

**EFFECTIVELY SOWING THE  
SEEDS OF DOUBT:  
THE AGE OF THE EARTH**

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**ABSTRACT**

The evolutionary world-view is a faith which hinges upon the belief in an old Earth and is extremely vulnerable to doubt. This audio-visual presentation very effectively casts doubt upon that faith. It shows how the belief in an old Earth was introduced, a variety of good evidences for a young Earth, then points out that natural rate processes can always have been higher in the past leading to a younger Earth but never as low as an old Earth requires. The paper concludes with memorable evidences of what might be expected from a young Earth.

**INTRODUCTION**

Satan's deception of Eve and the subsequent Fall of Man was not by direct confrontation but by first planting the seeds of doubt in Eve's mind. When doubt was established, her belief system was turned about by an appeal to pride and human reason. It is a most effective tactic and the Christian Church of the last century fell for this same device and accepted Darwin. The doubt was placed in the one area not directly accessible to observation, that is, the remote past and specifically concerned the age of the Earth. Of all the issues in the Creation/Evolution debate today, the age of the Earth is the most crucial and now has the greatest accumulated evidence in favor of youthfulness and thus of Creation. It is no wonder then that claims for a young Earth draw the heaviest criticism not only from the scientific establishment but from the Liberal Church and even from many within the Evangelical Church. This audio-visual presentation takes an historical approach and begins with a single example of how the Christian Church of the last century was deceived into accepting Darwin's evolution.

**THE HISTORICAL BACKGROUND**

In the sixteenth and seventeenth centuries a number of scholars worked on the problem of the date of Biblical creation. They used the Biblical genealogies and by 1656 Bishop James Ussher's date of 4004 BC was generally adopted. During the early part of the nineteenth century, in order to counter proposals being made by some that the Earth was a lot older than suggested by the Scriptures, a full chronology was inserted into the King James Bibles by placing dates in the heading of each page. Ussher's date appeared on the first page of the book of Genesis; it was thus identified with the authority of Scripture itself and the Victorian reader was assured that the Earth was approximately 6,000 years old.

Most people in the last century were brought up in a Christian environment and took what the bible said about Creation and the Flood quite literally; they had no problems with such passages as Genesis 7:21-23 which made it clear that the Flood was not local but world-wide. However, there were some who had particular difficulty with the Genesis Flood. They could not believe that every air-breathing, land-dwelling creature was destroyed except those preserved in the ark; they argued that the account referred to a local flood. However, fossils only occur within rocks which have been produced from sediments. These sedimentary rocks are found world-wide, and, for the Bible-believer, fossils were tangible evidence of the judgement by a great Flood. However, when faced with a geological feature such as the Grand Canyon, the faith of many Christians was strained to believe that sediment over a mile deep was deposited during the twelve months of the Flood.

Charles Lyell (1797-1875) was a Scotsman with a legal training and it seemed eminently reasonable to him to expand the time-frame of the past. In this way, rather than one catastrophic Flood for a brief time, a succession of local floods over a much longer period of time would have left the same sedimentary evidence. However, at this point in history, it is very difficult to determine the time frame for events in the past, and thus the notion of an old Earth began to take hold of men's minds. Lyell became secretary to the Geological Society in London and, with other like-minded individuals, eventually controlled all that was published relating to geology during most of the remainder of that century. The policy adopted was termed "uniformitarianism" which said that the natural processes seen going on today are the key to what has happened in the past. For example, the low rates of deposition of sediment in lakes and rivers seen today is believed to have operated throughout the past since the beginning. Interestingly, this very policy which generally denies catastrophes was predicted by Peter in his second letter (2 Peter 3:3-6):

"Knowing this first that there shall come in the last days scoffers...saying...all things continue from the beginning of creation. For this they willingly are ignorant of, that...the world that then was, being overflowed with water perished:"

There are, as we well know, many scoffers in these last days and one notable example was Lord Bertrand Russell who adamantly denied Christianity and the Genesis Flood; he fervently believed in evolution. Lyell adopted the idea of uniformitarianism in the 1820's then went to look for evidence to support it in order to add evidences to his book The Principles of Geology; the first edition appeared in 1830-33 and profoundly influenced the young Charles Darwin. The book went through ten editions and became the foundation for modern geology.

