

HOW OLD IS THE EARTH

A VERY OLD MUMMY IN THE BRITISH MUSEUM.

Darwin Says That Over 300,000,000 Years have Elapsed Since the Earth has been a Planet

The time has admittedly gone by for attempting to "reconcile the facts of Nature"—to use a recognised phrase—with the chronology of the Bible, which makes the age of the world rather less than 6,000 years.

Indeed, in the Egyptian Rooms at the British Museum, the visitor can see for himself objects which go back to an authenticated period long antecedent to 4,000 years B.C., and great is the wonder produced on the minds who first make their acquaintance. In that same department, among the mummies, there is what is in many respects the most striking of the exhibits in the department—the body of a man who belongs to the Stone Age. It lies in an accurate representation of the peculiarly shaped grave in which it was found, and it has been in consequence somewhat irreverently nicknamed by the habitués of the Museum "the man in the pie-dish."

A RELIC OF 50,000 B. C.

The particular interest in that corpse—which men, women, and even children look upon without the least thought or suggestion of the fear or horror usually inseparable from death—is that it is unquestionably the oldest exhibit in the Museum; and scientists have been rather struck by the fact that the authorities of the great institution have not, so to say, taken the bull by the horns, and boldly labelled that exhibit as dating from 50,000 B. C. Thus, with one single stroke of the pen, Bishop Usher's Biblical chronology is multiplied by about nine, and it may be that an even higher number would be required to satisfy the requirements of the age of that particular specimen.

How long has the earth been a planet capable of supporting not only human but all forms of life?

In an address Lord Kelvin once delivered on the subject, he gathered together the opinions of various scientific men, which cannot but be of interest to every thinking being. Darwin, in his "Origin of Species," stated that "in all probability a far longer period than 300,000,000 years has elapsed;" while later on, in the same book, he wrote: "He who can read Sir Charles Lyell's grand work on the 'Principles of Geology,' which the future historian will recognise as having produced a revolution in natural science, yet does not admit how incomprehensibly vast have been the past periods of time, may at once close this volume."

WHEN THE SUN DIES.

Lord Kelvin himself—then Professor William Thomson—over forty years ago, made an attempt to calculate the length of time during which the sun has been burning at its present rate, and in that connection he wrote: "It seems, on the whole, most probable that the sun has not illuminated the earth for 100,000,000 years, and almost certain that he has not done so for 500,000,000 years. As for the future, we may say with equal certainty that the inhabitants of the earth cannot continue to enjoy the light and heat essential to their life for many million years longer, unless new sources, now unknown to us, are prepared in the great storehouse of creation."

It is a remarkable evidence of the acute perception of Lord Kelvin's mind, as of the rare prevision of his intellect, that the last words—"unless new sources, now unknown to us, are prepared in the great storehouse of creation"—should have been added to that remarkable sentence.

As an example of the very extraordinary range of time given to the age of the earth, consider the following statement from Professor Jukes' "Students' Manual of Geology." He wrote: "Mr. Darwin estimates the time required for the denudation of the rocks of the Weald of Kent, or the erosion of space between the ranges of chalk-hills, known as the North and South Downs, at three hundred million years. It may be possible, perhaps, that the estimate is a hundred times too great, and that the real time elapsed did not exceed three million years; but on the other hand, it is just as likely that the time which actually elapsed since the first commencement of the erosion, till it was nearly as complete as it now is, was really a hundred times greater than his estimate, or thirty thousand millions of years."

86,000,000 YEARS OF LIFE.

Professor Phillips, in a lecture to the University of Cambridge, considered the rate of erosion between the ranges of the North and South Down to be rather one inch a year, than Darwin's estimate of one inch in a hundred years, so that on mere geological grounds he reduced the times to about a hundredth. Calculating however, the actual thickness of all the known geological strata of the earth, he came to the conclusion that life on the earth's surface may probably date back to between 38 and 96 million years.

Within the last ten years, Professor Sollas, of Oxford, working on new principles applied to the stratified rocks, reduced this time very considerably, for he wrote: "So far as I can at present see, the lapse of time since the beginning of the Cambrian system is probably less than 17,000,000 years, even when computed on an assumption of uniformity, which to me seems contradicted by the most salient facts of geology."

