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THE VALIDITY OF CARBON - 14 DATING

By the Ambassador College Geology Department

Until recently archeologists have had no practical scientific method for establishing an age in years for human or mammalian remains. Assigned dates were mainly guesswork based on the amount of time an evolutionist assumed would be needed for these highly complex creatures to evolve. The last "ice age," the Wisconsin Glaciation, was supposed to have begun 150,000 years ago. Now Carbon-14 dating has slashed that beginning to a mere 25,000 years! Moving glaciers are placed in Wisconsin as recent as 11,000 years ago. This article shows the real significance of this latest means of "estimating" time and points out both the scientific and historical basis for a further drastic shortening of even these radiocarbon dates. The mainstay of evolution, eons of time, is being rapidly eroded away.

"Evolution is now an integral part of all general education and culture. To suppose that it may someday be abandoned is to live in intellectual barbarism" -- insists evolutionary writer Henshaw Ward. One quick way to lose the intellectual respect of today's society is to merely hint at questioning the validity of evolution. The modern mind treasures the evolutionary concept above all.

Thousands today find themselves in the dilemma of wanting to accept the Bible as the inspired Word of God, but are faced with an almost universal acceptance of the dogma of evolution. They are disconcerted by the so-called evidence which, the evolutionists purport, turns the Bible into fable. The evolutionist's latest line of "proof" lies in citing radiocarbon dating as evidence that man is older than the mere 6000 years allowed by Scripture.

How accurate is radiocarbon dating? Does it really discredit the Genesis Chronology of man's beginning? Shall we accept the view held by many modern theologians as well as scientists relegating God's account of creation to the

realm of Babylonian mythology? Can we be certain?

We can be certain of this much: The doctrine of evolution and the Word of God cannot be reconciled -- weak-kneed, quavering apologists not-withstanding. To dispel any doubt of this fact, note what one of the world's leading spokesmen for modern evolutionary thought has to say. This noteworthy individual, George Gaylord Simpson, eminent paleontologist wrote in the April 1, 1960 issue of Science: "Preception of the truth of evolution was an enormous stride from superstition to a raticnal universe."

Simpson referred to the ignorant beliefs and practices of uncivilized people as being "the lower superstition." Then he goes on to say: "It is nevertheless superior in some respects to the higher superstition celebrated weekly in every hamlet of the United States."

Commenting on the purpose of life, a subject on which the Bible also has something to say, Mr. Simpson ventures:

> "There has been disagreement and indeed confusion through the ages regarding to whom and for what man is responsible. The lower and higher superstitions have produced their several answers. In the post-Darwinian world another answer seems fairly clear: Man is responsible to himself and for himself" (emphasis ours). "A world in which man must rely on himself, in which he is not the darling of the gods but only another albeit extraordinary, aspect of nature, is by no means congenial to the immature or wishful thinkers."

Here we have the testimony of one of evolution's greats. Anyone wanting to know the real truth of man's responsibility is invited to write for the booklet "Why Were You Born?" Evolutionists certainly lack the answer.

The Rapid Rise of Evolutionary Concepts

Evolutionary theories have been extant since the days of Plato. Yet they found no popular acceptance until Darwin came on the scene. Even the greatest scientists of the Renaissance -- Newton, Da Vinci, Kepler, Galileo, and Descartes believed in a Supreme Ruler of the universe. What led to today's confusion?

It was during this period of the 16th, 17th and 18th centuries that the groundwork was laid for the later mass acceptance of the doctrine of evolution. This groundwork was laid, surprising as it may seem, not by science but by false religious leaders who had set themselves up as the official interpreters of Scripture.

Individual Bible study was often rewarded with a burning stake. Many persons were put to death for even privately owning Bibles. These self-ordained expositors set forth their own theological ideas, based on their own human carnal reasoning and dogmatic traditions, instead of revealing the true teaching of the Bible. A reprint article "Who Should God's Ministers Be?" is available to clarify the true roll of these false teachers.

