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TABLE OF CONTENTS

	Page
Heritage of Creation Concepts (concluded)----- John N. Moore	3
Problems in Absolute Age Determination ----- D. O. Acrey	7
Report from Bible Science Association ----- Walter Lang	10
Possibility of the Artificial Creation of Life ----- Harold Armstrong	11
Fossil Bacteria ----- B. Gorm Rasmussen	12

THE HERITAGE OF CREATION CONCEPTS

Selected Biography Showing the Continuity of The Creationist Viewpoint

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1959-1964

Anon., *Evolution; Science Falsely So-Called*, 15th Edition, 1963, International Christian Crusade, 12 Spadina Road, Toronto 4, Ontario, Canada (25 cents).

An excellent handbook which deals with "facts" about evolution, story of evolution, fruits of evolution in such a manner as to provide an amazing compendium of statements by scientists and specialists.

L. Agassiz, (zoologist), *Essay On Classification*, (Edited by Edward Lurie), Harvard University Press, Cambridge, Mass., 1962.

Modern re-publication of a classic argument for the creation of life on this planet. Agassiz organized in the *Essay* a vast amount of orderly information drawn from the literature of natural history, including a review of prior attempts at classification.

V. Bargmann, (physicist), and L. Motz (astronomer), "On the Recent Discoveries Concerning Jupiter and Venus", (letter), *Science*, Vol. 138, December 21, 1962, pp. 1350 and 1352.

Authors testify to the priority of prediction of radio wave emissions from Jupiter and the very hot state of the surface of Venus by Immanuel Velikovsky. Though they disagree with Velikovsky's theories, they recommend that his other conclusions be objectively re-examined since these prognostications about Jupiter and Venus have been well supported by scientific studies (which the authors cite).

D. A. Block, (geologist) and William J. Tinkle, (geneticist), "The Bible and Science — Senior Teacher", *All-Bible Graded Sunday School Lessons*, The Scripture Press Foundation, Wheaton, Illinois, 1961.

These All-Bible Graded Sunday School Lessons relate the Bible to philosophy of science and fourteen specific biological and physical sciences. The lesson of "Creation or Evolution?" develops the teaching aim that it is more reasonable to believe in special creation than to believe in evolution.

M. R. DeHaan, (physician), *Genesis and Evolution*, Zondervan Publishing House, Grand Rapids, Michigan, 1962.

Atheistic and theistic evolution are considered first. Author concludes that true science is not in conflict with the Bible. He relates his position well in chapters on "Science and the Bible", "Evolution

or Creation?" and "Mutations, Yes ! Transmutations, No !".

R. Dubos, (microbiologist), *The Dreams of Reason, Science and Utopias*, Columbia University Press, New York, 1961.

In a chapter on "Illusions of Understanding", this eminent researcher has little good to say of evolution. He maintains it does not answer questions about development of life and creativeness.

P. R. Ehrlich and R. W. Helm, (biologists), "Patterns and Populations", *Science*, Vol. 137, August 31, 1962, pp. 652-657.

In discussing "The Species Problem", authors say, "The term *species* should be retained only in its original, less restrictive sense of 'kind' ". Also under the heading "Evolutionary Theory", they say, "Perpetuation of today's theory as dogma will not encourage progress toward more satisfactory explanations of observed phenomena."

H. Faul, (geologist), "Geologic Time Scale", *Bulletin, Geological Society of America*, Vol. 71, May, 1960, pp. 637-644.

Article opens with statement of important assumption whenever age of a rock is attempted by radioactive decay. After listing geochronologically useful minerals, Faul gives review of sixteen available age determinations on igneous rocks ranging from Eocene to Cambrian entries on present geological time scale. Difficulty of stratigraphic correlation is discussed. Alabama bentonite is given as the oldest sample of not "later than 420 million years ago and probably not earlier than about 450 million years ago". He concludes, ". . . available data are still too few, too poor, and internally inconsistent."

P. G. Fothergill, (botanist), *Evolution and Christians*, Longmans, Green and Co., Ltd., London, 1961.

Writing as an evolutionist and a Christian, Fothergill provides concise and accurate up-to-date accounts of the evolutionary "evidence" in support of the theory and its implications. He does introduce some criticisms and difficulties. His last two chapters on evolution and Christians are written entirely from the Catholic viewpoint.

W. L. Henning, (zoologist), *How Valid Is the Theory of Evolution?*, Bryan College, Dayton, Tenn., 1962, (An Award Paper).

Author critically examines common evidences offered in support of evolution with due mention of assumptions, circumstantial data, and postulates.

After mention of archaeological evidences of the Genesis account, he itemizes briefly ten degrading effects of teaching evolution for the origin of man.

