How Accurate Is Radiometric Dating? [1]

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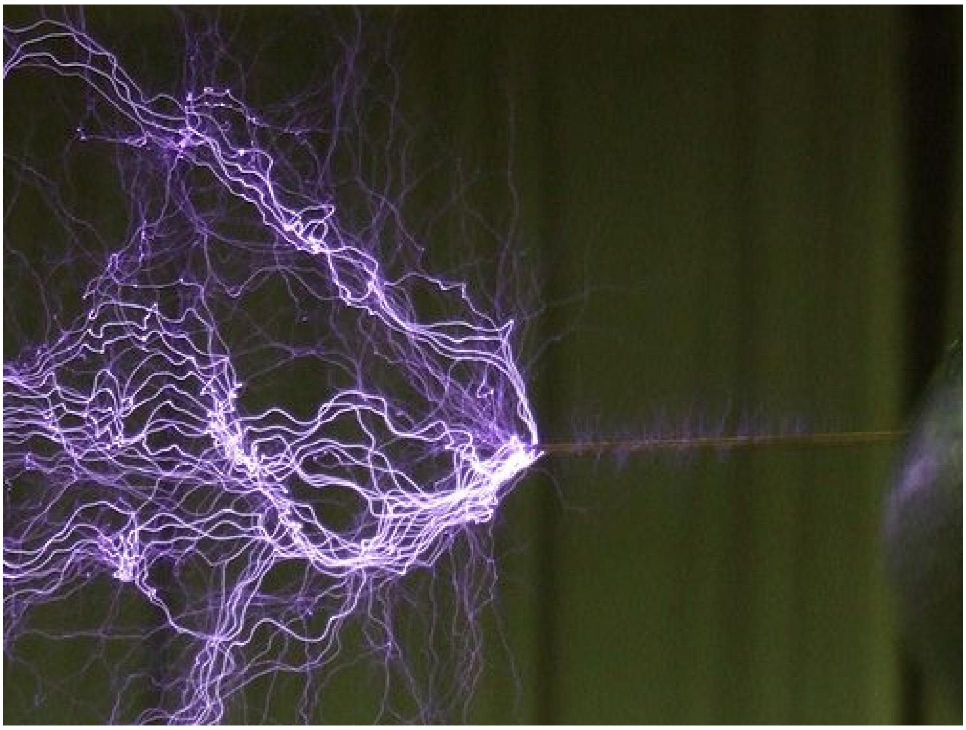
- Radioactive Decay [2]
- Radiometric Dating [3]



Did the z-pinch effect, above, produce electrical effects that altered radioactive decay rates in earth's past?

Dating methods based on radioactivity have been used to indicate a vast age, in the millions or billions of years, for certain rocks. However, in some cases, other methods yield much younger ages.

For example, some zircons have been radiometrically dated to about 4 billion years old. The decay process for the zircons involves alpha particle emission from uranium and/or thorium inside the zircon. An alpha particle is simply a helium nucleus, which will quickly gather up 2 electrons and become a helium atom. (Electrons are quickly accumulated when you rub a balloon on some material - perhaps your hair - and then place the balloon on a wall or ceiling. The resulting static electrical force will hold the balloon in place.) So, the radioactive decay in the zircon results in helium production.

Measurements of the amount of radioactive decay for some zircons indicate an age of over a billion years, while the amount of helium in the zircon indicates an age of only a few thousand years. 1 !

Why do we observe such disparate dates using these two different dating methods?

Let's look at how the radiometric dating method works.

Over time, a certain amount of radioactive material decays. For example, some isotopes of uranium can decay into lead. The process involves several intermediate steps - a decays into b which then decays into c, etc. But there is a decay rate for each step. The decay rate is often described by the half-life of the radioactive material. This is the amount of time it takes for half of the radioactive material to decay. So, after a period of time equal to the half-life, half the radioactive material would be left in the sample. If we waited the same length of time again, we would then have a fourth (half of a half) as much radioactive material as we started with. Another half-life would leave us with an eighth of the material, and so forth. By measuring the amount of radioactive material left in a sample, and assuming we also know the amount of radioactive material in the sample originally, one can theoretically deduce the amount of time that would be required for the original amount to decay down to the currently measured amount.

Various radiometric dating methods have one thing in common - they assume a constant radioactive decay rate (of the material being used in the dating). Is this assumption valid? Another assumption is the starting amount of radioactive material in the sample, but for now we will focus on the rate assumption.

To phrase the question above in other words, let's ask this: Can the radioactive decay rate be changed? Before answering this, consider this question: What happens in nuclear reactors? Why, radioactive decay happens. And this decay is managed - control rods are used to speed or slow the reaction. So, the answer to the first question is, Yes, radioactive decay rates can indeed be changed, and are actually changed in practice.