When evidence of geology, astronomy, or physics came to light that tended to contradict the religious dogmas of that day, the masses looked to the Pope and hierarchy of the Roman church as the final authority -- not to the Bile! The common people merely assumed that these and later Protestant religious leaders had based their conclusions and explanations solely on the Bible! Rather than search out truth religious leaders answered seriously posed questions with vain human reasoning -- backed-up by the bludgeoning cudgel of the Inquisition.

Some Typical Examples

To see this bigotry at its finest, take the example of Galileo. At the turn of the 17th century he had just finished some very important astronomical observations disproving the commonly held belief that the earth was the center of the universe. Galileo's work furnished the proof needed for the earlier Copernican Theory that the earth revolves around the sun and that the sun is the center of our solar system. Leaders of the Catholic Church declared his discoveries deceptions and his announcements blasphemy. He was declared a fool for even saying that the moon shines by reflected light.

An earlier professor Giordano Bruno (George Brown) had ably taught these same concepts, which are known today to be true. Bruno was betrayed to the Inquisition, imprisoned for seven years and tortured. He remained true to his beliefs and on February 17, 1600 was publically burned at the stake.

Galileo had access to Bruno's writings. Now it was Galileo's turn to face the same accusers. The ensuing struggle to crush Galileo involved an entire retinue of exasperated, vindictive priests, bishops, archbishops, and cardinals not to mention the two popes in the center of it all, Paul V and Urban VIII. Pope Paul solemnly rendered a decree that "the doctrine of the double motion of the earth about its axis and about the sun is false, and entirely contrary to Holy Scripture". Later Pope Urban, the most bitter of Galileo's attackers, declared that the Holy Scripture specifically declares that the sun and heavenly bodies revolve about the earth and to say otherwise is simply to dispute revelation.

Brought before the Inquisition, now 70 years old, Galileo was repeatedly menaced with the threat of torture and imprisonment by the express order of Pope Urban. This is thoroughly established from the trial documents themselves, which show that the Inquisition placed the whole responsibility of this matter on the papal authority itself. After imprisonment and other threats, he was at last forced to publicly pronounce his recantation on his knees. Spared from death by being forced to swear his teachings and beliefs false, Galileo later developed cataracts on his eyes. Seven years later he was totally blind.

A Pre-Adamic World?

Questions were asked by honest inquirers about fossils and rock strata wondering if these were the remains of a possible pre-Adamic creation (which

Genesis 1:1 actually describes; see the reprinted PLAIN TRUTH article "Did God Create a Devil?"). They met a similar reception and a number received treatment not altogether unlike that of Galileo. Such puerile explanations as the following were given: Fossils are really only the product of some "stone-making force", or some "formative quality," or as some said they "grew from seed."

The Aristolian doctrine of spontaneous generation was constantly used to prove that these stony fossils possessed powers of reproduction like plants and animals! Others explained that fossils were the product of "fatty matter set into fermentation by heat"; or of a "tumultuous movement of terrestrial exhalations" -- whatever that might mean.

Honest inquiry was informed that the "scientific doctrine" that fossils represent animals which died before Adam" contradicted the theological doctrine of "Adam's fall". Since a great superstructure of dogma was built on the concept of a great "fall of man" it would have been devastating to admit anything that would tend to weaken or upset these traditions. The Roman church was determined that she was to decide what was truth. No one was to have the right to question her decisions.

As a consequence these early scientists tacitly rejected the Bible without bothering to look into it for themselves, a trend which continues even today. From this time forward evolutionary ideas began to take root and flourish. Darwin came on the scene in the early 1800's and found a ready-made following. This brings us to the current chapter of man's struggle to be freed from deception.

Modern Scientific Thought

Until recently science has had no concrete means of establishing its evolutionary myth -- that man is much older than 6000 years. However, since 1945 has come the development of radiocarbon dating. This method is claimed to be practically free from error, foolproof -- and it is the only "absolute" dating method available for human fossils. Other methods such as superposition, associated plant and animal remains or human artifacts will give "relative" dating and allow a historical sequence to be established. But the Carbon-14 method has been calibrated to read an "age" in years!