Evidences for an old Earth were crucial to Lyell and in 1841 he visited Niagara Falls in Canada with the intention of determining, if possible, the age of the Niagara gorge. The great Horseshoe Falls has worked its way back from the original escarpment at Queenstown and left behind a gorge now seven miles long. If Lyell could determine the rate of retreat he could immediately tell the age of the Falls by dividing this figure into the total length. He asked a local farmer who had studied the rate of retreat for over forty years and he told Lyell he thought it was about three feet per year. Lyell, with his predisposition towards an old Earth, thought that the man's estimate was too great and decided that one foot per year was a more likely figure [1]. With a gorge seven miles or 35,000 feet long, this made the age of the Falls 35,000 years; this figure soon found its way into all the textbooks.

Although not the age of the Earth, this figure performed the much more important task of casting doubt upon Ussher's figure of 6,000 years. The theologians in the middle of the last century were faced with the choice of believing Ussher's figure and the Biblical record, or the work of a modern scientist, now Sir Charles Lyell. Had not Sir Charles actually measured the age of Niagara Falls and did this not exceed by far the old Biblical record? The theologians capitulated one by one and by the time Darwin produced his theory in 1859, many had accepted an old Earth and were ready for evolution. And what are the facts? The rate of retreat of the Horseshoe Falls has been studied since Lyell's day and the figure is not one foot per year, nor three but almost five![2]. This reduces the age to seven thousand years assuming the rate has been uniform but it is likely to have been greater in the early stages thus it may only be five or six thousand years. Virtually a confirmation of Ussher's chronology. However, Lyell's preconception turned this into a refutation and caused the faith of thousands to be lost. Towards the end of the nineteenth century the dates in the newer editions of the Bibles quietly disappeared and the textbook figures for the age of the Earth began to increase by leaps and bounds. By the current wisdom the age of the Earth is 4.5 billion years.

## EVIDENCES FOR A YOUNG COSMOS

Logically, any evidence for a young cosmos is evidence for a young Earth and astronomers are reporting good evidences almost every month. However, the evidences presented here will be confined to our own solar system and we begin with those icy visitors from outer space, the comets.

COMETS. Comets consist of ice and dust and, in a grand orbit, loop their way into our solar system, pass around our sun and return to outer space. Halley's Comet is a well known example and visits our system once every 76 or 77 years; the Chinese have records of it from 239 BC. It takes several months to loop around the sun and in doing so loses about ten tons of dust per second and a much larger quantity of water which passes from ice directly to vapour. The million-mile comet tail is the trail of dust made visible by reflected sunlight. Halley's comet is estimated to have lost a fraction of one per cent of its total substance on each return and thus is much smaller each time it leaves our planetary system [3]. If the system is as old as is claimed, then Halley and every other

comet should have been used up long ago, but their very presence indicates youthfulness rather than great age [4]. Faced with this problem, J.H. Oort has suggested that there is a cloud of comets beyond our solar system and every now and then one gets disturbed, takes on a new orbit and enters our system until it is used up [5]. However, Oort's theory is a mere expedient to explain the existence of the comets and there is not one shred of evidence to support it [6].

**THE SUN.** It has often been a source of wonder how the sun has continued to pour out just the right amount of heat and light to sustain life on Earth. If life did, in fact, begin three billion years ago, then it is surely nothing short of a miracle that the sun has become neither smaller nor larger during this entire period! When the greater ages for the Earth were being proposed in the last century the German physicist, Herman von Helmholtz suggested that the sun obtained its energy by gravitational contraction [7]; it should have thus been getting smaller and from about that time measurements of the sun's diameter were made regularly at several observatories. Helmholtz's theory allowed a maximum age of the sun of about twenty million years; however, this was far too short a time for the followers of Darwin and Helmholtz's theory was quietly dropped, but the observatory measurements went on.

With the discovery of radioactivity and the perception that atomic fusion is an almost inexhaustible source of energy, Sir Arthur Eddington proposed in 1926 that the sun's heat was produced in this manner thus extending the life almost indefinitely [8]. This has been the tidy theory to this day. However, nuclear fusion processes produce subatomic particles called neutrinos and it was expected that Earth should be bathed in these highly penetrating particles as they stream from the sun. Bahcall and Davis have carried out elaborate experiments since 1964 to search for these neutrinos but so far less than a fifth of the predicted value has been detected while these originate from random directions [9,10]. Perhaps the shrinking sun is the major source of the sun's energy after all.

In 1979 astrophysicists Eddy and Boornazian published the measurements of the sun's diameter and caused an uproar because at first sight there was little doubt that the sun was contracting [11]. The implications were that at the measured rate the age of the solar system itself could not extend very far into the past. Parkinson argued that the results were merely random variation but showed no contraction [12], whereas Stephenson accepted the data as valid and the decrease real but argued that the phenomenon is cyclical [13]. Either argument left an open-ended past. It is true that there is some cyclical expansion and contraction but the overall picture is one of contraction with a lower rate than at first thought. Nevertheless, when all the objections have been taken into account, the shrinkage is significant at about one foot per hour which very seriously limits the age of the sun and life on Earth to a few million years at most.