J. R. Hewitt, (psychiatrist), (pamphlet), "Karl Marx as an Evolutionist", Evolution Protest Movement, Santhia, Stoke, Haylind Island, Hants, England, 1964.

While presenting some reflections on the life and work of Karl Marx, the author shows dual impacts of socialism and evolution on modern society. He asserts, "The unholy alliance of Darwinism and Marxism has, therefore, undermined and destroyed the basic concept of a Christian society."

B. E. Keiser, (engineer), (pamphlet), "Can the Scientist of Today Believe Genesis 1?", B. E. Keiser, 6 Royal Oak Road, Trenton 8, N. J., 1962.

Discussion is confined to the conflict "which appears to exist between the Bible and modern science relative to the age of the earth and the origin of life". Definitions are provided, assumptions are stressed, and probabilities are given. Author closes with attention to changing character of limited findings of men as scientists.

G. Kerkut, (physiologist), *Implications of Evolution*, Pergamon Press, New York, 1960.

In addition to seven technical chapters on separate major divisions of animal kinds, author provides excellently written chapters of Introduction, Basic Assumptions, and Conclusions in which he candidly admits deficient state of knowledge on phylogenetic connections and limiting effect upon research by evolution theory due to dogmatic formulations. He especially is critical of interpretations of horse "evolution" and certain chemical analyses of animal fluids used usually to designate connections of phyla.

J. Klotz, (biologist), *Modern Science In the Christian Life*, Concordia Publishing House, St. Louis, Missouri, 1961.

Written to provide an understanding of the scientific method and the relativity of scientific truth, this volume details past and current conflicts between science and religion. Twelve pages on the theory of evolution handle the conflict in this area very well.

J. Klotz, "Evolutionary Theory: Some Theological Implications", *Christianity Today*, May 11, 1962, pp. 25-27.

Contains pointed consideration of consequences of theory of evolution which author identifies as materialistic, mechanistic, fatalistic and amoral. Discussion of limitations of theistic evolution included before conclusion that any system of evolution leads only to strict mechanism and materialism with evolutionary humanism as substitute for Christianity.

J. Klotz, "Theistic Evolution: Some Theological Implications", *Journal of The American Scientific Affiliation*, September, 1963, pp. 82-86.

Author reminds reader that evidences may be misinterpreted by scientists; scientists have actually returned to once abandoned theories (heliocentric, epigenesis and spontaneous generation). Supports literal interpretation of Genesis 1-11 by references to internal validations in the Bible. Concludes that "the whole thrust of evolution" is counter to the basic Christian ethic of love and to historical Christianity.

D. Lack, (ornithologist), *Evolutionary Theory and Christian Belief*, Methuen and Co., Ltd., London, 1961.

By using a sub-title: "The Unresolved Conflict", the author states his aim "to discuss a live and highly controversial issue in simple . . . fair terms". Why the basic conflict is still unresolved is made clear to the reader, and author holds Darwinism conflicts *also* with secular humanism.

W. E. Lammerts, (horticultural geneticist), "Neutron-Induced Variation of Roses", *Journal of The American Scientific Affiliation*, March, 1961.

Floral researcher closes article with unequivocal statement regarding improbability of evolution through accumulated mutations. Also takes strong stand "that the concept of evolution has had a bad influence on research".

W. E. Lammerts, "Growing Doubts: Is Evolutionary Theory Valid?", *Christianity Today*, September 14, 1962, pp. 3-6.

From a brief attention to adaptations and difficulties of explanation by evolution theories, author discusses great limitations of the mutation concept and the need to admit occurrence of catastrophes which break "the slow time sequence so necessary for evolution". The article closes with support for clearly defined boundaries of variability.

W. E. Lammerts, "Gazing Into the Crystal Ball", *The Camellian*, 1963.

An outstanding floral researcher theorizes on future possibilities and points out some situations which are simply inexplicable from the evolutionary point of view.

E. Larrabee, (science journalist), "Scientists in Collision: Was Velikovsky Right?", *Harper's Magazine*, Vol. 227, August, 1963, pp. 48-55.

Author reviews manner in which space probe, Mariner II, brought confirmation of prediction about Venus made in 1950 by an unconventional thinker, Immanuel Velikovsky. He reviews this man's heresy about "natural catastrophes, cometary collision, reversal of the earth's magnetic field, and reactions of silence and ridicule by conventional scientists. Uniformitarianism as a theory is questioned.

H. Lewis, (botanist), "Catastrophic Selection As a Factor in Speciation", *Evolution*, Vol. 16, September, 1962, pp. 257-271.