But the reactor is an artificial environment. Does the decay rate of radioactive materials ever change in a natural environment? What conditions would be required in nature to change the radioactive decay rate? Did those conditions ever exist in our earth's history?

First let's consider how one might change the radioactive decay rate, and then we will see whether such conditions existed in nature.

Altering temperature from close to absolute zero, to over 4,000 degrees Fahrenheit, has failed to alter the decay rate. High magnetic fields and high accelerations also have failed to appreciably alter radioactive decay rates. However, high pressure has been found to change the decay rate for some isotopes. 2, 3 Why would this work? This can be explained by the fact that high pressures would squeeze electrons closer to the nucleus, increasing the likelihood of electron capture by the nucleus. (Electron capture results in the transformation of a proton into a neutron, which is the opposite of what happens in radioactive beta decay, when an electron is emitted by the atom.)

If *increasing* the likelihood of electron capture can "reverse" beta decay, then what if we ***decreased*** the chance of electron capture? Could this increase the decay rate? Indeed, the decay rate did increase under this condition, in experiments performed by Dr. Fritz Bosch with the rhenium atom. He found the result to be a vast speedup of radioactive decay - by a factor of over a billion! 4

What does this mean? This: If we used a radiometric dating method to analyze the sample that Dr. Bosch used, and assumed the accepted "normal" decay rate, then we would think it took a billion times longer for the radioactive material in that sample to decay to the amount which we measured, instead of the short time which it actually took to decay down to that amount.

Can you see the implication of this for the radiometric dating that has been used "across the board" in science? It implies that quite possibly, for dates that were measured while assuming the accepted slow decay rates, the decay could have occurred much more rapidly. If we assume decay occurs slowly, then it takes a long time; but, on the other hand, if the decay goes swiftly, it doesn't take as long.

This implies the age of the material could be vastly younger than the measurement may seem to indicate!

In fact, patents have actually been granted (for example, US patent 5076971) for devices which utilize electrical devices to vastly speed up the decay rates of radioactive materials, for the purpose of decontaminating radioactive waste. [5]

The electrical influence on radioactive decay rates is consistent with the fact that free neutrons - that is, neutrons which are not confined to an atomic nucleus - have a half-life of only minutes, while the half-life of a neutron inside an atomic nucleus is millions of years. One obvious difference is that inside a nucleus, the heart of an atom, the neutron is closely surrounded by electrically charged particles.

Well, is there any time in earth's history when there might have been electrical forces applied to the atoms of radioactive materials, electrical forces of sufficient energy that could have altered the decay rates of those radioactive materials?

There is one such possibility; let us examine it now.

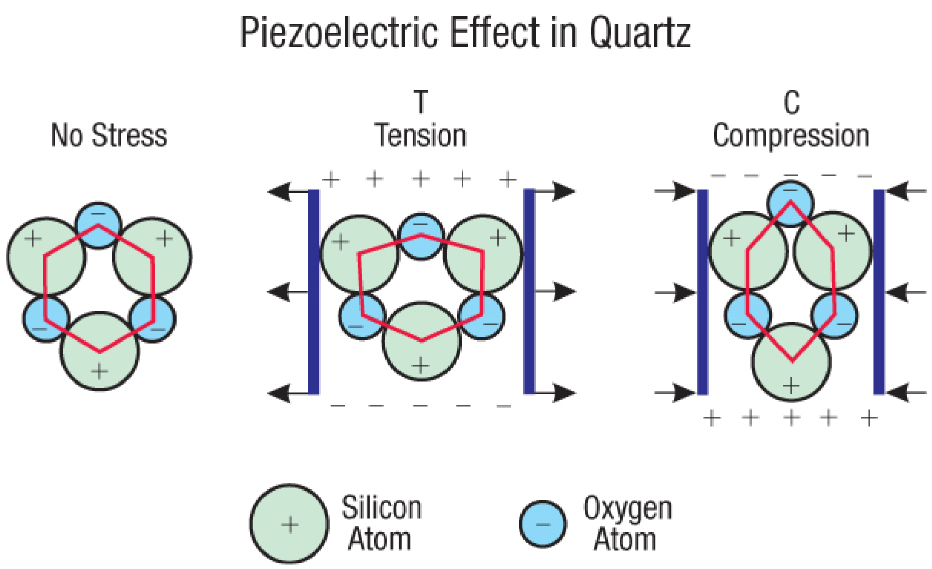
The Flood

According to the Hydroplate Theory [6], there was in earth's history a time when there would have been sufficient electrical forces generated to alter the radioactive decay rates of earth's radioactive materials.

Here is the background explaining what this theory posits actually happened.

