## Chapter 3:

# The Age of the Earth, Dating Methods, and Evolution 

Roger Sigler, M.S.


## Why is this Chapter Important?

This chapter is important because an "ancient Earth" is foundational to evolutionary theory. As one high school biology textbook states: "Evolution takes a long time. If life has evolved, then Earth must be very old...Geologists now use radioactivity to establish the age of certain rocks and fossils. This kind of data could have shown that the Earth is young. If that had happened, Darwin's ideas would have been refuted and abandoned. Instead, radioactive dating indicates that Earth is about 4.5 billion years old-plenty of time for evolution and natural selection to take place" ${ }^{65}$ (emphasis added).

Thus, biology and earth science textbooks today will admit that "billions" (for the Earth) and "millions" (for life on Earth) of years are necessary for evolutionary theory to hold up. These books use these "ancient" dating ideas to assert that fossils are proof of biological evolution. What we will find out in this Chapter, however, is that the age of

God's Creation is younger than these textbooks state, and that the dating methods used to establish the "old Earth" are flawed in many respects.

## Overview

Fossil remains are found in sedimentary rock layers. Layers of sediment are formed when various size particles (e.g., dirt, rocks, and vegetation) accumulate in places such as deserts, rivers, lakes, and the ocean. Most texts teach that it takes a long time for these sediments to build up, with older layers buried beneath younger layers. Fossils found in lower layers are deemed to be older than those in the upper layers, older on the bottom younger on the top. This is called relative age dating. To help establish the relative ages of rock layers and their fossils, evolutionary scientists use index fossils.

Index fossils are distinct fossils, usually an extinct organism, used to establish and correlate the relative ages of rock layers. Index fossils have a short stratigraphic or vertical range, which means they are found in only a few layers, though in many widespread places. Evolutionists assume that the creature evolved somehow, lived for a certain time period, and then died out. Textbooks are correct when they state that relative dating provides no information whatsoever about a fossil's absolute age. Nevertheless, most textbook writers and the scientists they cite all grew up with a belief in uniformitarian geologic processes. The principle of uniformity is a philosophy and an assumption that the slow geologic processes going on today is how the deposits of the past happened, or that the present is the key to the past. This assumption works well enough only for recent deposits such as the Quaternary and certain formations in the Tertiary periods (see Figure 17). But if you really want to learn, keen observations in the field testify that the rock layers were laid down catastrophically.

What you are not being told is that many sedimentary deposits from most of the periods in the Paleozoic and Mesozoic eras are primarily marine, very extensive, and bear great evidence of very fast or catastrophic depositional processes. Fossils in pristine condition require that the animal or plant was buried rapidly; therefore, index fossils, rather than indicating a living environment over time, are nothing more than things buried quickly and suffocated under huge amounts of sediments transported by the ocean. Another thing is that these widespread oceanic deposits occur hundreds and even thousands of miles inland from the ocean. Furthermore, these marine sediments sit above granitic crust, composed primarily of granite and related rocks. Granite, by its very nature, floats so as to be a foundation for land, not the ocean.

At the present time the ages shown on the geologic time scale are based on radiometric age dating. In many textbooks, radiometric ages are considered absolute ages. But as you will soon learn, it is far from absolute as far as dating goes, though is useful for other things. By reading this chapter, you will learn the truth and know more about the evidences for a young Earth than most adults. You will discover why the land, sea, and air are young; how dinosaur bones and other fresh fossils are young; and why diamonds belched from the bowels of the Earth were made fast and are young, even though all of these things originated as living things on the Earth's surface! So let's get started.

## The Age of the Earth

The alleged age of the Earth is based on an interpretation of its radioactivity. The planet itself is given an age of 4.5 billion years and the various rock layers are given names with assigned ages (Figure 17). In many textbooks, radiometric ages are considered absolute ages. In reality, the ages are far
from absolute. To understand exactly why, we must first learn the basics of radioactive elements, and of the techniques used when treating these systems of elements as clocks.

The ages of the geologic periods shown in Figure 17 are based primarily on radioactive isotopes. Many elements on the periodic table have radioactive forms. Stable atoms have a set number of protons, neutrons, and orbital electrons. Isotopes are atoms of the same elements with the same number of protons but different numbers of neutrons, so these atoms are radioactive. This means its nucleus is not stable and will change or transmutate into another element over time by emitting particles and/or radiation.