Author presents the view that "genetic revolution" causes rapid speciation as a normal mode in the genus *Clarkia* (Onagraceae). He presents evidence that speciation normally involves catastrophic selection in ecologically marginal populations. Factors of sudden extinction of parental populations and isolation of derivative individuals are mentioned with respect to catastrophic selection.

Z. Litynski, (science columnist), "Should We Burn Darwin?", *Science Digest*, Vol. 49, January, 1961, pp. 61-65.

A regular columnist discusses developments in French scientific thought against orthodox explanation of evolution. Refers to articles around 1959 by Rene Sudre, science editor of *Revue De Deux Mondes*, wherein absurd dogmas of the generally accepted classical theory of evolution are discussed. Also mentioned is science writer Aime Michel, who interviewed Mrs. Andree Tetry of the famous *Ecole Des Hautes Etudes* and world authority on problems of evolution, Prof. Rene Chauvin and other French biologists. Michel concluded in *Science Et Vie* (1961, "Should We Burn Darwin?") that most French specialists have strong mental reservations as to the validity of natural selection.

F. L. Marsh, (biologist), *Evolution or Special Creation?*, Review and Herald Publishing Association, Washington, D. C., 1963.

Excellent, concise discussion of evidences, definition of terms, ideas erroneously imputed to the Bible, basic types, and problems of different "interpretation of the facts" by evolutionists and creationists in their *philosophies*.

H. M. Morris, (hydraulic engineer) and J. C. Whitcomb, (theologian), *The Genesis Flood*, Presbyterian and Reformed Publishing Co., Philadelphia, Pa., 1961.

The authors have accomplished a unique preliminary report of a new scheme of historical geology based upon Biblical revelation within which scientific data may be interpreted. Thoroughly documented, this book provides a stimulus to a re-thinking and re-studying of "actual observed data" of geology and points out basic objections to uniformitarian geology and radioactive time-keeping.

H. M. Morris, *The Twilight of Evolution*, Baker Book House, Grand Rapids, Michigan, 1963.

The author contends that evolution is declining in status with men whose presuppositions are Bible-centered. He states that the entire concept of evolution is unscientific, and shows that the evidence for the theory of evolution is not nearly as formidable as is generally thought or contended. (Dr.

Morris is also author of *Applied Hydraulics In Engineering*, Ronald Press Co., N. Y., 1963.)

A. C. Morrison, (scientist), "Seven Reasons Why a Scientist Believes in God", *Reader's Digest*, October, 1960.

Adapted from author's book: *Man DOES NOT Stand Alone*, Fleming H. Revell Co., N. J., (Rev. Ed.), 1947. Complexity, pattern, provisions and concept of God in man's mind are discussed.

N. D. Newell, (geologist), "Crises in the History of Life", *Scientific American*, Vol. 208, February, 1963, pp. 77-92.

Careful discussion of the question given as a subtitle: How is it that whole groups of animals have simultaneously died out? In answer the author relates data on natural catastrophes which he considers gradual rather than sudden. Excellent charts and records of mass extinctions are given. That most mass extinctions were during times of general crustal quiet is one conclusion stated.

E. J. Opik, (astronomer), *The Oscillating Universe*, The New American Library, (Mentor Book #MD 289), 1960.

Near close of book, author includes section of "Life and Consciousness in the Universe". He arrives at "belief in a Universal Consciousness, the Beginning and End of all things, the Primacy and Ultimate Reality".

D. D. Riegle, (science teacher), *Creation or Evolution?*, Zondervan Publishing House, Grand Rapids, Michigan, 1962.

In eight compact chapters, author presents briefly some of the usual arguments for anti-Biblical evolution which he follows with the Bible version of the same material. He examines origin of the universe; origin of plant and animal life; and origin, development and dating of man which is closed by a closely, outlined summary.

E. W. Sinnott, (botanist), *Matter, Mind And Man* (The Biology of Human Nature), Atheneum, New York, 1962.

This well-reputed botanist and geneticist turns to critical analysis of challenges to man's view of his own nature by logical positivism and materialism which have tried to relegate traditional views of man and his mind, his soul, his spiritual nature, his divine origin and his hope of eternal life to the category of parable, myth, and illusion. Of evolution, which he seems to accept as emergent, he says, "There can be no doubt that the theory of evolution was responsible for much of the reaction against religious orthodoxy . . . " and "Here was a fall of man as serious in its consequences as that other Fall . . . " (p. 14).

H. Szarski, (zoologist), "The Origin of the Amphibia", *The Quarterly Review of Biology*, Vol. 37, No. 3, September, 1962, pp. 189-238.

Lengthy and rather biased discourse which includes section on consideration of evidence for a *polyphyletic origin* of Tetrapoda which concludes in favor of monophyletic origin from fishes.