Modern science, having thrown off all religious shackles, acclaimed radiocarbon dating as "one of the most outstanding scientific achievements of the decade." Here at last, it was felt, is the long sought means by which man and his cultural remains of the past "30,000 to 40,000" years can be dated. The Biblical date of 4004 B.C. of Bishop Usher, has indeed met a formidable opponent. Let us examine this "foolproof" radiocarbon method in detail, and see if the exalted claims made for it are justified.

The Principles Behind Radiocarbon Dating

The earth, viewed by an observer far out in space, would appear as a huge sphere submerged in an ocean of atmospheric gases. As it hurtles through space on its course around the sun, it is constantly being bombarded by cosmic rays. Upon entering the earth's gaseous envelope, these rays undergo various transformations, one of which results in the release of

neutrons which are absorbed by the nitrogen of the atmosphere to form a radioactive product Carbon-14. Ordinary carbon has an atomic weight of 12 and is very stable. This newly formed Carbon-14, on the other hand, is radioactive, giving off this acquired energy according to a definite time pattern, finally returning to its original form of nitrogen.

Disintegration of Carbon-14 takes place at a rate such that after about 5568 years, only half of the original quantity will remain. In another 5568 years the original amount of Carbon-14 would have dropped to one quarter, then to an eighth, then a sixteenth.

Newly produced Carbon-14 reacts with atmospheric oxygen to become radioactive carbon dioxide, which is distributed over the world. This carbon dioxide is taken from the air by plants and converted to carbohydrates by the process of photosynthesis. Animals feed on these plants and build tissue from the carbohydrates of the plant kingdom. This same carbon also becomes a part of man as he eats either plant or animal life. Thus the carbon in the atmosphere (both Carbon-12 and radioactive Carbon-14) becomes a part of all living tissue.

All living organisms continue to take in carbon as a result of being a part of this carbon cycle. A certain small percentage is Carbon-14. The relative abundance of these two carbon isotopes in the carbon cycle is determined by the ratio in the air. So long as the plant or animal is alive this ratio remains unchanged. However, as soon as the organism dies this ratio changes as the Carbon-14 portion slowly begins to diminish as the result of radioactive disintegration. Therefore by determining the remaining ratio of Carbon-14 to Carbon-12 in a sample of unknown age, it is possible to assign an age in years based on this radioactive "clock". This is the principle on which radiocarbon dating is based. But what is its accuracy?

Carbon-14 Dating's Loopholes

What has been described here has been a simplified picture. When we begin to face reality, many complications arise necessitating numerous assumptions in order to arrive at "acceptable" radiocarbon dates.

In order for radiocarbon dating to be of any value, it is absolutely essential that the amount of Carbon-14 available in the atmosphere of the past be the same as that today (or that any past change be known and carefully measured). But the amount available at any given time in the past must be ASSUMED! This assumption is merely the product of guesswork based on Lyell's principle of uniformitarianism -- which states that all the natural processes of the past are the same as those today.

That there has been a constant amount of available atmospheric Carbon-14 for the past cannot be proven. On the contrary, it can be easily demonstrated that there has not been a uniform supply available to plant and animal life.

Keep in mind this important fact: Unless there has been a uniform and known supply of Carbon-14 available to all living organisms of the past, radiocarbon dating is UNRELIABLE -- despite the many plaudits ascribed to it. In what ways can it have varied?

We have discussed only the availability of Carbon-14 in the atmosphere through the medium of carbon dioxide. However, surprising as it may seem, the bulk of Carbon-14 is stored in the sea. There is continual interchange between the carbon dioxide of the air and that dissolved in the sea. The balance shifts one way or the other depending on the volume, temperature and acidity of the ocean waters. If even so much as one of these three factors varies, the ratio of Carbon-14 available to plant and animal life might vary accordingly, making the dating method inaccurate to that same degree, since the method assumes that there has been no such variation. It is merely assumed no variation. It has not been proven.

Facts or Assumptions?

