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DISINTEGRATION OF URANIUM PROVES EARTH CAN BE NO OLDER THAN APPROXIMATELY THREE BILLION YEARS

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1. U^{238} disintegrates thru 13 intermediate transition elements (including Ionium, Radium, Radon and Polonium) to form non-radioactive Pb^{206}.

2. The rate of disintegration is constant, unaffected by heat, pressure or catalyst.

3. This rate is expressed as the half-life, i.e., the period in which (approximately) half (of any given large number) of atoms will have disintegrated to form the next element in the series.

4. The life of an individual atom of radioactive substance is unpredictable.

5. Nor can we predict the time a million atoms would last. It is only possible to state that in 1590 years half of a given large number of atoms of Ra^{226} will disintegrate to $Radon^{222}$. In another 1590 years another half ad infinitum.

6. Half-life is but the result of the statistical analysis of the behavior or a large number of atoms.

7. For Radium ^{226} this half-life is 1590 years; for Uranium ^{238} it is 4.4 billion years.

8. Knowing the rate of radiation, the original amount of the material (which is the present amount plus all its byproducts), and the present amount, it becomes possible to determine the length of time disintegration has been continuing.

9. The ratio of U^{238} in the world to the sum of U^{238} and all its byproducts (which includes transition elements, Pb^{206}, alpha particles, beta particles and gamma radiation) is roughly 60% thus giving an age of approximately 3 billion years.

COULD THE EARTH BE OLDER THAN THREE BILLION YEARS?

1. Yes, if radioactivity were a property given to U^{238} three billion years ago.

2. Yes, if U^{238} were formed from a parent material at that time. Yet none of this supposed material remains today and U^{238} is not being formed at this time.

3. Any parent element or mechanical formation of U^{238} might put the original creation of matter at an earlier date, yet it would not evade the force of the argument that at one time 3 or 4 billion years ago (this may be stretched to 100 billion by some theories) a real creation of the basic particles of matter did take place and the inescapable conclusion that follows is that such a creation necessitates a Creator.

COULD THE EARTH BE YOUNGER THAN THREE BILLION YEARS?

1. Yes, if the 14 transition and final products of the series were created along with the U^{238}.

2. Yes, if the earth were made at a later date from matter created 3 billion years ago.

3. Yes, if a faster rate of disintegration took place at some earlier date.

F I N A L C O N C L U S I O N

It is most likely that the creation of matter took place approximately 3 or 4 billion years ago due to the correlation of that date with the speed of star retreat and with the age of the stars themselves from a calculation based on the H to He ratio. Other methods give similar results. The formation of the solid earth may have taken place considerably later from this original material.

N O T E: More recent calculations are putting the age of our earth and the material universe as well at 5 to 8 billion years.

T H E R A D I O A C T I V E C L O C K

"In the cooling of a magma, the uranium (or thorium) unites with certain other elements to form one of several compounds (for example, uraninite, a complex uranium oxide, or ellsworthite) which crystallize out like other minerals. After the crystal has formed, the uranium slowly wastes away, and helium and lead accumulate. In so far as these two elements do not escape from the crystal, they form a record of the amount of uranium (or thorium) that has been transformed.

"Fortunately the rate of disintegration is very slow and is absolutely uniform under all known conditions of temperature, pressure, or chemical environment; and, also fortunately, this rate can be determined with very great precision by counting the helium atoms emitted within a given time by a measured quantity of uranium (or thorium). They may be recorded automatically by a sensitive electrical device or may be counted directly by observation. For example, if a small quantity of uranium is placed on a screen of zinc sulphide, each escaping atom of helium makes a flash as it strikes the sulphide, and under a microscope these can be seen like fireflies on a dark night and can be counted. Such counts indicate that 1 gram of uranium yields annually 1/7,600,000,000 of a gram of lead. At this rate U grams will produce 1 x U ÷ 7,600,000,000." (Historical Geology by Carl O. Dunbar, pg. 25-26)

G E O L O G I C T I M E

"Only one means is available for estimating geologic time in years, and this method can be applied to only a very few rocks. The method is borrowed from the physicist's work on radioactive substances.

"Time measurements with the 'radioactive clock' tell us that manlike creatures appeared on the earth about 2 million years ago, that rocks with the first fossil remains of mammals are about 200 million years old, that animals with hard shells first became abundant about 500 million years ago. The oldest rocks whose ages have been determined are intrusive rocks from Karelia in Russia, roughly 1,800 million years old. These intrude metamorphosed sedimentary rocks which must be still older, but how much older is unknown.

"Figures like these are extremely valuable, for they give us an accurate idea of the immense reaches of time involved in geologic processes. But unfortunately rocks with sufficient radioactive material to make the measurements possible are scarce. Only a handful of exact age determinations have been made, for the rocks of a few isolated localities. In the general problem of correlation, measurements of radioactive substances are not very helpful." (Fundamentals of Physical Science by Konrad Krauskopf pg. 545-546)