W. R. Thompson, (entomologist), "Evolution and Taxonomy," *Studia Entomologica*, Vol. 5, pp. 549-570, 1962.

A pertinent article of reasoned criticism of the "New Systematists" with particular reference to G. G. Simpson's, *The Principles of Animal Taxonomy* (Columbia University Press, New York, 1961). Thompson scrutinizes Simpson's metaphysical assumptions and his use of propagandist artifices. The author supports topological classification in opposition to any attempt to impose speculative evolutionary dogma or Darwinian mythology on the science of systematic.

W. R. Thompson, "Systematic: The Ideal and the Reality", *Studia Entomologica*, Vol. 3, December, 1960.

An article in defense of the traditional approach to systematic classification of organisms. Thompson favors genetic analysis and physico-chemical analysis which he considers as positive science in preference to evolutionary speculation which can be illusory.

W. J. Tinkle, (botanist), "The Doctrine of Change: Communism and Her Ally", *Christianity Today*, March 2, 1962, pp. 27 and 28.

Step by step recitation of similarity of determinism and lack of empirical support regarding claims of Marx and Darwin. Proposes theory of degeneration which "would agree with what we know about entropy". Asserts that both communism and evolution are founded on *some* data, which are interpreted wrongly.

D. A. Warriner, Jr., (chemist), *What Is Life?* (pamphlet), P.O. Box 31, Troy, Michigan, 1962, (40c).

This fine booklet presents consideration of some theological and biological evidences and facts; conclusion points out that scientific facts do not support logically only the theory of evolution or refute logically the concept of creationism.

E. L. Grant Watson, (zoologist), "The Hidden Heart of Nature", *Saturday Evening Post*, Vol. 234, May 27, 1961, pp. 32, 91 and 92.

Author lists four examples of life histories that orthodox theories of evolution do not explain. He refers to behavioral patterns of sea slugs, crabs, sea anemones, coral reefs, fig trees, and sand wasps. In closing he criticizes the simile of the tree used by evolutionists and stresses that all existing species must be regarded as terminal twigs; hence the tree concept is "entirely imaginary." He sees many facts that contradict classic Darwinism.

END

PROBLEMS IN ABSOLUTE AGE DETERMINATION

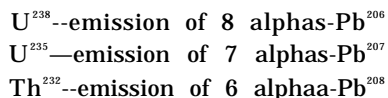
D. O. ACREY, *Geophysicist*
Amarillo, Texas

The use of radioactive decay as a basis for absolute age determinations involves the premise that a parent element decays at a known rate, which remains constant, into a daughter element. The decaying mechanism is assumed in all cases to occur directly or in a radioactive chain with nothing added or removed during the process of decay. The original rock or mineral must either be free of the ultimate daughter isotope or contain this isotope in a known proportion to other isotopes so that the original content of the decay material can be ascertained.

The Chemical Lead: Uranium Method (or Lead: Thorium Method). In an isolated chemical system, the determination of the quantity of parent and daughter material and the knowledge of the rate of decay of the parent leads to the solution of the age of the system. When considering a uranium mineral and *assuming* that nothing is added, or removed, and that *no lead* was present when the system was originally formed, an age can be found by determining the quantities of lead and uranium (or thorium) and solving the equation

$$\text{(Daughter)}_{\text{now}} = \text{(Parent)}_{\text{now}} \times (e^{at} - 1)$$

where 'a' is the rate of decay and 't' is the age determination. Alpha emission is indicated by 'e' and involves the following nuclear processes:



A great many determinations have been made by this method; however, it has been found that the premises on which the method is based are not valid for most uranium minerals. There is definite evidence of selective uranium leaching by acid waters (Phair and Levine, 1953), and it is now known that *most radioactive minerals* contained some lead when they were formed. As a result, the early lead: uranium age determinations can be considered highly questionable.

The Lead: Alpha Method. An attempt has been made in recent years to revive the lead:uranium method. Larsen and his co-workers found that a few common minerals such as zircon and monazite

are sufficiently resistant to chemical change and were sufficiently low in lead content at the time that they were formed to satisfy what they considered to be the basic requirements of the method so that age determinations can be made with small enough error to be useful (Larsen, Keevil, and Harrison, 1952).

The minerals to be studied are separated from the rock by standard mineralogic techniques (heavy liquids, magnetic separator, flotation, etc.) and their total thick-source alpha activity is determined. The lead content is established spectrochemically (Waring and Worthing, 1953) and the approximate age is determined from the relation

$$t = \frac{c \text{ Pb}}{a}$$

where 't' is the age in millions of years, 'Pb' is the lead content in parts per million, and 'a' is the radioactivity in alphas per milligram-hour. The constant 'c' is 2600 for uranium alone and 1990 for thorium alone.