The reliability of Carbon-14 dating rests on a second assumption of a constant rate of Carbon-14 production over the past milleniums. This necessitates, first of all, a constancy in cosmic-ray production. If the intensity of cosmic radiation has varied for any length of time, then Carbon-14 production has similarly varied. Therefore, in order for radiocarbon dating to stand up under critical scrutiny it is necessary for its proponents to prove their claim of a constancy in cosmic radiation intensity. Is this claim justified on the basis of fact or is it merely fancy?

Notice the statement occuring on page 350 of Faul's authoritative work Nuclear Geology: "So far there is no proof independent of this method, that the cosmic-ray intensity has remained constant, and, however reasonable it may be, we must rank this as pure assumption" (emphasis ours).

It is a well established fact that the amount of cosmic radiation entering the earth's atmosphere is governed by the strength of the earth's magnetic field. The stronger the field the less the cosmic radiation. The lower the intensity of cosmic radiation; the lower the amount of Carbon-14 produced. The less Carbon-14, the older the apparent date and the greater the error of a dated sample.

Magnetic Field Variations

The February 1957 issue of Scientific American and the December 1, 1956 issue of Nature report the results of the studies of three American Geophysicists, showing that, based on magnetic field research in France, Carbon-14 production in the past has been markedly less than the present rate. Samples dated by the radiocarbon method thus appear much older than they actually should be!

Their studies showed that the total intensity of the magnetic field had dropped 65 percent during the past two thousand years. At this rate an object "dated" as five thousand years would be one thousand years younger than indicated. And this does not include other possible variations. In the research done, data was only available for the past two thousand years; taken further back only speculation could determine how much greater the error might be. Indeed Biblical chronology, the inspired record provided as the foundation for man's research, proves that it has been much greater. This comparatively recent science of paleomagnetism proves that the magnetic field has been anything but stable!

Evidence thus indicates that there has been much less "available" Carbon-14 in the past. Therefore, the older the specimen, the "older" it appears in relation to what its true age should be. For the moment, however, let us examine the implications of these Carbon-14 dates. Will they lend support to the beloved and cherished uniformitarianism principle of Lyell and to the doctrine of evolution?

The Downfall of Uniformitarianism

Long periods of time are assumed to be involved in the ice-ages of Pleistocene Geology, but are based entirely on this principle of uniformity. Heretofore the only means of checking the veracity of these assumed long ages was by counting clay varves and assuming gaps of thousands of years in these annual sedimentary lake deposits. Now with the advent of radiocarbon dating, means have become available for re-evaluating these long held theories.

Until 1951, it was the considered opinion of most geologists that the last "ice age" in North America, referred to as the Wisconsin Glaciation, began about 150,000 years ago and ended about 30,000 years ago. Estimates were supported by the careful counting of clay varves (and liberal estimating of "missing" thousands of varves) and by numerous supposedly reliable estimates of the age of Niagara Falls based on its rate of retreat. Pleistocene Geologists feel that the ice ages in North America and Europe were simultaneous.

On this basis the Wisconsin Glaciation in North America is considered to be the equivalent of the Würm Glaciation and its preceding interglacial period in Europe. The Cro-Magnon and Neanderthal Men are assumed to have lived during this period of the Pleistocene, according to the reckoning of LeGros Clark, Movius, Oakley and Zeuner. Here would be an excellent opportunity for Carbon-14 dating to establish both the antiquity of fossil man and the Pleistocene Glaciation.

Tests were made and the results are in. These results indicate that the beginning of the Wisconsin ice age should be moved up from 150,000 years ago to a mere 25,000 years ago. Tests also indicated that the ice was still advancing in Wisconsin as late as 11,000 years ago. These dates require the Wisconsin glacier ice front to have moved at a rate of over two thousand feet per year. This rate is from two to nine times greater than the rate indicated by varves and annual moraines. Uniformitarianism assumed for the Carbon-14 method has led to violence in glacial movement. A correctly calibrated Carbon-14 time scale based on paleomagnetism would unveil catastrophic glacial advances and climatic changes!