The piezoelectric effect

When quartz is placed under pressure, there is a voltage produced. Under tension, the opposite of compression, there is also a voltage produced, with a reversed polarity.



This inducement of voltage via pressure / tension is caused by the fact that, though the overall electrical charge of the quartz molecule may be neutral, there are regions of the quartz molecule that have slightly more positive charge than other regions of the molecule, and other regions of quartz molecules with more negative charge. Forces that slightly deform the molecule move these regions, thereby moving the electrical charges present in the regions. Redistribution of electric charges results in changes of voltage across certain regions, since the charges are responsible for (or in a sense the cause of) the voltages.

This piezoelectric effect of quartz, working through the pressure generated by earthquakes, has been known to produce electrical activity in granite, which is about 27% quartz.

For example, during earthquakes, people have described the sky lighting up, ribbon-like flashes of lightning, globes of fire and sheets of flame. Also, iron (in a chain) has melted during an earthquake - an effect which could easily be explained as due to the heating caused by electrical fields in the conductor, iron. 7

The source of the (mechanical) force

So, what could possibly have happened in earth's remote past to cause piezoelectric voltages, sufficient to alter radioactive decay rates?

According to the Hydroplate theory, there were, before the Flood of Noah, large underground chambers of water. The crust above these water chambers was about 10 miles thick. Granite pillars supported the crust above the chambers. The quartz crystals in the granite of those pillars were aligned (due to the way the quartz crystals were formed - by extrusion - and by the effect of tidal forces). Each crystal acted as a tiny battery, and since there was an alignment of the crystals, the result was the accumulation of electrical voltages (and thereby electrical currents and forces) resulting from each crystal's piezoelectrically induced voltage changes.

As the crust broke open and the water surged up, leading to the great flood, the pressures involved in the breakup of the crust, and the pressures in the pillars, would be changing, as well as greatly increasing in cases of fracture, bending, and breaking of rock layers and granite pillars. This would have caused piezoelectrically generated electrical force ***inside the earth's rock layers***. If the electrical force was great enough, this could have altered the radioactive decay rate in those rock layers!

The undulating crust that is familiar to many in the case of earthquakes, would be many times greater at this historic period when the earth's crust broke open, and "the fountains of the great deep" were opened. This undulation of the crust would result in tension and compression in the crustal rock. Evidence of this bending of the crust is found in lineaments, parallel linear structures of unknown origin, along which earthquakes tend to occur. 8 The undulating crust would have caused the surface to fracture in just such parallel lines as these lineaments.

The electrons flowing through the rock would have encountered atoms of various sizes and types, resulting in acceleration / deceleration of the electrons. This acceleration produces bremsstrahlung radiation, which in turn produces free neutrons in surrounding material, if the energy of the radiation is high enough. 9 These neutrons could affect the rate of radioactive decay.

High energy electron flow inside solids can also produce heavy elements that will then decay into typical elements found in earth's crust. This has been observed in experiments performed in Kiev, Ukraine. 10, 11 The reported result of these experiments was the creation of isotopes of elements that are found in the earth's crust, but which were *not* in the original sample material of the experiment.

The energy output of some experiments was greater than the electrical energy input, and this, plus the appearance of newly formed elements, suggested that fission and/or fusion must have occurred to account for the energy. Also, the fission / fusion would have had to have occurred at an accelerated rate to account for the observed results.

At the Flood, electrical currents due to the mechanisms mentioned above, could have vaporized the rock and this would have led to vastly increased pressures in the rock. This pressure could then lead to more piezoelectric effects.

Another effect that could have been present during the Flood's crustal rupture is known as z-pinch. The path taken by closely placed, nearly parallel electrical currents, in this effect, are subject to a constricting effect, known as the Z-pinch 12, which would force nuclei closer together. Recall, pressure (i.e., forcing things closer together) has been shown to affect decay rates. Also, the proximity of electrically charged particles (that are involved in the decay process) seems to affect decay rates, and the z-pinch would move particles into closer proximity to each other. Thus it would seem that the z-pinch effect would contribute to the mechanisms involved in altering the radioactive decay rate of material.

Summary

Today we have experimental evidence that radioactive decay rates can be altered. In fact, we have seen that a patent has been granted for one such method of decontaminating radioactive waste. Electrical forces are the key factor in these experiments.

Today we also have experimental evidence that electrical forces can lead to the production of elements and isotopes, including radioactive ones.

The flood was a time of great physical stress in the earth's crust, in the opening of the "fountains of the great deep." The result of this stress was piezoelectrically generated electrical forces, which in turn could have altered decay rates through the mechanisms elaborated above, leading to greatly accelerated decay, which would cause today's methods of dating to give erroneously old dates.

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