STARTLING FIGURES.

What are the data, it will natur-

HE TELLS THEM

TO ASK THE I. O.

JOHN J. BURNS CURED DODD'S KIDNEY PILLS

He Had Chronic Inflammation of the Kidneys—Says His Brethren Foresters can Tell all About

Darnley, P. E. I., Aug. (Special)—John J. Burns, a present member of the I. O. F., whose cure of Chronic Inflammation of the Loins and Kidneys caused sensation some time ago, reports that he is still in splendid health. "Yes," says Mr. Burns, "my cure is entirely satisfactory. I have had no trouble since I used Dodd's Kidney Pills. They drove away the disease from which I suffered for years."

"No, I'll never forget Dodd's Kidney Pills. The doctor could not help me. I got so bad I scarcely walk, sit or sleep. I was about to give up entirely when an advertisement led me to try Dodd's Kidney Pills. Now, I am in health. Dodd's Kidney Pills saved my life."

If any one doubts Mr. Burns, he simply refers them to his brethren Foresters. They all know how he suffered and that Dodd's Kidney Pills cured him.

It may be asked, on which calculation of this magnitude are made? At the most important are the conduction of the underground heat, which is constantly being conducted out of the earth—in other words, the cooling of the earth, the speed at which the earth rotates on its axis, as well as physical properties of rocks at high temperatures.

The loss of heat by conduction was Lord Kelvin's first argument for estimating the age of the earth. He felt that if the earth had been losing heat uniformly for 20,000 million years, the amount of heat lost out of the earth would have been about as much as would heat, by 100 deg. C., a quantity of ordinary surface rock 100 times the earth's bulk. This would be more than enough to melt a mass of surface rock equal in volume to the whole earth. No hypothesis as to chemical action, internal friction, effects of pressure at great depths, or possible character of substance in the interior of the earth, possesses the smallest vestige of probability which can justify the supposition that the earth's upper crust has remained nearly as it is, while from the whole or from any part, of the earth has been lost a quantity of heat as great as that which has been lost.

EARTH ONCE RED-HOT.

By considering the cooling of the earth, and by tracing backwards the process of cooling, Lord Kelvin came to "a definite estimate of the greatest and least number of million years which can possibly have passed since the surface of the earth was everywhere red-hot." This estimate is expressed in the following words: "We are very ignorant as to the effects of high temperatures in altering the conductivities and specific heats and melting temperatures of rocks, and as to their latent heat of fusion. We must, therefore, set very wide limits in such an estimate as I have attempted to make; but I think we may, with much probability, say that the consolidation of the earth has taken place less than two million years ago, or we should have more underground heat than actually have; nor more than two million years ago, or we should have less underground heat than actually have."—London Answers.

IRISH CATTLE HUNTING

Wild Herd had Become a Nuisance to Farmers.

Such a hunt as would have delighted the heart of Fenimore Coote's doughtiest heroes has just concluded within three miles of the centre of Belfast city, a herd of wild deer being exterminated on the slopes of Cave Hill, which fronts majestically over Belfast Lough.

Some years ago Mr. Stafford Leach, a farmer, put some poles across the hill, and a young boy was diverted to savagery and induced members of the herd to follow him. In the course of time the herd multiplied, and the younger members were wilder than the old. They broke hedges and fences, and were everywhere.

Mr. McLean was held responsible for their depredations. Claimed claim for fences broken, hayricks demolished, until the farmer, in despair, invited everyone to a grand hunt and put a stop to the depredations for all to their work.

Men climbed the hill armed with every class of weapon to be found in the district, pistols, old blunderbusses, fowling-pieces, sticks and stones, and a sprinkling of modern rifles. They warily stalked their prey, and the animals were quick to break hedges and ditches in a manner which no hunter could equal. Two or three men got within range, their small shot whistled off the animals' hides like hail on the mountain.

The hunt on the first night was a failure, but the men came better prepared and, as a result, most of the animals have been accounted for, and there is not likely to be another such hunt in Ireland (or some day to come).

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