The problem is discussed by Mr. Leland Horberg in an article "Radiocarbon Dates and Pleistocene Geological Problems of the Mississippi Valley Region" appearing in the Journal of Geology, Volume 63, No. 3 (May 1955). Mr. Horberg states, "Probably only time and the progress of future studies can tell whether we cling too tenaciously to the uniformitarianism principle in our unwillingness to accept fully the rapid glacier fluctuations evidenced by radiocarbon dating."

Relation to the Age of Man and the Flood

If the Wisconsin is moved up then Würm should also be moved, since they were contemporaneous. This puts fossil man within the range of 25,000 years of recent time. When we couple this with the fact that radiocarbon dates appear much older than they actually are, we can readily see that many events of the recent geological past have occurred within the past few thousand years. The eons of time for mammalian life "to evolve" have vanished.

Much of this recent evidence, along with that which has been already understood, points more and more to some great catastrophic event in the earth's recent past, bearing out the universal Deluge described in Genesis. If modern scientists would properly evaluate the available evidence, without being biased by their preconceived notions, they would be forced to come to the recognition of a recent universal destruction by water and ice. The Pleistocene "Age" when Cro-Magnon and Neanderthal are assumed to have lived then becomes the catastrophy in which they were buried.

The following quotations from a recent book (Fossil Man by Boule & Vallois) written by the present and the preceding Director of the French Institute of Human Paleontology illustrates the problem facing archeologists. It begins describing the deposits containing the most recent human and animal remains -- the Reindeer Age (obviously post-Flood).

> "The bones they contain are barely fossilized; nearly all of them belong to animals or men in every way similar to their modern representatives. But when we go back as far as the Mousterian Period (deposits containing Neanderthal and Cro-Magnon men) we observe many important changes. Here every thing bears witness to a different topography, brought about by physical forces of which impressive traces are everywhere visible: the demolition of mountain regions, the accumulation of moraine deposits over thousands of square miles, the last stages of sculpturing of the valleys, and the formation of the lower alluvial terraces; enormous deposits of silt over the land surfaces, and of clays containing bones in subterranean caves; variations in the shore-line; orogenic movements; repeated volcanic manifestations and so on."

> "These physical phenomena are accompanied by appreciable changes in the fauna, particularly by the disappearance of several species of large mammals, whose bone-remains are more fossilized than those of the Reindeer Age.... Who can hope to have any accurate notion of the duration of this period?" (p.64, Fossil Men by Marcellin Boule and Henri V. Vallois, The Dryden Press, 1957.)

Yes, who can hope to know unless it is revealed by the Creator Himself? That the time element involved here was extremely short, is evidenced by the frozen remains of some of these extinct large mammals, the Siberian

Mammoths. These beasts were instantly frozen with food still in their mouths. That they lived in a temperate climate is clearly proven by the type of food found in their mouths and stomachs -- buttercups and moderate-climate grasses.

A sudden climatic revolution took place burying millions of animals in an "avalanche" of snow and ice. Paleontologists are admittedly unable to explain this evidence by "uniformitarian" principles.

The Value of Carbon-14 Dates

Radiocarbon dates fall into three general groups, those reaching back to approximately 710 B.C., which follow fairly close to established historical dates; a second group covering the time from 1000 B.C. back to Noah's Flood (2370 B.C.), which show marked disagreement and frequent irregularities even when compared with the generally accepted (but incorrect) Egyptian based chronologies; and a third group which covers the actual Flood deposits themselves. Pre-Adamic fossil deposits (normally labeled Paleozoic and Mesozoic) show no measureable Carbon-14. Upper Creteceous deposits generally belong with the Noachian disaster.

Consider each of these periods briefly in their proper chronological order. The earliest, covering the time of the Pre-Adamic destruction, was either at a time so remote that all Carbon-14 has now reverted to nitrogen, or else that reptilian world lived in an atmosphere that contained little or no Carbon-14. The giant size of some of these early creatures might be indicative of old age with little radioactivity to shorten life. Reptiles differ from mammals in that they continue to grow with age. They do not have a natural life span to limit their growth.

