

BIBLICAL INERRANCY AND THE DOUBLE-REVELATION THEORY

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Judging from the number of recent controversies in evangelical circles concerning the full implications of the doctrine that the Bible is divinely and verbally inspired and thus inerrant in the autographs, there seems to be little likelihood that Christians who hold to this crucially important teaching of Scripture are about to enter upon a period of triumphant and undisturbed peace and acceptance in the Protestant world.

For example, it has recently been asserted that the very possibility of a verbally inerrant revelation has been rendered untenable by studies in the field of linguistics.¹ Others are claiming that the Bible contains historical errors which can be explained on the basis of inspired and therefore accurate quotations from non-inspired and erroneous sources.² Along with this comes the suggestion that verbal inspiration extends only to those "basic" matters which God intended to convey to man, and not to mere "peripheral" matters.³ We are also being told that a true understanding of the nature of Biblical inspiration must be attained through an inductive study of the actual phenomena of Scripture rather than by a deduction from Biblical proof-texts on inspiration.⁴ Thus, many evangelical Christians have been led to believe that verbal inspiration is merely a human theory about the Bible, and therefore is neither essential to true Christianity nor legitimate as a standard and test of orthodoxy.⁵

The fact that such viewpoints have been publicized recently by scholars who claim to be evangelical should be profoundly disturbing to those who accept by faith the Bible's clear testimony to its own verbal inerrancy (cf. Prov. 30:5-6; II Tim. 3:16; II Pet. 1:19-21; John 10:34; Matt. 5:18). Nevertheless, it is not our purpose in this paper to deal with any of the above-mentioned views, for we believe that they have already been adequately refuted by competent evangelical theologians.⁶ Instead, it is our purpose to examine yet another theory that has gained wide acceptance among evangelical Christians and that tends to undermine the Biblical doctrine of verbal inspiration. For lack of a better term, we have chosen to call this "The Double-Revelation Theory." In the following pages we shall present some recent expressions of this view, expose some of its basic fallacies, and then draw our conclusions with regard to this view in the light of the Biblical doctrine of verbal inspiration.

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THE DOUBLE-REVELATION THEORY

Briefly stated, this theory maintains that God has given to man two revelations of truth, each of which is fully authoritative in its own realm: the revelation of God in Scripture and the revelation of God in nature. Although these two revelations differ greatly in their character and scope, they cannot contradict each other, since they are given by the same self-consistent God of truth. The theologian is the God-appointed interpreter of Scripture, and the scientist is the God-appointed interpreter of nature, and each has specialized tools for determining the true meaning of the particular book of revelation which he is called upon to study. Whenever there is apparent conflict between the conclusions of the scientist and the conclusions of the theologian, especially with regard to such problems as the origin of the universe, the solar system, the earth, animal life, and man; the effects of the Edenic curse; and the magnitude and effects of the Noachic Deluge, the theologian must rethink his interpretation of the Scriptures at these points in such a way as to bring the Bible into harmony with the general consensus of scientific opinion, since the Bible is not a textbook on science, and these problems overlap the territory in which science alone must give us the detailed and authoritative answers.

The double-revelation theory holds that this is necessarily the case, because if an historical and grammatical interpretation of the Biblical account of Creation, the Edenic curse, and the Flood should lead the Bible student to adopt conclusions that are contrary to the prevailing views of trained scientists concerning the origin and history of the earth, then he would be guilty of making God a deceiver of mankind in these vitally important matters. But a God of truth cannot lie. Therefore, Genesis must be interpreted in such a way as to agree with the generally-accepted views of modern science. After all, Genesis was written primarily to give us answers to the questions, "Who?" and "Why?" Modern science, however, must answer the important questions, "When?" and "How?"⁷

BASIC FALLACIES OF THIS THEORY

1. It Underestimates the Limitations of the Scientific Method

In the first place, the double-revelation theory fails to give due recognition to the tremendous limitations which inhibit the scientific method when applied to the study of origins. In the very nature of the case, the scientific method (which analyzes the laws of nature in repeatable events) is incapable of processing the miraculous and the supernatural, the once-for-all and the utterly unique, the spiritual and the unseen. The scientific method assumes without proof the universal validity of uniformity as a law of nature, by extrapolating present processes forever into the past and future; and it ignores the possible anti-theistic bias of the scientist himself as he handles the "facts" of nature in arriving at a cosmology (a theory concerning the basic structure and character of the universe) and a cosmogony (a theory concerning the origin of the universe and its parts). To the extent that the double-revelation theory fails to give careful and honest recognition to these essential limitations of the scientific method it will fail to give a true and undistorted picture of reality as a whole, and it will fail also to point men to the true source for understanding its mysteries.