**THE MOON.** The vacuum of space beyond Earth's atmosphere contains dust particles which fall into the Earth's gravitational field as the Earth orbits the sun. These dust particles consist mostly of iron and a little nickel so they can easily be distinguished from say, volcanic ash. In 1960 Pettersson published his work which showed that a minimum of five million tons of this dust falls in upon the Earth's surface each year [14]. The quantity which might be expected over multi-millions of years is clearly not evident and it is reasonably argued that the wind and rain has washed it all into the ocean basins. It turns out that it is also largely missing from the ocean sediments! However, during the Apollo program there were serious concerns since the moon would also accumulate dust and there might be dozens or even hundreds of feet of dust on the moon. The Apollo XI moon lander was equipped with pad feet to prevent it's sinking into this expected dust. During the landing in 1969 the actual depth of dust found was less than an inch, which fact raised an awkward question about the age of the moon.

Since that time, the Committee for Space Research (COSPAR) has been formed and has published results based upon indirect methods to show that the annual dust infall is precisely that required to leave what was reported on the moon's surface. This seems to be a case of generating data to support the theory and raises the question, How is it that Pettersson's work, based upon direct methods, was so far in error?

**THE HEAT OF THE EARTH.** The Industrial Revolution was driven by steam and steam was obtained by burning coal. As coal mines went deeper it was found that the rocks became hotter at a rate of one centigrade degree per thirty meters. This is the rate at which heat is escaping from the centre of the Earth and this also tells us that the Earth is very hot for the greater part of its mass beneath the surface. However, if the Earth is really millions of years old, then at this rate of cooling it should have become cold and the oceans frozen over long ago. This was forcefully pointed out in 1865 by Lord Kelvin and remained an unsolved problem for Darwin [15]. Then, in the 1920's, the problem was declared solved by an appeal to the heat given out by radioactive decay of elements deep

within the Earth; this has supposedly offset the heat loss to the present time. But, a by-product of radioactive decay is radiogenic helium and, after millions of years, this gas should fill our atmosphere leaving oxygen and nitrogen in minor proportions! Of course, this is not the case, while investigations have failed to find evidence of all the radioactivity there would need to be to sustain the warm Earth [16]. All these problems disappear if the Earth is young.

**SALTS IN THE DEAD SEA.** Israel's Dead Sea is located 1200 feet below sea level and receives water continuously from the River Jordan. The water also leaves the Dead Sea continuously by the only way possible, that is, by evaporation, and evaporated water contains no salt. When this system came to equilibrium shortly after it began, the salts in the River Jordan water began to concentrate in the Dead Sea. The pages of the fourteenth edition of the Encyclopedia Britannica provide all the information necessary to determine the age of this system:

"The Dead Sea, which covers an area of 394 square miles, contains approximately 11,600,000,000 tons of salt, and the River Jordan which contains only 35 parts of salt per 100,000 of water, adds each year 850,000 tons of salt to this total".

By simply dividing the rate into the product, the age of this system is found to be a mere thirteen thousand years, a far cry from the five million years for the rocks proclaimed by geology. But there is something else: the Encyclopedia (under 'salt') goes on to say that there are salt springs at the bottom of the Dead Sea which supply an unknown quantity of salt. This effectively increases the rate and further decreases the age.

## CONCLUSIONS

A very important principle may be seen from the example of the Dead Sea: It has been assumed that the rates measured today have been constant throughout the past, and, while none of the evidences tell us the age of the Earth, they all indicate youthfulness. However, these rates can always have been greater by, say, catastrophe which would reduce the age; but they can seldom have been much less and never as low as required by the evolutionary ages. For example, with only one million years for the Dead Sea system, the salt content of the River Jordan water throughout that time would have had to be less than that of distilled water! Similarly, the rates of shrinkage of the sun or infall of dust on the Earth and moon, etc. must all be unrealistically low to satisfy the evolutionary long ages.