Next consider the world between Adam and Noah. Climate was warm even to the poles as was mentioned earlier with regard to the Siberian mammoth found frozen with buttercups in its mouth. Plentiful vegetation to support millions of mammoths and other mammals was available in this northern region. A sudden climatic change brought death to all. Since that bone chilling moment northern Siberia has continued a frozen wasteland!

Radiocarbon dates for the mammoths range around 18,000 years which might merely indicate a low ratio of Carbon-14 in the atmosphere giving these frozen beasts the appearance of extreme age. Instead of the present 15.3 disintegrations per minute from the Carbon-14 contained in a gram of modern carbon, the rate would have been in the neighborhood of 3 or 4 d/p/m. One-half life later in our present age the activity has dropped to $1\frac{1}{2}$ to 2 giving a deceptive age reading of 18,000 to 20,000 years. There is no scientific control, no index or guide available to calibrate the time scale unless you depend upon the historical account of the Flood itself. Science has merely assumed a uniform 15.3 d/p/m for all past time.

The Life Span Cut Short

It is interesting to note that one of the symptoms of slow radiation poisoning is a shortening of the normal life span. The near-thousand-year lifetime of the pre-Noachian patriarchs is suddenly cut in half, then diminishes slowly to the present three score and ten of the past three milleniums. The cause is not known but an increase in internal beta-radiation from the assimulation of food containing a higher portion of Carbon-14 could certainly be a prime contributing factor.

Note also the reduction in size of some of the mammals today compared with the same animal when found fossil. Climatic change certainly affected the food supply. Colder weather following the Flood favored the warm-blooded mammals in their competition with the reptilian world. Many were instilled with a fear of man and became ferocious and wild in nature. The giant men and animals from the pre-Flood era have vanished today. The causes are not yet fully determined.

An increase in radiation to all cells of the body, especially to the reproductive glands could easily explain this marked decrease in life span. At the same time it would explain why Carbon-14 dates since the Noachian Deluge bear a semblance to histcrical reality, while those from obvious Flood deposits are five, ten and fifteen thousand years out of the way.

For older radiocarbon date readings the obvious explanation is pollution of the sample with material from the pre-Adamic world which contained little or no Carbon-14. Extreme age reading are thus found for specimens which belong with the Flood deposit or to the early post-Flood era.

Blind Faith Versus Knowledge

When all factors are taken into consideration, it becomes increasingly plain that chronology based on the radiocarbon dating method, cannot be accepted as a substitute for God's chronology revealed in the Bible. A blind faith is required to believe the assumptions of evolutionary science infallible, but it is possible to prove the existance of the Creator and Author of the Bible and then know the veracity of His Word.

Further research is needed to determine quantitatively each of the errors of the Carbon-14 dating method. While it has placed evolutionists in a dilemma by taking away the hundreds of thousands of years they had assumed for the appearance of mammals, angiosperms (flowering plants), birds and man, yet its results are neither consistant nor trustworthy. In some cases the method is going to aid in correcting previously incorrect archeological time relationships; in others it has added immeasureably to the confusion.

Man apart from the revelation of God can only reason himself astray. Carbon-14 dating is not yet established as an exact science. When all its variations have been carefully searched and measured, it will be found to be in exact accord with the revealed chronology of Scripture.