II. It Underestimates the Failures of Uniformitarian Science

In the second place, the double-revelation theory overlooks the insuperable scientific problems which continue to plague all uniformitarian and evolutionary theories concerning the origin of the material universe and of living things. Many Christians are familiar with the scientific obstacles which the theory of total organic evolution must surmount, such as the transition from non-life to life, the debilitating and even lethal effects of the vast majority of mutations, the large and as yet unbridged gaps between animal forms in the fossil record, and the clear evidence of global catastrophes, rather than gradual uniform processes, in the formation of the fossil strata.⁸

Not so familiar to Christians, perhaps, are the insuperable difficulties which continue to beset cosmogonists who insist upon explaining the origin of the solar system in terms of naturalistic processes. The famous nebular hypothesis of Immanuel Kant (1755) and Pierre Simon de Laplace (1796) pictured a very hot, rotating disk of gas from which planets were formed when gaseous rings were detached by centrifugal force from the main body of the Sun during the early stages of its contraction. But this theory was abandoned by the end of the 19th century when it was shown that such gaseous rings could never condense into planets and that they could not have retained 98% of the angular momentum of the solar system (which is true of the major planets today). But the various encounter or planetesimal theories, which postulated the near approach of another star to our sun, resulting in eruptions of planetary bits (Chamberlin and Moulton - 1905); or the drawing off of a cigar-shaped filament of material that eventually broke up into a string of separate masses (Sir James Jeans), or the actual collision of our sun with a star that resulted in the formation of planets (Harold Jeffreys - 1929); or the collision of a star with an original companion star of the Sun, causing a ribbon of material to be dragged out between them (R. A. Lyttleton - 1936), were all discarded as hopelessly inadequate explanations of the solar system by the year 1940.⁹ Beginning in 1944, Von Weizsacker, Whipple, Spitzer, Urey, Gamow, Hoyle, and others have attempted to avoid the difficulties of the planetesimal theories by returning to a form of nebular hypothesis, whereby the Sun and its planets condensed out of swirling eddies of cold, dark, interstellar clouds of gas and dust. How well this currently popular theory succeeds in explaining the solar system in terms of physical, chemical, and mathematical principles alone may be judged by the reader for himself after considering carefully some of the problems which continue to harass the cosmogonist.

(1) The Problem of the Condensation of the Sun and its Planets from a Cold Nebula of Gas and Dust.

Gerald P. Kuiper, a noted American astronomer, seeks to explain the evolution of the solar system in the following manner:

What made the gas of the future sun begin to condense was presumably a chance eddy that brought together enough atoms in one region so that their total gravity overcame the momentum of the individual movements and held them together in a single, collapsing cloud. Very slowly the matter of the cloud began to fall inward on eddies where the gas was densest. By far the largest of the eddies was the protosun. Its overwhelming gravitational influence shaped the rest of the cloud into a huge, rotating disk...The lesser eddies, rolling lazily around on one another like ball bearings, were the protoplanets...The surface of the sun turned slowly red and hot, orange and hotter, yellow and incandescent.

Its first red rays, falling on the half-begotten protoplanets, began to drive away the smoke of matter in which they had been born and on which they were still feeding and growing. Soon the protoplanets were no longer rolling around on one another like ball bearings but flying as separately as bees around a newly opened flower.¹⁰

Kuiper's theory, only briefly summarized here, is a refinement of Von Weizsacker's original dust-cloud theory (1944) and the light-pressure theory of Whipple and Spitzer (1948). Although its adherents claim that it avoids the major difficulties of earlier hypotheses, it falls hopelessly far short of explaining scientifically the origin of the solar system.