One of the major problems arising from this method is the fact that so many of the earth's minerals have unknown proportions of thorium and uranium.

The Isotopic Lead: Uranium Method. Analyses of whole rocks and a large number of lead minerals, associated with little or no radioactive material, show that their lead is composed of four isotopes: Lead²⁰⁴, Lead²⁰⁶, Lead²⁰⁷, and Lead²⁰⁸. The variation in the composition of this so-called "common" lead has been explained as a gradual addition of small amounts of *Radiogenic Lead* (lead derived from radioactive decay) throughout geologic time. Proponents of this method point out that the error introduced by the variability of the common lead will not be serious *IF* most of the lead present is radiogenic. Presupposition that no great quantity of common lead was present in the rocks or minerals at the instant of Creation is without foundation. Two disadvantages of the method are (1) that hexavalent uranium is readily leached and (2) that radon²²², which forms in the decay of uranium²³⁸, is gaseous and might escape from the system (Wickman, 1942).

The Lead:Lead Method. Using the corrected values for radiogenic lead isotopes, which were obtained by the subtraction of original lead and uranium, age determination is attempted from the equation

$$\frac{Pb^{207}}{Pb^{206}} = \frac{U^{235} (e^{at} - 1)}{U^{238} (e^{at} - 1)}$$

At first glance, this method seems to be the best in that it deals only in isotopic ratios, and some physicists consider it to be the superior of all lead methods. Actually, the method is subject to several errors. Loss of radon²²² raises the lead:lead ratio and the calculated age. A rather large error may be introduced by the uncertainty in the composition of the original lead. Presence of old radiogenic lead (formed in a prior site of the parent uranium) may cause great error. Instrumental errors in mass spectrometry may yield consistently high apparent proportions of Lead²⁰⁴ and Lead²⁰⁷. Redistribution of elements by renewed hydrothermal activity may be a serious source of error in all lead methods.

The Isotopic Lead: Thorium Method. This method is analogous to the isotopic lead: uranium method except for the fact that only one parent isotope is involved. Most of the ages obtained by this method disagree with the ages of the same minerals computed by other lead methods. The reasons for this disagreement are largely unknown.

The Lead 210 Method. This method is essentially a refinement of the old lead:uranium method. This newer procedure is based on the principle that the age of a uranium or thorium mineral can be determined by the ratio of any one of the members of the decay series to the stable end product, *as long as the series is in equilibrium*. Unfortunately, the Lead 210 Method is subject to the same errors as the lead:uranium and lead:lead methods, owing to loss of constituents of the radioactive series by *leaching* or *emanation*. The radon loss could be ignored if it were constant throughout the existence of the mineral; such conditions, however, are believed to be rare or non-existent in nature.

The Helium Method. Helium has a geological occurrence and distribution that are unique among the elements. On the average, it is continuously increasing in amount in the earth's crust, being formed at the expense of the elements of the uranium and thorium series. On the other hand, the crust is continuously losing helium at a rate that is less than the amount being formed by radioactive decay, and there has been an increasing flow of helium to the surface throughout geologic time in stable crustal areas. It has been felt that the understanding of the magnitude and distribution of this

helium flux in continental areas could best be obtained by a study of the ratios of helium to uranium and thorium in rocks and minerals. Many complex and intricate techniques have been tried in this method of analysis, with varying results. The helium ratios in most cases showed ages corresponding roughly with ages inferred from the lead method studies. In addition to the weaknesses of the lead method, there are notable exceptions to the accuracy of the Helium Method. Magnetite obtained from rocks of a granitic type seem very unreliable. The unreliability of this type of rock seems to lie at least in part in the presence of acid-soluble radioactive contaminants.

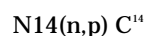
A principal problem of this method is the low or variable helium ratio. It has commonly been assumed that helium ratios are low because helium atoms diffuse through the crystalline structures of rock minerals, accumulate in the boundary regions of the crystals, and gradually find ways of escape to the surface through the openings in the rock. If this were known to be true for all minerals, work on the method would have stopped long ago. It is known that the diffusion coefficient for helium in undisturbed crystals of magnetite, zircon, and sphene are so small as to permit no measurable loss of helium in periods of the order of 10⁹ years. It is not known that the coefficients for common minerals such as quartz and feldspar are significantly higher. One difference between these two groups of minerals unrelated to the permeability of their structures to the diffusion of helium, is the tolerance of the structures to substitutions of uranium and thorium for their essential constituents. Although the helium content of quartz and feldspar can be measured easily, *it is impossible to know how much of the radioactivity is contamination*. Since quartz and feldspar crystals probably always grow with less radioactive element content than their surroundings, they are no doubt subject to radioactive contamination from their surroundings. Another factor which is known to be causing helium loss and which may account for discrepancies not explained by contamination is the damage to crystalline structure caused by concentration of the radioactive elements into localized centers that become intensely irradiated.