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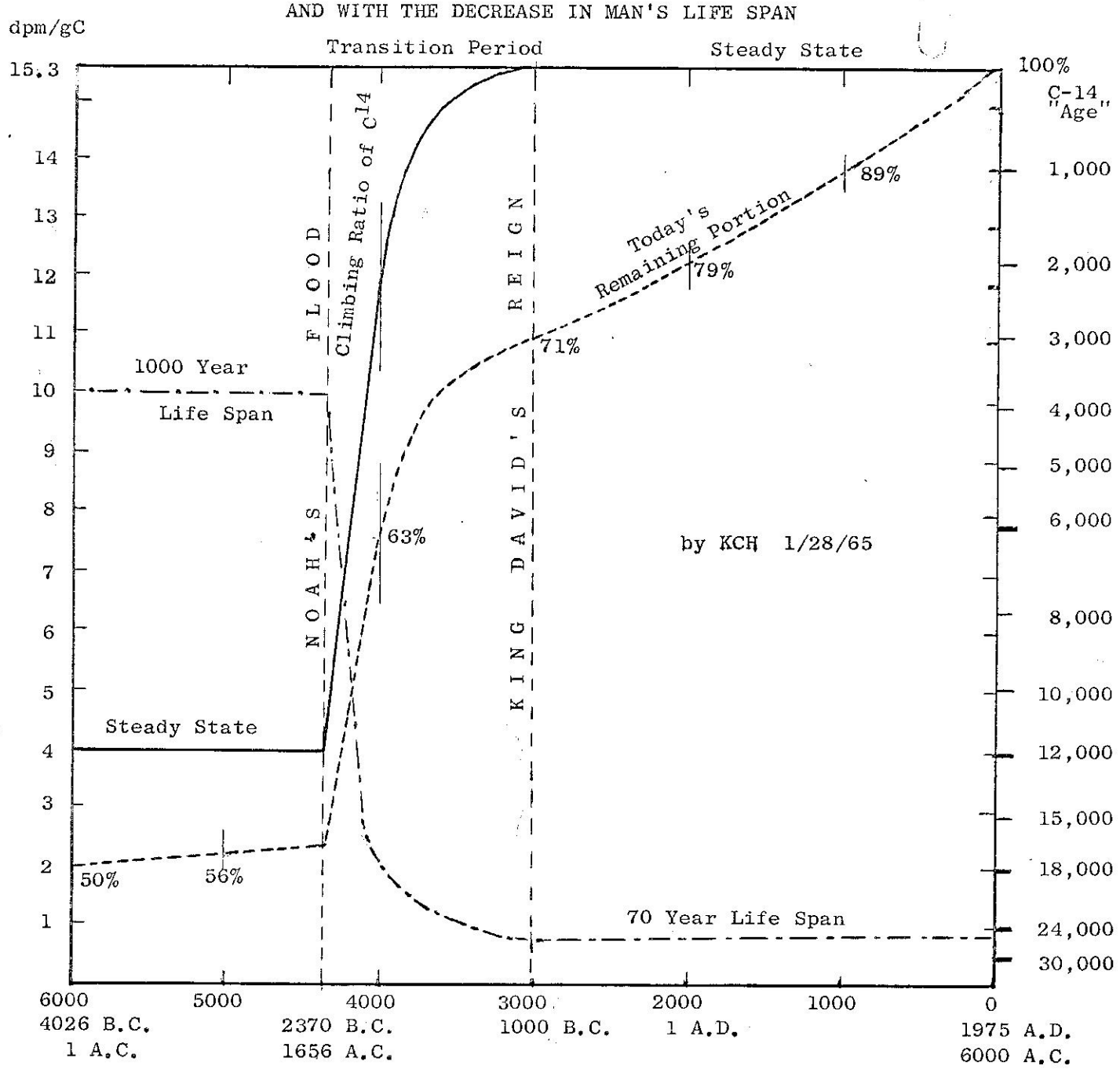
A CORRELATION OF CARBON-14 DATES WITH HISTORICAL DATES AND WITH THE DECREASE IN MAN'S LIFE SPAN



Age Determinations Based on 15.3 dpm/gC Level for the Past 30,000 Years

% of C^{14} remaining		Age of Specimen	dpm/gC assuming present level	
100%		0 Years	(15.3)	16
50%	(5568)	6000		8
25%		12000		4
12 1/2%		18000		2
6 1/4%		24000		1
3 1/8%		30000		1/2

The figures in the graph and table have been rounded off to show the principle of radiocarbon dating more clearly. The present day ratio of C^{14} to C^{12} is climbing due to atomic explosions. Prior to this the ratio was dropping due to the burning of fossil fuels (coal, petroleum and vegetation) which contained little or no measurable C^{14}. Volcanic eruptions also release large quantities of C^{12} which can lower the ratio in the atmosphere.