Figure 17. Uniformitarian Geologic Time Scale (with problems noted)

Uniformitarian Geologic Time Scale modified after the Geological Society of America, 2009. The time scale is placed vertically because older sedimentary deposits are buried beneath younger sedimentary deposits. The assumption of slow geologic processes and radiometric age dating has drastically inflated the age of the Earth and its strata.

A basic way to measure the rate of radioactive decay is called the half-life. This is the length of time needed for $50 \%$ of a quantity of radioactive material to decay. Unstable radioactive isotopes called parent elements decay (or give birth to) stable elements called daughter elements. Each radioactive element has its own specific half-life (see Table 5).

Table 5: Radiometric Isotopes and Half Lives

| Examples of Radioactive Isotopes that Change into Stable Elements |  |  |
| :---: | :---: | :---: |
| Radioactive Parent Element | Stable Daughter Element | Half-Life |
| Carbon-14 ( ${ }^{14} \mathrm{C}$ ) | Nitrogen-14 ( ${ }^{14} \mathrm{~N}$ ) | 5,730 Years |
| Potassium-40 $\left({ }^{40} \mathrm{~K}\right)$ | Argon-40 ( ${ }^{40} \mathrm{Ar}$ ) | 1.3 Billion Years |
| Uranium-238 ${ }^{(238} \mathrm{U}$ ) | Lead-206 ( ${ }^{206} \mathrm{~Pb}$ ) | 4.5 Billion Years |
| Rubidium-87 ( ${ }^{87} \mathrm{Rb}$ ) | Strontium-87 ${ }^{(87} \mathrm{Sr}$ ) | 48.6 Billion Years |

Note: Carbon 14 is not used to date minerals or rocks, but is used for organic remains that contain carbon, such as wood, bone, or shells.

To find the age of a rock, geologists review the ratio between radioactive parent and stable daughter products in the rock or in particular minerals of the rock. Igneous rocks-those that have formed from molten magma or lava-are the primary rock types analyzed to determine
radiometric ages. For example, let's assume that when an igneous rock solidified, a certain mineral in it contained 1000 atoms of radioactive potassium $\left({ }^{40} \mathrm{~K}\right)$ and zero atoms of argon $\left({ }^{40} \mathrm{Ar}\right)$. After one half-life of 1.3 billion years, the rock would contain $500{ }^{40} \mathrm{~K}$ and $500{ }^{40} \mathrm{Ar}$ atoms, since $50 \%$ has decayed. This is a $500: 500$ or 500 parent/500 daughter ratio, which reduces to $1: 1$ or $1 / 1$ ratio. If this was the case, then the rock would be declared to be 1.3 billion years old. If the ratio is greater than $1 / 1$, then not even one half-life has expired, so the rock would be younger. But if the ratio is less than $1 / 1$, then the rock is considered older than the half-life for that system (see Figure 18).


Figure 18. Decay of Radioactive potassium-40 to argon-40
Decay of Radioactive potassium-40 to argon-40. "BY" means "billions of years," K is potassium, Ar is argon. After three half-lives of this system, totaling 3.9 billion years, only 125 of the original set of 1000 radioactive potassium- 40 atoms remain, assuming that the system has decayed evenly for all that time.

Dating a rock requires four basic assumptions:

1. Laboratory measurements that have no human error or misjudgments;
2. The rock began with zero daughter element atoms;
3. The rock maintained a "closed system;" (defined below) and
4. The decay rate remained constant.

Let's describe each of these. Measuring the radioactive parent and stable daughter elements to obtain the ratio between them must be accurate, and it usually is. But keep in mind that most laboratory technicians in dating labs have been trained in a belief of an old Earth, which may set preconceived ideas about the time periods they expect. They all memorized the typical geologic time scale, and thus may not have an open mind to the idea that the accurately measured isotope ratios may have come from processes other than radioisotope decay.

Next, this technician assumes that all the radioactive parent isotopes began decaying right when the mineral crystallized from a melt. He also assumes none of the stable daughter element was present at this time. How can anyone claim to know the mineral really began with $100 \%$ radioactive parent and $0 \%$ daughter elements? What if some stable daughter element was already present when the rock formed?

