think he has failed to make out that his theory is a true interpretation of the Biblical record, or that it is supported in the least degree by any of the subsidiary sciences which he has not so much called in to his aid as simply referred to.

Mr. Row.-I should like to ask Professor Macdonald how he accounts for

the disappearance of that island of Atalanta after it had been made use of to stop the great Flood. It was said to have disappeared.

Professor MACDONALD.---Mr. Row asks me to account for the disappearance of a thing which he says never existed ! (Laughter.) At this late period of the evening I will not detain you long, but I must make a few short passing remarks on what has been said. The first person who rose to extinguish me, at once gave three grounds for his mode of understanding a paper. If he read it once and did not understand it, he supposed he was stupid; if he failed to understand it on a second reading, he still supposed that he was stupid; but if he read it a third time, and even then could not understand it, he supposed the stupidity must be in the paper----

Mr. Row.—I did not say I attributed it to the author. I said that if I failed to understand the paper on a third reading, I thought the fault did not altogether rest with me.

Professor MACDONALD.—Well, even with that correction, what I would say is this, that if a person gets up and tells me "I cannot understand this," I feel inclined to do what I can to help to clear his understanding; but when he goes through the paper two, and even three times, and declares it altogether unintelligible, what possible chance could I have of satisfying his mind? (Laughter.) I therefore make no attempt to answer Mr. Row's objections to my paper. It is quite right that he should find fault with me for not adducing a single reason in it, if he thinks there are none; but I fancy it is because he is so unreasonable himself that he does not understand my reasons. He demands an exposition of facts, and a deduction from those facts; but the principal object of my paper has been to attract attention to the future examination of the subject. The first chapter of Genesis tells you the succession of creation in six periods, and that man was created in the sixth, with all the powers and properties which enabled him to subjugate the earth. My friend, the secretary, who is agriculturally inclined (laughter), thinks that that subjugation of the earth refers only to the cultivation of the soil and the extermination of thistles. (Laughter.) As to that I have very little to say. Any one who reads the first chapter of Genesis honestly and reverently will see that mankind were created on the sixth day; and it does not require any depth of thought to see that the sixth must have preceded the seventh. But then you shut your eyes to the second chapter, and say, "we have a general résumé of what took place, and we will start from that point and that day when God had rested from all the works which He had made." Of course the work of creation was then completed, and God was resting, (as we all do,) from His labours. God had already created Adam, that being the general name for mankind; but the record goes on to describe that He then created the spiritual Adam and the spiritual Eve, they being the creations of the seventh day-

The CHAIRMAN.-- You have failed to point out the passage which shows that the Adam and Eve of Paradise were created on the seventh day.

Professor MACDONALD.—Gen. ii. 7-21. It is mentioned in my paper that they were created on the seventh day; and if you read your Bible you will find that God rested on the seventh day—— Mr. REDDIE.—Yes, from all His works.

Professor MACDONALD.—From all that He had made ; but that did not exclude Him from doing what He then desired to do—

Mr. REDDIE.—Then He did not rest from all that He had made.

Professor MACDONALD.-Then you disbelieve the Bible. (No, no.)----

The CHAIRMAN.—But you have not given us any proof from the Biblical record that the Adam and Eve of Paradise were created on the seventh day.

Professor MACDONALD.---I do not require to prove it. I think the proof of Biblical authority is quite sufficient; and if our excellent chairman and very worthy divine requires me to produce proof against his prejudice, I have nothing further to say. With regard to the general objections against my paper, very much fault has been found with it for being very ill written Now, that I completely admit, and I have already said, in and confused. passing, that I want to relieve the printer from the imputation of the blunders which have been thrown on him. But I say there is in that paper the statement of a truth which ought to be believed,-that mankind, the present population of the world, were originated from these two sources. God created man on the sixth day, male and female, with all the powers and properties which the record sets forth; and there is one characteristic which I may notice in passing, which gives us a distinction between the man of the sixth day and the man and woman of the seventh day-Adam and Eve. The unrestricted use of all the products of the vegetable world and all the fruits of the trees was given to the man and woman of the sixth day-the restriction as to the tree of life and the knowledge of good and evil was entirely confined to Adam and Eve. The result of that forms a subject which, in mixed assemblies like this, we cannot enter fully into. It is sufficient to say that the fall was followed by instant expulsion from Paradise, and Adam was prevented from ever again going near to the tree of life, because another means was provided for him. Much fault has been found with me on the ground that there is a want of proof as to what I have said concerning the pre-Adamic people. To suppose that they could not become equivalent to the Adamic race after the fall is, I think, a forced interpretation-

The CHAIRMAN.—I cannot conceive from this paper where we are to find the Adamic race. Among all the races of the earth how are we to know which is the Adamic race ?