In the first place, before any condensation of gas and dust could occur, the nebula would have diffused into outer space. Kuiper himself also admits that before gravitational attraction would become significant, the particles would have to be as big as the Moon!¹¹ The theory assumes that dust particles will stick together when they collide; but this does not seem to be the case in dust storms or in any other known situation. Whipple admits that the chief difficulty is to explain how the protoplanets maintained themselves during the early stages when the dust clouds were more rare than the vacuum of a thermos bottle. Yet they had to hold together sufficiently to pick up material from the rare spaces between them, and they had to be massive enough to grow and not spiral in toward the Sun.¹²

In the second place, the theory of "roller bearing" eddies of gas and dust is impossible, because a regular system of vortices must remain intact during essentially the entire period of planetary accretion. This is due to the fact that the planets all revolve around the Sun in the same direction. Kuiper frankly confesses: "It is difficult to conceive that the beautiful system of vortices could actually have been in existence long enough -- even for 10 or 100 years -- to get the condensation of the building material for the planets under way." Yet the theory demands millions of years!¹³

In the third place, even if we assume that this cloud somehow started to condense and that enough condensed to form the Sun, the question arises as to "what stopped the process from continuing so that the entire mass of material did not form one large body? After all, the sun makes up 99 and 6/7% of the mass of the sun and planets combined. Why did that paltry 1/7 of one per cent not fall into the main body also? This is a serious question, and one that has not been answered."¹⁴

Finally, as Paul A. Zimmerman points out, other suns do not seem to be developing planetary systems:

Weizsacker himself recently admitted that the existence of so much interstellar material in the vicinity of our sun, together with the fact that he can find no evidence whatever of stars being formed now from that material, constitutes a paradox. He hazards a guess that the presence of stars already formed prevents the condensation of any more of the interstellar gas. But this is a poor defense. Greenstein, astronomer at the Mount Wilson Observatory, is of the opinion that the known stars rotate so fast that one must conclude that they could never have been formed by a condensation process.¹⁵

As if to put the coup de grace on the validity of this theory of the origin of the solar system, which he himself feels is the best available at the present time, Kuiper states: "It is not a fore-gone conclusion...that the problem has a scientific solution. For instance, an enclosure in which the air has been stirred gives, after some delay, no clue on the nature or the time of the stirring. All memory of the event within the system has been lost."¹⁶ Kuiper's modesty at this point is indeed commendable, for it is not often seen in the writings of evolutionary cosmogonists. However, a similar sentiment has been expressed by Harold C. Urey: "None of us was there at the time, and any suggestions I may make can hardly be considered as certainly true. The most that can be done is to outline a possible course of events which does not contradict physical laws and observed facts. For the present we cannot deduce by rigorous mathematical methods the exact history that began with a globule of dust."¹⁷ Zimmerman's comment on Urey's statement is well worth pondering:

This shows clearly what cosmogonical theorizing is. It is good, clean fun for an astronomer, a mathematician, a chemist, a physicist. It is an exercise in working out a logical scheme of proposed events which would lead to the formation of the earth and the solar system as we find them now. It is a game, the rules of which are observed physical and chemical laws. But even if one wins the game by devising a perfect system that accounts for every detail of the properties of the heavenly bodies, he still will not have proved that things did, in fact, take place as he deduced they might have.¹⁸

(2) The Problem of the Sun's Small Angular Momentum.

Can evolutionary theory explain the origin of the Sun? Apart from the basic question of the origin of the atomic particles and their stupendous energy (which will be discussed later), one is faced immediately with the vexing problem of the Sun's small angular momentum. David Layzer, Professor of Astronomy at Harvard University, explains that the present rates of rotation of galaxies "can be either measured or inferred from the observed shapes with fair accuracy," and, therefore, "one can calculate how much angular momentum the material in a typical star would have had if it had been part of a gaseous protogalaxy." Layzer continues:

This turns out to be about 10^9 times as much as it now possesses, which means that in the process of contraction a typical protostar would have expended all but 1/10,000,000 of 1% of its original angular momentum. How has this been accomplished? Mass ejection could rid a system of some of its angular momentum, but not of 99.9999999% of it. Magnetic braking has frequently been suggested for the same purpose, but the suggestion has not yet been put in a definite form. At present no satisfactory solution for the difficulty is known.¹⁹

(3) The Problem of the Angular Momentum of the Planets.