A closed system means that no extra parent or daughter elements have been added or removed throughout the history of the rock. Have you ever seen an atom? Of course not. It is really microscopic, but we must think about this assumption on an atomic level. For example, decay byproducts like argon and helium are both gases. Neither gas tends to attach to any other atom, meaning they are rarely involved in chemical reactions. Instead of reacting with atoms in rock crystals, they build up in rock systems and can move in and out of
the rocks. In fact, a leading expert in isotope geology states that most minerals do not even form in closed systems. He emphasizes that for a radioactive-determined date to be true, the mineral must be in a closed system. ${ }^{66}$ Is there any such thing as a closed system when speaking of rocks?

The constant-decay rate assumption involves the decay rate remaining the same throughout the history of the rock. Lab experiments have shown that most changes in temperature, pressure, and the chemical environment have very little effect on decay rates. These experiments have led researchers to have great confidence that this is a reasonable assumption, but it may not hold true. Is the following quote an overstatement of known science? "Radioactive transmutations must have gone on at the present rates under all the conditions that have existed on Earth in the geologic past. ${ }^{967}$ Some scientists have found incredible evidence in zircon minerals showing that radioactive decay rates were much higher in the past.

Some of these assumptions are analogous to walking into a room where "...there is a burning candle sitting on the table. How long has that candle been burning? This can be calculated if the candle's burn rate and original length is known. However, if the original length is not known, or if it cannot be verified that the burning rate has been constant, it is impossible to tell for sure how long the candle was burning. A similar problem occurs with radiometric dating of rocks. Since the initial physical state of the rock is unknowable, the age can only be estimated according to certain assumptions." ${ }^{68}$

## Helium and Accelerated Decay Rate

The amount of radiometric decay that has happened in igneous rocks like granite containing the mineral zircon is most often calculated by measuring the amount of radioactive uranium-238 and the amount of stable lead-206 within
a given crystal. Decaying uranium-238 forms eight helium atoms on its way to becoming Lead-206. The helium atoms are temporarily trapped within the zircon crystal, which is considered about as closed a system as possible in the world of minerals. However, helium atoms are small, very lightweight, fast-moving, and do not form chemical bonds that would lock them with other atoms. They can therefore leak out of solids and into the atmosphere by passing through microscopic cracks in minerals, or by diffusing right through the solid walls of the mineral itself; that is, through the spaces in the crystal's net-like atomic arrangement. Think of a crystalline atomic lattice as a cage made of chain-link fencing. Dogs remain trapped in the cage, but squirrels can pass through the spaces. Helium atoms are like the small animals. They can squeeze through the spaces of the atomic lattice. Have you ever wondered why those helium balloons given at parties do not stay afloat for very long? It's because the helium atoms leak through the rubber.

In the 1970s, Los Alamos National Laboratories collected core samples of the Jemez granodiorite. It is considered a Precambrian granitic rock and bears an assigned age of 1.5 billion years based on uranium-238 - lead-206 dating. The rate of helium that leaks out or diffuses through the granodiorite was then measured at an internationally renowned laboratory. By dividing the amount of helium left in the rock with the measured diffusion rate of helium through the zircon crystals and other nearby minerals (e.g., mica), it is possible to measure how long ago the radioactive decay hap-pened-as long as we make the required assumptions. This is the same concept as measuring the age of a helium balloon by knowing the amount of helium left in it and dividing by the rate at which the helium left the balloon. Amazingly, the radiometric decay that generated the helium within these zircon crystals had to have happened within the last 6000 +/-2000 years. There is no known mechanism which could
have forced the helium to remain within these rocks for a longer period of time.

So here is the great mystery: One clock is based on the decay of one parent isotope uranium-238 into two daughter products, lead-206 and helium. The other clock is based on the rate that the helium produced from the decay diffuses through the mineral zircon. Since helium is therefore tightly coupled to the $\mathrm{U}-238$ to $\mathrm{Pb}-206$ decay process, nobody expected to find much helium in the rock believed to be 1.5 billion years old. However, the high concentrations of helium in the zircons show that the helium production time period must have been short and the nuclear decay process must therefore have been greatly accelerated. This would also explain why there just simply is not enough radioactively produced helium in the atmosphere to account for billions of years of decay.