Professor MACDONALD .- The Hebrew race----

The CHAIRMAN.—They alone ?

Professor MACDONALD.—They and their descendants alone. But the great object I had in writing this paper was to ask you to read your Scriptures and to read the whole of them. The most important sentence that ever was penned occurs in the first chapter: "In the beginning God created the heavens and the earth," and from that everything springs. There is a consecutive progress in the six days of creation, and the sixth day, marked by the creation of man, was so important that it is referred to all through the subsequent parts of the Scriptures. "Six days shalt thou labour and do all thou hast to do," has reference to it, and then we come to the blessing of the world and the universal rest on the seventh day, a blessing which all attempts to invade have failed. Is it not a blessing to mankind that they have that seventh day? That portion of the subject, however, is involved in a certain amount of difficulty from the fact that the seventh day was changed to the first day for the Sabbath----

Mr. REDDIE.-It was changed by the Apostles, I believe.

Professor MACDONALD.—It was changed by the Adamic race : the Apostles were of the Adamic race——

The CHAIRMAN.—In the records of the Houses of Parliament Saturday is always recognized as the Sabbath. It is always *Dies Sabbatie*.

Mr. Row.—Do you consider the Carthaginians and Phœnicians as Adamic ? They certainly showed a descent from the Hebrew tongue.

Professor MACDONALD.—I do not think it is worth while to go into that. That incidental objection has no bearing whatever upon the question—---

Mr. POOLE.—The language of Hebrew was not the language of Abraham : he spoke Syriac. The language of the Carthaginians and Phœnicians was the Syriac language. Whether that was Abraham's original tongue is another matter.

The CHAIRMAN.—But if there is unity of race, the whole Semitic race would be united together.

Mr. POOLE.—Without question. But the question is whether Abraham did not adopt a language in Syria, as he also adopted another in Canaan. The Cuneiform is entirely a new language, spoken in Abraham's district, and not the original language.

Mr. REDDIE.-However, it does not follow that diversity of language precludes unity of race.

Professor MACDONALD.—I only regret that my paper has been so carelessly prepared for such hypercritical observers as we sometimes meet with. I was not at all prepared to enter into the comparatively modern matter of tracing language down from the days of Herodotus. If language has not an earlier origin than that, I am very much mistaken. But the way in which my paper has been received, and the objections which have been made to it, have convinced me of one thing. On a former occasion I doubted whether I was a proper person to be a member of this Society, but now I doubt no longer, and I must say that from this time forward I withdraw from the Society.

Mr. REDDIE.—I beg to remind Professor Macdonald that he is not now a member, he having withdrawn already.

Professor MACDONALD.—I am very glad to hear it. As I am now outside the Society, I can only thank you for the kindness you have shown me. You have dealt me rather hard measure, but I will take care I never expose myself to it again. I can only thank you for the patience with which you have heard me. As for Mr. Row's remarks, I do not think much of them, and therefore I have no feeling upon that subject.

The Meeting was then adjourned.

ZOOLOGICAL TABLE.

(Vide p. 206.)

PRE-SABBATIC MANKIND.

On the 6th Creative Day.-Gen. i. 26 to the end.

BLACK.—I. Polynesian, Papuan, Australian, Patagonian, Obongo Dwarf, Yacoots, &c.

II. Caffre, Hottentot, Bushman.

III. Ethiopian, Guinea, Sengambia, Mozambique.

IV. RED.-Carib, Mohawk, Senecas, Chippeways, &c. &c.

V. BROWN.-Peruvian, Mexican, Egyptian, Phœnician, Hindoo, Moor.

VI. YELLOW.—Mongol, Chinese, Japanese, Malay, Eskimo, Fins, Laps, Basques.

VII. WHITE.—Celt, Scandinavian, Norse, Teuton, Sclavonic, Scythic, Turk, Hun, Tartar.

SABBATIC ADAM.

On the 7th Creative Day.-Gen. ii. 7-22.

CAIN.-Armenian, Arab.

SETH. -- Chaldean, Hebrew, Abyssinian.