In the recently-published Life Nature Library volume entitled, The Universe, the enormous problem which evolution faces at this point is candidly recognized:

One key problem that plagues the builders of model solar systems is the fact that the sun, with over 99 per cent of all the system's matter in its possession, has a mere 2 per cent of the system's angular momentum -- the property that keeps the sun rotating and keeps the

planets revolving around it. The lightweight planets, in consequence, contain under one per cent of the system's matter, but a staggering 98 per cent of its angular momentum. A theory of evolution that fails to account for this peculiar fact is ruled out before it starts.²⁰

It was primarily this problem of the disproportion of angular momentum in the planets as compared to the Sun that finally destroyed the old nebular hypothesis of Kant and Laplace, and the various collision and near-collision theories of Chamberlin, Moulton, Jeans, Jeffreys, and Lyttleton. Has the currently popular cold-nebula hypothesis succeeded where others have failed? Gerald Kuiper has tentatively suggested the "admittedly very speculative" idea that gases between the protoplanets and the sun became ionized during their evaporation "and in this electrical state they acted as a bridge for the Sun's magnetic energy. In effect, they acted as elastic spokes between the Sun's whirling hub and its rims of evaporating protoplanets."²¹

But in refutation of this idea, Professor Layzer of Harvard emphasizes that any form of nebular hypothesis "demands the existence of some highly efficient mechanism for transferring angular momentum from the central part of the nebula to the periphery. Magnetic coupling has been suggested as the mechanism, but no one has yet shown that magnetic fields of the required kind exist and could be expected to occur in a nebula." Furthermore, "the division of angular momentum between Sun and planets must have been even more one-sided than it is now before the planets lost their light gases. The classic difficulty posed by such a division is that of understanding how it could have arisen if all the matter in the solar system had once belonged to a single nebula."²²

(4) The Problem of Eccentric and Inclined Orbits.

Another rather serious problem for evolution is the marked deviation of smaller bodies in the solar system from the "normal" type of orbit demanded by the theory that the system began as a huge, rotating, flattened disk of gas and dust that condensed into a central sun and various protoplanets.²³ Now it is true that the planets reveal three types of regularity in their revolution around the Sun, and it is these regularities that have encouraged evolutionary explanations for the origin of the solar system: (1) all nine planets move around the Sun in the same direction, that is, counterclockwise when viewed from the North Star; (2) all nine planets have nearly circular orbits; (3) the orbits of these nine planets lie in almost the same plane, which is approximately the plane of the Sun's equator.

However, as Professor Layzer points out, cosmogonical theorists tend to emphasize these three regularities while "less emphasis has been laid on the departures from these regularities exhibited by the smaller bodies of the solar system. Of the planets, Mercury (the smallest) and Pluto (the outermost) have the most eccentric and highly inclined orbits [with inclinations of 7 degrees and 17 degrees respectively, and eccentricities of 24% and 20% respectively]. The asteroids, which are probably planetary fragments, have still higher eccentricities and inclinations, while the orbits of comets and meteors show no trace whatever of the three regularities."²⁴

An interesting illustration of the reluctance of evolutionists to face up to the true significance of such deviations from the "normal" pattern may be seen in the following statement by Isaac Asimov:

The general regularity of this picture naturally suggested that some single process had created the whole system. Of course, the irregularities have always been hard to explain away, but there are only a few of them and they may be accounted for as results of

accidents...The fact that Pluto's orbit is tilted well out of the general plane and is somewhat elongated may be explainable on the theory that Pluto was originally a satellite of Neptune and was thrown away from that planet by some cosmic collision or other accident.²⁵

(5) The Problem of the Retrograde Rotation of Uranus.