## Helium in the Atmosphere

Some of the helium produced from the U-238 - Pb-206 decay process enters the atmosphere from the Earth's crust. It quickly rises through the lower atmosphere like letting go of a helium-filled party balloon. The estimated rate is $2,000,000$ atoms $/ \mathrm{cm}^{2} / \mathrm{second}$. But forces such as gravity, escape velocity, and changes in temperature and density in the upper atmosphere significantly reduce the rate that helium atoms can escape into outer space. The amount of helium that escapes into outer space is estimated to be only 50,000 atoms $/ \mathrm{cm}^{2} /$ second. If the Earth's atmosphere had zero helium when it was formed, then today's measured amount of $1.1 \times 10^{20}$ atoms $/ \mathrm{cm}^{2}$ would have been produced in just 2 million years. ${ }^{69}$ This is about 500 times younger than the secular age of most granitic rocks, and more than 2,000 times younger than the evolutionary age of the Earth.

## Brand New Rocks Give Old "Ages"

There is now a great abundance of evidence in the science literature about rocks giving ages much older than they really are. Warnings go back to the late 1960s and 1970s, but most of the scientific community is still not paying attention. Radiogenic argon and helium contents of recent basalt lava erupted on the deep ocean floor from the Kilauea volcano in Hawaii were measured. Researchers calculated up to $22,000,000$ years for brand new rocks! ${ }^{70}$ The problem is common (see Table 6).

## Table 6: Young Volcanic Rocks with Really Old Whole-Rock K-Ar Model Ages ${ }^{71}$

| Lava Flow, Rock Type, <br> and Location | Year Formed or <br> Known Age | ${ }^{40}$ K-40 Ar "Age" |
| :--- | :--- | :--- |
| Kilauea Iki basalt, Hawaii | A.D. 1959 | $8,500,000$ years |
| Volcanic bomb, <br> Mt. Stromboli, Italy | A.D. 1963 | $2,400,000$ years |
| Mt. Etna basalt, Sicily | A.D. 1964 | 700,000 years |
| Medicine Lake Highlands <br> obsidian, Glass Mountains, <br> California | <500 years | $12,600,000$ years |
| Hualalai basalt, Hawaii | A.D. $1800-1801$ | $22,800,000$ years |
| Mt. St. Helens dacite lava dome, <br> Washington | A.D. 1986 | 350,000 years |

The oldest real age of these recent volcanic rocks is $<500$ years. But most are even much younger than this; people witnessed the molten lava solidify into rock just decades ago. In fact, many of these were only about 10 years old or
less when tested. And yet ${ }^{40} \mathrm{~K}-{ }^{40} \mathrm{Ar}$ dating gives ages from 350,000 to $>22,800,000$ years.

Potassium-Argon ( $\left.{ }^{40} \mathrm{~K}-{ }^{40} \mathrm{Ar}\right)$ has been the most widespread method of radioactive age-dating for the Phanerozoic rocks, where most of the fossils are. The initial condition assumption is that there was no radiogenic argon ( ${ }^{40} \mathrm{Ar}$ ) present when the igneous rock formed. But just like the helium problem, there is too much $\left({ }^{40} \mathrm{Ar}\right)$ present in recent lava flows, so the method gives excessively old ages for recently formed rocks. The argon amounts in these rocks indicate they are older than their known ages. Could the argon have come from a source other than radioactive potassium decay? If so, then geologists have been trusting a faulty method.

These wrong radioisotope ages violate the initial condition assumption of zero $(0 \%)$ radioactive argon present when the rock formed. Furthermore, there was insufficient time since cooling for measurable amounts of ${ }^{40} \mathrm{Ar}$ to have accumulated in the rock, due to the slow radioactive decay of ${ }^{40} \mathrm{~K}$. Therefore, radiogenic Argon $\left({ }^{40} \mathrm{Ar}\right)$ was already present in the rocks as they formed.

Radiometric age dating should no longer be sold to the public as providing reliable absolute ages. Excess argon invalidates the initial condition assumption for potassium dating, and excess helium invalidates the closed-system assumption for uranium dating. The ages shown on the uniformitarian geologic time scale should be removed.