## RADIOACTIVITY--THE SOURCE OF THE LONG AGES

Certain radioactive elements break down, atom by atom, and give rise to lighter elements as their decay products. While no one can tell when an individual atom will decay, atoms exist in large groups and there can be a statistical certainty of the overall rate of decay. This rate is measured by Geiger counter and these determinations have been carried out since the 1920's. From that date to the present day the rates appear to be constant. However, it is an unprecedented assumption to argue from this data that the rates of decay have been constant for millions, if not billions, of years in the past. There is no physical reason why decay rates should be constant while there are evidences that these rates were greater in the past and have been slowly decreasing; the implications from this are that the entire evolutionary time scale would collapse to just a few thousand years. Not surprisingly, this is one of the most hotly contested areas of debate.

The radioactive element within a mass of rock will be intimately associated with its decay or daughter products and analysis of the bulk to give the proportions of 'mother' to 'daughter' elements, together with the known rate of decay, is used to determine the age of the rock. It is assumed that neither element has been added or lost from the closed system, and again, this assumption has been shown not always to be valid. Nevertheless, these methods are used on rocks associated with fossils and give ages which are extremely long. With all the uncertainties and assumptions necessary, and without the possibility of calibration of the method, the only conceivable reason for these methods being used is that the long ages held to by the evolutionary faith are seemingly confirmed. The carbon fourteen method is similar in principle to, say, the uranium/lead method but the carbon fourteen isotope decays much more quickly, and, provided proper calibration of the method against historically dated artifacts is carried out, the method can provide truthful results.

## CONCLUSIONS

Just a few examples of the evidences for a young cosmos have been given, but there are many more; none give a precise age, but all indicate youthfulness. Arguments have been raised

against each case but when taken altogether the weight of evidence is decidedly in favour of a recent creation. If that be the case, then the discoveries of "living fossils" should not be surprising and will serve well to plant the seeds of doubt in the belief in the "millions of years". The Paleotragus (a giraffid) believed to have been extinct for 20 million years was found alive and well in South Africa in 1906; the Coelacanth (a large fish) thought to have been extinct for 75 million years was discovered off the coast of Madagascar in 1938 and the Plesiosaur (a sea-dwelling dinosaur) believed to have been extinct for 100 million years was fished up, though dead, in the South Pacific by the Japanese in 1977 [17]. See Figure 1. The Japanese commemorated this "scientific event of the year" with a 50-Yen postage stamp shown in Figure 2.

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FIGURE 1. Dead creature fished up by the Japanese fishing vessel in April 1977.  
The carcass weighed 4,000 lbs, was reptile and had to be returned to the sea.

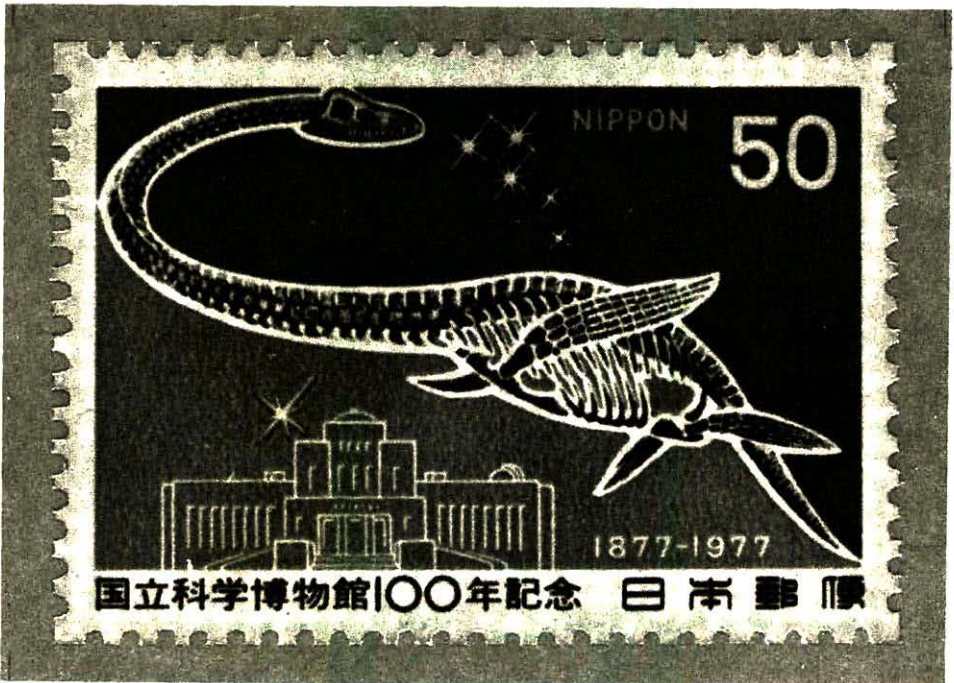


FIGURE 2. Japanese 50-Yen stamp produced to commemorate the "discovery of the year".