The Strontium Method. A wide variety of analytical procedures have been used to determine rubidium and strontium and their isotopes for the purpose of making geological age determinations. Three most common procedures are (1) the determination of rubidium, (2) a short-cut spectrochemical procedure for determining strontium: rubidium ratios, and (3) the determination of the strontium and rubidium by isotope dilution. Differences in the distillation rates of strontium and rubidium, as well as the variation in the degree of ionization of strontium, create problems for

accurate age determinations by this method. Another source of error is the incompleteness of precipitation at low concentrations of strontium, as in comparatively young lepidolites. There are definite inconsistencies now apparent in the results of spectrochemical and mass spectrometric strontium:rubidium methods.

Argon⁴⁰:Potassium⁴⁰ Dating. The discovery of a long-lived radioactive isotope of potassium was thought to have opened up many possibilities in the field of geological dating. It is known that potassium⁴⁰ decays by K-electron capture to argon⁴⁰ with the emission of a gamma and by beta emission to calcium⁴⁰. More exact determinations of the decay constants are necessary before this method can really be developed. Another problem is the loss of argon by diffusion. The amount lost would be critically dependent on the grain size and structure of the potassium minerals. The high argon content of the atmosphere is another source of error by contamination.

The Carbon¹⁴ Method. Carbon¹⁴ emits a beta with an energy of 0.155 Mev and has a half-life of approximately 5600 years. It can be made in the neutron pile by the reaction



Since the cross sections of oxygen, argon, carbon, and hydrogen are much lower than that of nitrogen, the reaction will consume nearly all of the neutrons formed. Thus the rate of production of neutrons is substantially the same as the rate of production of Carbon¹⁴. One of the assumptions of this technique is that cosmic radiation has been constant in intensity over the last 30,000 years or more. A steady state is predicted, exactly analogous to the secular equilibrium among the decay products of radioactive chains. It is assumed that the rate of decay of carbon¹⁴ will then equal its rate of formation.

The carbon¹⁴ thus formed can be expected to follow a definite geochemical path. In the oxidizing conditions of the upper atmosphere it will be converted rapidly to carbon dioxide, and once in this form will enter the carbon cycle. In time it will be mixed throughout the atmosphere, living and other organic matter, and the carbonate dissolved in the sea.

Another problem involving this technique is a further assumption when using this method in dating studies. There must be materials in which, after a definite period, no exchange reactions or gross replacement of materials can take place. This critical time can occur at the death of the organism, or at

the time of laying down of wood or shell; however, there is no supporting scientific fact to back up this assumption. The difficulty of reconciling some of the dates obtained from this method with other evidence has led some geologists to question the applicability of the method to samples stored under moist conditions.

CONCLUSION

The old argument still holds that stratigraphic time boundaries stem from the study of sediments, but nuclear determinations of absolute time can be made only on igneous rocks, with very few exceptions. The geologic time relationship between sediments and igneous rocks is rough and frequently obscure, even in areas that have been studied geologically in great detail. Most of the geologic time scales that have been published are based on uncritical compilation of a wide variety of data, so that the overall figures are necessarily very rough. The basic assumptions should always be remembered.

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REPORT FROM BIBLE-SCIENCE ASSOCIATION

About 7,000 people heard six lectures on the relations between the Bible and Science at a Creation Research Seminar, held at a number of locations in the Los Angeles area, Nov. 9- 13th, 1964. These lecturers spoke at five Lutheran Churches or parish halls; they spoke to many elementary school children in the area during the day; they spoke to high school young people, and also to college youth.

The lecturers and their topics were: Dr. Walter E. Lammerts, a geneticist of Berkeley, Calif., who spoke on "Mutations and Evolution." Dr. Geo. Howe, a biologist of Westmont College, Santa Barbara, Calif., who spoke on the topic "God Created Plants;" Wilbert Rusch, M. S., a biologist at Concordia Junior College, Ann Arbor, Michigan, who spoke on the theme, "Science and the Bible;" Clifford Burdick, M. S., a consulting geologist at Tuscon, Arizona, who spoke on "Geology and the Bible;" Dr. Bolton Davidheiser, a biologist of Biola College in Los Angeles, who spoke on "Biology and the Bible;" and the Rev. Walter Lang, editor of the Bible-Science Newsletter, who spoke on "Genesis One and Two." Dr. Howe, Clifford Burdick, and Rev. Lang used slides with their presentations.