## Coal Deposits Are Young

Carbon dating is used for organic materials such as wood, bone, and other materials that contain carbon, not inorganic rocks. Radioactive carbon or carbon-14 $\left({ }^{14} \mathrm{C}\right)$ has been found in coal and other ancient materials deep in the geologic record. Given the short ${ }^{14} \mathrm{C}$ half-life of 5,730 years, organic
materials purportedly older than 100,000 years (nearly 18 half-lives) should contain absolutely no detectable ${ }^{14}$ C. ${ }^{72}$

Recall that the way scientists use radioisotope dating is by first measuring the ratio of radioactive parent versus stable versions of an element. Carbon dating works a bit differently, instead basing an age calculation on the ratio of radioactive carbon $\left({ }^{14} \mathrm{C}\right)$ to normal carbon $\left({ }^{12} \mathrm{C}\right)$. Carbon-14 decays to nitrogen, not carbon. Using a formula that compares that ratio, called the "percent modern carbon" or "pMC" in a sample to a standard modern pMC ratio, scientists calculate carbon ages for carbon-containing materials.

Astonishing discoveries over the past 30 years come from highly sensitive Accelerator Mass Spectrometer (AMS) methods used to test organic samples show measurable amounts of ${ }^{14} \mathrm{C}$ from every portion of the fossil-bearing rock layers all around North America (see Table 7).

Table 7: Carbon in Coal Deposits ${ }^{73}$

| Coal Seam <br> Name | Location | Geologic <br> Interval of <br> Deposition | ${ }^{14} \mathbf{C} / \mathbf{C}$ <br> $(\mathbf{p M C})$ |
| :--- | :--- | :--- | :---: |
| Bottom | Freestone County, TX | Eocene | 0.30 |
| Beulah | Mercer County, ND | Eocene | 0.20 |
| Pust | Richland County, MT | Eocene | 0.27 |
| Lower Sunnyside | Carbon County, UT | Cretaceous | 0.35 |
| Blind Canyon | Emery County, UT | Cretaceous | 0.10 |
| Green | Navajo County, AZ | Cretaceous | 0.18 |
| Kentucky \#9 | Union County, KY | Pennsylvanian | 0.46 |
| Lykens Valley \#2 | Columbia County, PA | Pennsylvanian | 0.13 |
| Pittsburgh | Washington County, PA | Pennsylvanian | 0.19 |
| Illinois \#6 | Macoupin County, IL | Pennsylvanian | 0.29 |

The percentage of modern carbon (pMC) ranges (0.10-0.46) in the coal seams corresponds to radiocarbon ages roughly from 40,000 to 60,000 carbon years. But the conventional interval from the bottom of the Pennsylvanian layers to the top of the Eocene layers spans many millions of years, from $318,000,000$ to $34,000,000$ years. So which age are we supposed to believe, that coal is hundreds of millions, tens of millions, or only tens of thousands of years old? Maybe all are wrong.

Furthermore, ${ }^{14} \mathrm{C} / \mathrm{C}$ ratios have about the same average amount of pMC regardless of the supposed geologic ages assigned to them. For Pennsylvanian coal, the average is 0.27 ; for Cretaceous coal, the average is 0.21 ; and for Eocene coal, the average is 0.26 . These all show about the same pMC. What might this consistency indicate? It looks like the plant debris that eventually became coal was uprooted or died at about the same time. There is no doubt that the tectonic upheaval that occurred during Noah's Flood did this when the fountains of the great deep ruptured according to Genesis 7:11. The dead plant debris then floated and sank at different weeks during the Flood and in some number of years afterwards as geologic processes of the Earth steadily stabilized. As a result of this cataclysmic Flood, continuous deposition of huge amounts of sediments compressed the plant debris into coal seams in various stratigraphic levels.

Not only have scientists discovered young-looking, still radioactive carbon in coal, but also in fossils including wood, amber, dinosaur bones, and other Earth materials like the one we discuss next.

## Diamonds Are Forever Young

Equally as remarkable as radioactive carbon in coal is the presence of ${ }^{14} \mathrm{C}$ in diamonds. Diamonds are almost purely carbon. These gorgeous crystals and the mineral
inclusions trapped inside them when growing give evidence they formed at great depths. Based on the types of mineral inclusions, diamonds now sampled and mined at or near the Earth's surface originated under extreme temperatures and pressures deep within the Earth, at depths from around 200 km to over 1000 km . ${ }^{74}$

Recently, diamonds were discovered that contain isotopically light organic carbon. This means that the carbon originated by photosynthesis on the Earth's surface. The organic carbon from some living things (maybe algae?) that died ended up on the ocean floor, and was then subducted along with oceanic crust deep into the mantle. The authors of one technical study wrote that "subducted organic carbon can retain its isotopic signature even into the lower mantle." ${ }^{75}$ They estimate that the diamonds formed at a depth of about 1000 km ( 600 miles) or so based on mineral inclusions within them.