It is unfortunate for the theory of evolution that the so-called "regularities" of the solar system total no more than three; for of the six planets whose rotations have been well determined, five rotate in the same sense of direction as that of their orbital motion around the Sun, while one, Uranus, rotates in the opposite direction! To be more specific, the axes of the planets with direct (rather than retrograde) rotation deviate from the perpendicular by between 3 degrees and 29 degrees (the earth's axis is tilted 23 1/2 degrees), but the axis of Uranus deviates by 98 degrees, which is eight degrees backwards from the direction of its orbit around the Sun! At the same time, the orbit of Uranus inclines less than that of any other planet. Professor Layzer admits that "it is an open question whether this state of affairs is consistent" with current theories of the origin of the solar system.²⁶ Similarly, W. M. Smart, Professor of Astronomy at the University of Glasgow, concludes: "It must be confessed that it is difficult to account for the exceptional circumstances relating to Uranus if we regard, as indeed we do, the uniformities of orbital and rotational motion in general as providing an incontrovertible argument in favour of the common origin of the planetary system."²⁷

(6) The Problem of Retrograde Satellites.

Six of the nine planets have moons or satellites of their own -- the earth having one, Mars two, Jupiter twelve, Saturn nine, Uranus five, and Neptune two, for a total of thirty-one. As astronomers began to study these planetary satellites, they were astonished to discover that not all of them orbit their planets in the same direction! That is, some of them have retrograde orbits in relation to the rotational direction of their mother planets. This is true of the outer four of Jupiter's twelve satellites; of Phoebe, the outermost of Saturn's nine; of the five moons of Uranus, which move in the equatorial plane of a planet that is tilted 98 degrees from the plane of its own orbit; and of Triton, the inner of Neptune's two satellites, which has nearly twice the mass of our moon (its diameter being 3,000 miles) and which revolves every six days in a nearly circular orbit only 220,000 miles from its mother planet (20,000 miles closer than the Moon to the earth).

Isaac Asimov, as well as many other evolutionary cosmogonists, believes that Triton, like Pluto, "was thrown away from that planet by some cosmic collision or other accident," and that later on Neptune re-captured its lost moon into a retrograde orbit by "a similar accident."²⁸ But how many such "accidents" may one be permitted to invoke to prop up a theory already tottering under the weight of its own unproved assumptions? Asimov further states that retrograde satellites are "minor exceptions" to the general rule of satellite orbits. But eleven out of thirty-one moons having retrograde orbits can hardly be brushed aside as "minor exceptions"! After attempting to explain possible ways in which Jupiter might have captured its retrograde satellites, Professor W. M. Smart concludes: "The mathematical problem is obviously one of the utmost difficulty and complexity, and it is hardly surprising that the suggestion of satellite capture in the way roughly indicated as it affects Jupiter has not been lifted out of the trough of speculation into the higher levels of mathematical demonstration."²⁹ Professor Layzer of Harvard makes it clear that "the fragments of a rotating disk must all revolve in the same sense. Thus the nebular hypothesis must attribute a sep-

arate origin to the retrograde satellites. Usually they are believed to have been captured, a view which was easier to accept in the days when retrograde orbits were exceedingly rare than it is now, when no less than twelve are known"³⁰

(7) The Problem of the Distribution of Angular Momentum in Satellite Systems.

It was pointed out earlier that the nine planets carry 98% of the angular momentum of the solar system. Even if this could be explained by evolutionary theory -- and it cannot! -- the problem of the distribution of angular momentum in satellite systems still remains. Professor Layzer explains the problem as follows:

Except in the Earth-Moon system (which is exceptional in other respects as well), the primary carries the bulk of the angular momentum, instead of the satellites. This happens partly because the satellite systems are more compact than the primary system; the distances of the satellites from their primaries, measured in units of the radius of the primary, are systematically smaller than the distances of the planets from the Sun, measured in units of the solar radius. But in addition, the planets rotate more rapidly, for their densities, than the Sun, as is evident from their greater degree of flattening. This circumstance aggravates the theoretical difficulty presented by the slow rotation of the Sun, for if the Sun has somehow managed to get rid of the angular momentum it would be expected to have, according to the nebular hypothesis, why have the planets not done likewise?³¹

(8) The Problem of the Moon.