Henry Morris' "Twilight of Evolution" was prepared in paperback especially for this Institute and is now available through the Bible-Science Newsletter, Box 1028, Caldwell, Idaho, at \$1.50. A large number of Paul E. Zimmerman's "The Christian and Science," selling at \$.25 were distributed at this Institute. A goodly number of the tracts that Moody Science Institute publishes to accompany its films were sold at this Institute. In addition, such books as Morris and Whitcomb's "The Genesis Flood,"

R. E. D. Clark's "Darwin, Before and After," Dr. John Klotz "Genes, Genesis, and Evolution," Dr. John Hewitt's "Evolution," Frank Marsh's "Evolution or Special Creation," and copies of the Creation Research Annual together with the two quarterlies thus far published were sold at this Institute. There were elaborate book tables at each of the five locations, where the lectures were held at night.

The essays of the Institute are being prepared for publication. They will appear, at least in part, in the Bible-Science Newsletter, which is available from the Bible-Science Association, Box 1028, Caldwell, Idaho, for \$1.00 a year subscription. And this Association will also publish the essays in book form.

Although the lectures were held chiefly in Lutheran Churches, people from all denominations, and many of no church home at all, attended. Members of these Lutheran Churches, who attended, indicated that better than half were people they did not know or had not seen before. This indicated a wide general interest in the subject of creationism.

Sponsoring groups were the Lutheran Laymen of Southern California, with special credit given to Mr. Paul Hackstedde, Dr. Jack Andrews; Mrs. Jean Sumrall, and Mrs. Nell Segraves. They worked very hard, contributed great amounts of their own time and money to make this a success. Then the Bible-Science Association of Caldwell, Idaho, with Mr. Paul Hackstedde as chairman, helped in sponsoring this Institute. The Creation Research Society helped in furnishing lecturers. Quite a number of requests have come in to the Bible-Science Association since this time for similar Institutes to be held in other parts of the country.

THE POSSIBILITY OF THE ARTIFICIAL CREATION OF LIFE

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There has been talk lately about the "artificial creation of life" in the laboratory. Christians have often been concerned about these matters; may I suggest some thoughts which might be helpful?

The proposal is that a living being (let us say that, for it is a being, a something, a substance in Aristotle's sense, of which we are talking, not the attribute "life"; just as a carpenter could build a white house, but not "whiteness".), might be produced in the laboratory, in some way other than from a previously existing living being.

First of all: if this were done, it would not make God any the less, any more than my reproducing a line of Hamlet would decrease Shakespeare's genius. Or consider it another way: suppose (as could have happened, although it did not) that when our Lord fed the multitudes, bread had never before been made and so was seen for the first time, but that subsequently men had learned the art of baking. Would that have made the miracle any the less? Obviously not!

Secondly: until two hundred or so years ago, men believed that living beings, certain worms and insects, for instance, were produced without the intervention of living beings, by what was called "spontaneous generation." And this belief made no trouble for their Christianity; Sir Thomas Brown, for instance, a devout man certainly, believed in spontaneous generation, and mentioned it in passing in his "Religio Medici". The suggested "creation of life" would, in fact, be just spontaneous generation under special conditions. And if this notion did not bother our forefathers, why should it bother us?

In the third place: can we be sure that living beings have never been created artificially before? We are told in Exodus 8, 7 that the magicians of Egypt produced frogs. And, Revelation 13, 15 might mean that something like that will happen again.

Incidentally, the fact that the magicians succeeded in their attempts — up to a point — does not, of

course, show that God had lost control. He was longsuffering, then as always, (2 St. Peter, 3, 9), but, when He judged that things had gone far enough, that was the end. The magicians, even with Satan's help, were not able to do any more. (Exodus 8, 18). It is true that the extent of Satan's help should not be underestimated; he who was likely present when the sons of God shouted for joy at the Creation (Job 38, 7) would be in a good position to know something about how life was created. But for all that, just as in Egypt, his power was puny in comparison with God's power working through Moses, even so it is and shall be. So if, in the future, we should see something presented as "creation of life artificially" we could expect to see it go just as far as God in His longsuffering is willing to allow — thus far and no further.

Finally: even though the artificial production of a living being (should it come about) need be no threat to our faith, yet the attempt to do such a thing may be something in which no Christian (or Jew, or, for that matter Moslem) should be engaged. The building of the tower of Babel, so far as we know, threatened no one's faith, but for all that it was presumption. Incidentally, if it be said that the magicians of Egypt had help from dark powers, can we be sure (I say this in all seriousness) that the same might not be true of similar attempts today? The devil can think of many ways of working with man to man's harm, nor is he limited to appearing complete with horns and tail and stirring the cauldron with his pitchfork.

Finally: if we look around, we will likely find that some of those who are most interested in "creating life" are some of those shouting loudest that we must do something about the "population explosion." Is it not strange that men should with one breath cry that we have too much "life", and with the next urge that we strive mightily to make more?