Table 8: Carbon in Diamonds from Kimberlite Pipes ${ }^{76}$

| Kimberlite <br> Pipe | Location | Geologic Interval <br> of Eruption | ${ }^{14} \mathbf{C / C}$ <br> $(\mathbf{p M C})$ |
| :--- | :--- | :--- | :---: |
| Kimberley-1 | Kimberley, <br> South Africa | Cretaceous | 0.02 |
| Orapa-A | Orapa mine, <br> Botswana, Africa | Cretaceous | 0.01 |
| Orapa-F | Orapa mine, <br> Botswana, Africa | Cretaceous | 0.03 |
| Letlhakane-1 | Letlhakane mine, <br> Botswana, Africa | Cretaceous | 0.04 |
| Letlhakane-3 | Letlhakane mine, <br> Botswana, Africa | Cretaceous | 0.07 |

Then, mainly during the Cretaceous interval during the Flood, explosive eruptions all around the world brought the diamonds up from these great deep places back to the Earth's surface, where they are now found in unique igneous structures called kimberlite pipes. Even some jewelry television commercials assert the whole process takes about a billion years or so. But like coal, there should not be any detectable carbon-14, if diamonds are really that old.

And yet, diamonds from five different mines in Africa were studied (Table 8). The diamonds contain measurable radioactive carbon-14 with an average of $0.03-0.04 \mathrm{pMC}$, which equates to roughly 65,000 radiocarbon years. ${ }^{77}$ These diamonds were supposed to have formed long before the Cretaceous eruption, supposedly $145,500,000$ years ago. The 65,000 -year time period is a tiny fraction of time compared to the imaginary inflated age of $145,500,000$ years. Radioactive carbon in pre-Cretaceous diamonds clearly refutes the mil-lions-of-years age assignment for Cretaceous materials as well as the supposed billion years to make diamonds.

## Fresh Meat in Old Rocks

Recent discoveries of fresh tissues within fossils all around the world are quite surprising to paleontologists who assume that Earth's strata formed over millions of years of deposition. If the rock layers are really millions of years old, then fresh proteins, DNA, and cell tissue should no longer exist.

In the Yunnan Province, China, researchers discovered protein in sauropod dinosaur embryos found in fossil eggs supposedly $190,000,000$ years old. These proteins don't even last one million years. The presence of apatite, the mineral component that vertebrate animals and man manufacture into bone, found interwoven with embryonic bone
tissue proves that the protein originated from organic matter directly from the dinosaurs. ${ }^{78}$

Exceptionally preserved sauropod eggshells discovered in Upper Cretaceous deposits in Patagonia, Argentina, contain young-looking tissues of embryonic titanosaurid dinosaurs. Since these original dinosaur proteins decay very rapidly, the scientists involved in the study imagined that "virtually instantaneous mineralization of soft tissues" (mineralization occurs when the bone material is replaced by minerals from the soil) somehow preserved them for millions of years. ${ }^{79}$ But repeated lab studies show that even mineralized proteins don't last longer than hundreds of thousands of years. Mineralization may have been rapid enough to retain fragments of original biomolecules in these specimens. Retaining is reasonable, but calling upon mineralization to preserve proteins for millions of years is unscientific. Their results demonstrate that organic compounds and other biological structures still look similar to those found in modern eggshells, showing that perhaps only thousands of years have elapsed since the dinosaur eggs were catastrophically buried by flood sediments.