Though the Moon is not the largest planetary satellite in the solar system, it is much the largest in proportion to the size of its mother planet, with a diameter that is more than a quarter the size of the earth's and more than two-thirds the size of Mercury's. For this reason, as Arthur Beiser points out, "modern thought on the formation of the solar system regards the moon as a legitimate planet, which either took shape as a near twin from the same cosmic raw material that the earth began with or, forming elsewhere in the same general zone, was captured later by the earth to make up the present double system."³² But Beiser recognizes that this view of the Moon's origin faces very serious difficulties, for he goes on to state: "From observations that yield the moon's dimensions and its mass, we know that the moon has an average density a full third less than the density of the earth. If both bodies were formed of much the same stuff, what accounts for this discrepancy?"³³ No answer is given to this question.

At the present time, astronomers have no generally accepted theory concerning the origin of the Moon. The British astronomer, George Darwin (son of Charles), discovered about 1890 that the Moon is receding from the earth at the rate of five inches a year. By means of a typically uniformitarian extrapolation, he concluded that about four billion years ago the Moon was pulled out of the earth, leaving the Pacific Basin as the scar which marks the point of its departure, and that it has been receding ever since! Many scientists still accept this view, including George Gamow,³⁴ in spite of the fact that another British astronomer, Harold Jeffreys, proved in 1931 that such a separation of the Moon from the earth would have been physically impossible. "Since then," writes Harold C. Urey, "most astronomers have agreed with him."³⁵ What, then, does the gradual recession of the Moon prove concerning its origin? Nothing whatever! This point should be carefully pondered by those who insist that present processes are an infallible key to the past.

(9) The Problem of Heavier Elements in the Smaller Planets.

Professor Fred Hoyle, renowned cosmologist of Cambridge University, points to yet another problem for the nebular hypothesis:

Apart from hydrogen and helium, all other elements are extremely rare, all over the universe. In the sun they amount to only about 1% of the total mass. Contrast this with the earth and the other planets where hydrogen and helium make only about the same contribution as highly complex atoms like iron, calcium, silicon, magnesium, and aluminum. The contrast brings out two important points. First, we see that material torn from the sun would not be at all suitable for the formation of the planets as we know them. Its composition would be hopelessly wrong. And our second point in this contrast is that it is the sun that is normal and the earth that is the freak. The interstellar gas and most of the stars are composed of material like the sun, not like the earth. You must understand that, cosmically speaking, the room you are now sitting in is made of the wrong stuff. You yourself are a rarity. You are a cosmic collector's piece.³⁶

Very ingenious and complicated theories have had to be devised to explain the high proportion of heavy elements in the earth and the other small planets. It will be recalled from an earlier section of the paper that Kuiper invoked the concept of a dust-cloud composed of almost exactly the same proportion of elements now found in the solar system, which gradually condensed into the Sun and its planets, with the pressure of sunlight dispersing the lighter gases (hydrogen and helium primarily) from the small, inner planets (Mercury, Venus, Earth, and Mars). Difficult as it is to imagine such a process taking place, it is nothing compared to the difficulty of imagining how such a dust-cloud originated in the first place! George Gamow believes that our present universe started from an exceedingly dense core of protons and neutrons which exploded in a "big bang" about five billion years ago. By a rapid succession of neutron captures and electron decays, all the elements were built up in the first few minutes, and the fleeing matter thereafter formed stars, planets, and galaxies. Gamow worked out his theory with impressive mathematical detail, and most cosmologists today accept the basic outline of this hypothesis.³⁷

Nevertheless, Gamow's "big bang" theory of the origin of the elements faces some insuperable difficulties. The first of these, as William A. Fowler of the California Institute of Technology frankly admits, is beyond any hope of scientific solution: "How the protons and neutrons themselves were created is a question outside the province of this article: only men of strong convictions, religious or scientific, have the courage to deal with the problem of the creation."³⁸ Beyond this, however, are yet other "difficulties to which Gamow's collaborators Ralph A. Alpher and Robert C. Herman have themselves called attention."