FOSSIL BACTERIA

B. GORM RASMUSSEN, *Geophysicist*
Skodsborg, Denmark (Editor of "Natural Science")

Repeated claims that living bacteria have been recovered from Cambrian or Devonian rocks deserve careful reinvestigation. One of the first reports was by Dean Charles B. Lipman of the University of California, Berkeley, California (1931)¹ He claimed recovery of bacteria from ancient rocks after taking all possible precautions against contamination.

More recently warm spring water, which contained carbon dioxide, was found to hold bacteria. The water in question originated in a spring at Bad Nauheim, Hessen-Darmstadt, West Germany. The mineral salts contained in the spring-water arose from rock salt having its origin in Permian beds.

The bacteria found in the spring-water were hitherto unknown. However they belong to the Pseudomonida. They were named *Pseudomonas halocernae* n. sp. Ott.

Both the rock salt and the spring water contain the same kind of pollen and splinters of wood, both typical of Permian flora.

It was claimed that the bacteria were Permian bacteria.

Pieces of rock-salt were then removed from the original formation. Some pieces were placed in a solution of formalin (10%). Other pieces were placed in saturated corrosive sublimate and some were glowed. Following these sterilization techniques the pieces were placed in nutrient agar containing a balanced nutrient solution. In a short time living bacteria were found in about 20-30% of the test dishes. They were able to multiply and 40 different kinds were isolated. Only one corresponded to a modern species.

Some of the bacteria from the test-dishes were later precipitated in salt crystals. These bacteria were afterwards placed in new test dishes and were able to revive.

Devonian beds were also shown to have bacteria.

which after rigorous sterilization precautions were able to revive in nutrient agar.

It is of course unreasonable to suppose that bacterial spores could survive for over 150,000,000 years, the presumed age of the rocks. However from the viewpoint of Flood geology in terms of a "young" earth it may well be that spores could survive for several thousand years. Instead of dismissing the many reports such as summarized above as being due to contamination, imagination or desire for notoriety, we should reinvestigate these claims making the following studies:

1. Make more detailed laboratory tests of the longevity of bacterial spores, particularly under conditions such as obtain in sedimentary rocks.

2. Make a careful checkup as to the question of whether surface water may not have penetrated and contaminated the various strata in which these bacteria are found.

3. Study the effect of cosmic radiation and radiation from underground sources as regard their effect in causing mutation in the spores thus giving rise to the many distinctive forms reported.

It would be most valuable to make new comparative studies in regard to spore longevity as related to their environment in space, possibility of variation in terms of the baramin concept of Marsh (*Evolution, Creation and Science, 1947*), and ability of radiation to effect such variability.

¹Lipman, Charles B., Living microorganisms in ancient rocks. *Journal of Bacteriology*. Volume 22, Number 3, (1931) 183-198.

(Editor's note — More exact information as to the Bad Neuheim report may be obtained from Mr. Rasmussen. The reports of Lipman are fascinating and deserve careful study in view of recent findings that under certain conditions virus particles have amazing longevity. It is hoped that some of our members who are bacteriologists will make careful experiments in order to verify the above reports made by very competent well trained men.)

Our Society of research scientists representing various fields of successful scientific accomplishment is committed to full belief in the Biblical record of creation and early history, and thus to a concept of dynamic special creation (as opposed to evolution), both of the universe and the earth with its complexity of living forms.

We propose to re-evaluate science from this viewpoint. Beginning in 1964, we are publishing an annual yearbook of articles by various members of the Society and thereafter a quarterly review of scientific literature. Our eventual goal is the realignment of science based on theistic creation concepts and the publication of textbooks for high school and college use.

1. The Bible is the written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all the original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truths.
2. All basic types of living things, including man, were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds.
3. The great Flood described in Genesis, commonly referred to as the Noachian Flood, was an historic event worldwide in its extent and effect.
4. We are an organization of Christian men of science who accept Jesus Christ as our Lord and Saviour. The account of the special creation of Adam and Eve as one man and woman and their subsequent fall into sin is the basis for our belief in the necessity of a Saviour for all mankind. Therefore, salvation can come only through accepting Jesus Christ as our Saviour.

Dues are \$5.00 per year and may be sent to Wilbert H. Rusch, Sr., Treasurer, 4090 Geddes Road, Ann Arbor, Michigan. Active membership at present is limited to scientists having an M.S. (or equivalent in experience), Ph.D., D.Sc., Ed.D., or M.D. Degrees. Sustaining non-voting membership is open to those who subscribe to the above statement of belief at \$5.00 per year and includes subscription to annual and quarterlies.

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