In addition to these two examples, dozens of discoveries have been reported in several scientific journals, primarily from the 1990s to the present. Here are a few of the incredible fresh finds along with their conventional ages in millions of years (MY):

- Salamander muscle, 18 MY
- Intact soft Frog with bloody bone marrow, 10MY
- Ichthyosaur skin, 190MY
- Hadrosaur blood vessels, 80MY
- Archaeopteryx feather proteins, 150MY
- Mosasaur blood protein fragments, $>65 \mathrm{MY}$
- Penguin feathers, 36MY
- Scorpion shell including shell protein, 240MY
- Psittacosaurus skin, 125 MY
- DNA from Hadrosaur bone cell nuclei, 65MY
- Lizard tail skin proteins, 40MY
- Type I collagen proteins (and whole connective tissues including elastin and laminin) from Tyrannosaurus Rex and Hadrosaur dinosaurs ${ }^{80}$

Think about this list for a moment. The idea that a frog, still soft with still-bloody-red colored bone marrow is $10,000,000$ years old is preposterous. First of all, just to preserve soft body parts requires rapid burial. But even when buried in sediments, can fresh meat such as a soft frog, skin, proteins, blood, muscle tissue, and DNA really last for millions of years? Almost all the relevant laboratory decay studies demonstrate otherwise. The truth is that proteins, even locked inside bone tissue, have a maximum shelf life between 200,000 to 700,000 years in an optimal burial environment, and DNA molecules in bone are estimated to be undetectable after about 10,000 years. ${ }^{81}$ Genuine, original body molecules and tissues show that fossils are maybe thousands, but not millions of years old. Can you find any of this scientific data in your biology textbook?

## The Young Ocean

Evolutionists believe the ocean to be $3,000,000,000$ years-that's 3 billion years-old. But the sodium ( $\mathrm{Na}+$ ) content of the ocean has been increasing. The processes which add and remove dissolved sodium to and from the seawater of the ocean have been well known for many decades (Table 9). Scientists can use this data to estimate maximum age ranges for oceans.

Table 9: Present Day Sodium Inputs and Outputs of Sodium to/from the Oceans ${ }^{82}$

| Sodium (Na+) Added to <br> the Ocean |  | Sodium (Na+) Removed <br> from Ocean |  |
| :--- | :---: | :--- | :---: |
| Process | Amount <br> $\mathbf{x ~ 1 0 ^ { 1 0 }} \mathbf{k g} /$ <br> year | Process | Amount <br> $\mathbf{x 1 0} \mathbf{1 0}^{\mathbf{1 0}} \mathbf{k g} /$ year |
| Rivers | 19.2 | Sea Spray | 6.0 |
| Ocean Sediments | 11.5 | Cation Exchange | 3.5 |
| Groundwater from <br> Continents | 9.6 | Burial of Pore <br> Water in Sea Floor <br> Sediments | 2.2 |
| Glacial Activity | 4.0 | Alteration of Basalt | 0.44 |
| Sea Floor Vents | 1.1 | Zeolite formation | 0.08 |
| Atmosphere, <br> Volcanism, Marine <br> Coastal Erosion | 0.3 | Halite Deposition | $<0.004$ |
| Total Input Rate | $\mathbf{4 5 . 7}$ | Total Output Rate | $\mathbf{1 2 . 2}$ |

Only about $1 / 4(12.2 / 45.7)$ of the present amount of sodium added to the ocean can be accounted for by known removal processes. This indicates that the sodium concentration of the ocean is not in equilibrium, but continues to increase. The increase in sodium is Input minus Output or $45.7-12.2=33.5 \times 10^{10} \mathrm{~kg} /$ year (Table 9). There is no way that this much added salt can be reconciled with a 3-billion-year-old ocean. The enormous imbalance shows that the ocean should contain much more salt if the ocean is really that old.

In 1990 , the total amount of sodium in the ocean was estimated at $1.47 \times 10^{19} \mathrm{Kg}$. The present-day increase of sodium to the oceans is $3.35 \times 10^{11} \mathrm{~kg} / \mathrm{year}$ (same as 33.5 x $10^{10}$ in above paragraph). If we begin with zero sodium-an ocean of pure fresh water-then the time to fill the ocean with sodium is $1.47 \times 10^{19} / 3.35 \times 10^{11} \mathrm{~kg} /$ year $=43,880,597$ years or about 44 million years. This can be stretched to a maximum age of 62 million years when reduced input rates and maximum output rates are used.

But this does not mean the ocean is 44 to 62 million years old. The ocean must be much younger than this, since most ocean creatures need at least a little salt in their environment. Remember, the maximum age of 62 million years assumes that the ocean started as fresh water with $0 \%$ sodium and with no global catastrophic additions of sodium. Obviously, the original ocean contained a certain amount of sodium, making it far younger.