The most serious is the fact that in the sequence of atomic weights numbers 5 and 8 are vacant. That is, there is no stable atom of mass 5 or of mass 8...The question then is: How can the build-up of elements by neutron capture get by these gaps? The process could not go beyond helium 4, and even if it spanned this gap it would be stopped again at mass 8. In short, if neutron capture were the only process by which elements could be built, starting with hydrogen, the build-up would get no farther than helium. This basic objection to Gamow's theory is a great disappointment, in view of the promise and philo-

sophical attractiveness of the idea. The other major current hypothesis is less simple and less elegant; it complicates the picture by invoking other processes, in addition to neutron capture, to account for the build-up of the elements. But it seems to surmount the difficulties encountered by the Gamow hypothesis. The theory argues that the elements were built not in a primordial explosion but in the hot interior of stars.³⁹

Fowler devotes the remainder of his article to a highly speculative discussion of the numerous complicated processes that must be imagined to explain the evolution of heavier elements. Starting with a universe consisting of a cold, dilute and turbulent gas of hydrogen atoms, the theory assumes that part of the gas condensed into stars which became hot enough to produce some carbon 12 out of rare fusions of beryllium 8 with helium 4. Other elements were formed as the temperature continued to rise, until finally the iron group (around atomic weight 56) appeared. Having burned up all their internal fuel, these primeval stars exploded and flung "a considerable amount of iron," together with lighter elements, into interstellar space. Out of this cold nebula of gas and dust "second generation" stars condensed, produced still heavier elements, exploded again into interstellar space, and finally condensed into the solar system! "Of course this scheme is still highly tentative," admits Fowler. "It is disconcerting that so many different processes have to be invoked; it would be much more satisfactory to see a single process that could build up all the elements. The picture may, however, become simpler as more research is done."⁴⁰

Unfortunately for the theory of evolution, the picture is not becoming "simpler as more research is done." Instead, the complexity of the physical universe multiplies as each new discovery is made. It might not be entirely inappropriate to suggest that the easiest way out of the cosmogonical dilemma, as far as modern science is concerned, would be to suppose that all the elements came into existence in the form of gas and dust clouds -- out of nowhere! Perhaps some readers will be astonished to learn that this is actually the "explanation" now being advocated for the origin of all hydrogen atoms in the universe, by Fred Hoyle, Hermann Bondi, and Thomas Gold of Cambridge University, William H. McCrea of the University of London, and other "steady-state" cosmologists who strongly oppose Gamow's "big-bang" theory of the origin of the universe. Professor Hoyle explains:

I find myself forced to assume that the nature of the Universe requires continuous creation -- the perpetual bringing into being of new background material...The most obvious question to ask about continuous creation is this: Where does the created material come from? It does not come from anywhere. Material appears -- it is created. At one time the various atoms composing the material do not exist, and at a later time they do. This may seem a very strange idea, and I agree that it is, but in science it does not matter how strange an idea may seem so long as it works...Hydrogen is being steadily converted into helium throughout the universe, and this conversion is a one-way process -- that is to say, hydrogen cannot be produced in any appreciable quantity through the breakdown of other elements. How comes it then that the universe consists almost entirely of hydrogen? If matter were infinitely old, this would be quite impossible. So we see that the universe being what it is, the creation issue simply cannot be dodged. And I think that of all the various possibilities that have been suggested, continuous creation is easily the most satisfactory.⁴¹

But if hydrogen atoms continue to pop out of nowhere, why not all the other elements too? In other words, if modern science cannot explain the origin of the basic building blocks of the universe (whether protons, neutrons, or hydrogen atoms), why should it bother to explain the origin of the more complex elements? If modern science cannot explain the origin of the earth, the Moon, and the Sun, why should it bother to explain the origin of the universe beyond? The fact of the matter is that science steps out of its proper domain when it dogmatizes, or even speculates, concerning ultimate origins. God has seen to it that mere human logic and searching will never succeed in this area, for it is only through special revelation that God has partially unveiled the mysteries of creation "in the beginning." Not by cosmogonical speculation, then, but "by faith" we understand that the worlds have been framed by the word of God, so that what is seen hath not been made out of things which appear" (Heb. 11:3).