Just like sodium, rivers carry most of the sediments eroded from the continents into the ocean basins. The worldwide average depth of all the sediments on the seafloor is less than 1200 feet. More than $24,000,000,000$ metric tons is dumped into the oceans each year. Only $1,000,000,000$ tons of these deposits are dragged below the crust by tectonic plate subduction each year, which equates to $23,000,000,000$ metric tons that accumulate on the seafloor. At this present rate, all these sediments would accumulate in only about $12,000,000$ years into an empty ocean..$^{83}$

Since the ocean is not likely to have begun as pure fresh water, the maximum age of $62,000,000$ years based on salt content has been reduced to $12,000,000$ years based on sediment input. But $12,000,000$ years represents a maximum age limit because this assumes a completely empty ocean at the start and is based on present rates of deposition from the rivers.

In the biblical creation model, perhaps most of the sodium was added to the ocean by rapid geologic processes during creation, to support the marine life in the first place. God created the oceans on Day 3 to be inhabited on Day 5. Later, Noah's Flood rapidly dumped who knows how much salt and sediment from its reworked continents into the ocean.

All the world's ocean floors look very young. They most likely resulted from catastrophic plate tectonic activity during the Flood. ${ }^{84}$ When the floodwaters rapidly drained off emerging continents, the erosion and sedimentation rates into the oceans would have been exponentially greater than the present rate of accumulation. This is because the enormous ocean itself was receding off the continents at first. The volume of water and sediments carried back to the oceans was drastically higher during this receding process. In addition, perhaps more than a dozen "megafloods," like the one that carved the English Channel and another that carved Washington State's Snake River basin, catastrophically drained to quickly add more sediment during the post-Flood Ice Age. These events elevated sea level by 300 or so feet worldwide as tremendous ice sheets and glaciers melted over several centuries. Eventually it gave way to the lower amount of river sedimentation observed today. Thus, the best interpretation is that all the sediments on the ocean floor accumulated in just a few to several thousand years ago, since the Flood.

## Summary of Young Earth Evidence

Why don't standard school textbooks include these solid scientific reasons and observations that refute conventional age assignments? Perhaps some scientists ignore the evidence for recent creation not because it's unscientific, but because they are simply unwilling to admit they are wrong, or unwilling to face the idea that there really hasn't been
enough time for evolution to have occurred. There are other reasons, but they are all poor excuses for excluding these many solid reasons for a recent creation.

Interpretation of radiometric age dating by many in the scientific community has drastically inflated the age of the Earth. Old radioisotope ages assigned to newly formed rocks diminishes those techniques' reliability as "age" indicators. If it cannot be trusted for young rocks, then how can it be trusted for ones that are supposedly old? Two minerals, zircon and diamonds, are about as close to a closed system as we can imagine. And yet, zircon crystals contain too much helium, and the atmosphere does not have enough to support the idea of an Earth that is billions or even millions of years old. Measurable amounts of carbon-14 in diamonds demonstrate that the Earth is only thousands of years old. Carbon-14 in coal of supposedly different ages indicates that the plant debris really lived in the same time period-what biblical creationists call the pre-Flood age. This is further demonstrated by the fact that the coals not only were sampled from different stratigraphic levels but also from widely separated locations. The consistency of the data and care with which they were acquired rule out contamination as an excuse for their young (relative to millions of years) carbon ages.

The carbon-14 ages of 40,000 to 65,000 years for coal seem to be very accurate and are much closer to the biblical age. But the Earth can even be younger than this. Fossils and fossil fuels demonstrate that the original Earth at the time of creation contained many more living things than today. The Flood and its aftereffects buried much of it. This large biomass - the total contribution of life to Earth's mass - is estimated to have been about 100 times greater than the total biosphere of living plants and animals today. This would have caused a much lower percent modern carbon ( pMC ) ratio of ${ }^{14} \mathrm{C} / \mathrm{C}$, allowing us to reduce the calculated carbon
ages to just several thousand years, which is more consistent with Scripture. ${ }^{85}$

This young age for the Earth matches quite well with the produced helium within the zircon crystals forming in about 6,000 years and the destruction of DNA within 10,000 years, which has even been found in dinosaur bones. These ages also match well with the recorded histories of mankind, the population growth rate of mankind which calculates to only a few thousand years, and the chronology in the Bible.

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