But have not the currently popular cosmological and cosmogonical theories been solidly established upon extremely intricate and impressive mathematical foundations? Yes, but equally brilliant mathematicians are "demonstrating" mutually exclusive cosmologies! Bernard Jaffe describes the present state of affairs in cosmology as follows:

The theoretician supplements Einstein's principles by functions of his own, adding a new symbol here, removing another there, changing coefficients or exponents, rearranging the formulas when new difficulties appear or new interpretations occur to him. Every line represents the creation of a new universe; every sheet of paper that is crumpled and tossed into the wastepaper basket signifies a universe destroyed. In the morning he constructs and in the evening he tears down, god and demon at once.⁴²

One prominent scientist, in reviewing the intricately developed cosmogonical theory of another scientist, warned that "only the alert reader will be aware that, concealed behind the apparently conservative mathematics, there is a precarious inverted pyramid of speculation after speculation, interlarded with slippery assumptions."⁴³ What may the Christian conclude from all of this? In the words of Paul A. Zimmerman,

No theory is better or stronger than its assumptions. Without good grounds for accepting the assumptions, the whole structure hangs suspended in the sky by the thread of imagination... From all this a Christian pastor may draw the conclusion that he may with truth tell his people that current materialistic propaganda regarding cosmological theories is just that -- propaganda, unsupported by fact! The Biblical account of creation by Almighty God has not been disproved by science. It remains today, even from the viewpoint of reason, I believe, the most logical, believable account of the beginning of the earth and the rest of the universe.⁴⁴

III. It Underestimates God's Special Revelation in Scripture

In the light of the utter failure of uniformitarian evolution to explain the origin of the elements, the stars, and the planets, it is very disappointing to find leading evangelical exponents of the double-revelation theory appealing to Gamow's "big-bang" hypothesis of an expanding universe as support for the Biblical doctrine of creation! In the first of a series of articles on "The Story of

Creation," Christian Life magazine invited J. Laurence Kulp, Karl Turekian, and Donald R. Carr of Columbia University's Lamont Geological Observatory, and Russell Mixter and Howard Claasen of Wheaton College to discuss "The Origin of the Universe." These writers concluded:

A simple calculation shows that about five billion years ago all matter was in one spot. An "explosion" occurred at that time and the fragments have been flying apart since to give us an expanding universe...How did the creative act take place? An increasing number of evangelical Christian scientists and theologians can now be said to take the following position...All the elements of the universe must have been created within a half hour. Within less than 400 million years, the gas composed of 90 per cent hydrogen had drifted apart to a great extent and the temperature had dropped down to that of a comfortably warm room. There were none of the sparkling stars of today at that time -- only a gigantic dark ball of gas at low pressure... Some 500 million years after the universe was started (about 1/10 of universe history) the earth came into being.⁴⁵

The effort of these evangelical scientists to harmonize the "big bang" theory with the Biblical account of creation becomes somewhat ludicrous when they invoke Hebrews 11:3 ("through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear") to support the idea that the visible universe has developed from "invisible" atomic particles! Bernard Ramm effectively disposes of this interpretation, though in many other respects he accepts the double-revelation theory:

If this is the correct interpretation it means that all scientists who believe in the atomic theory have the faith of Hebrews 11! Belief in protons, photons, positrons and electrons is put on the same level as faith in God's power and promises. It is absurd to assert that an atheist's faith in atomic theory is the same faith as that of Hebrews 11...Ex nihilo creation is distinctly Biblical and foreign to Greek thinking, and it is ex nihilo creation which we perceive by faith. To assert then that "the things which do not appear" refers to invisible atoms, and not the word of God (the divine agency of creation) is to directly contradict the teaching of this verse. It would make the verse mean: God created the world from previously existing invisible atoms. But that is precisely what the passage seeks to deny for it seeks to tell us that the visible universe was brought into existence ex nihilo by a spiritual God and a spiritual power, namely, the word of God.⁴⁶

It is significant that just eighteen months after this article appeared in Christian Life, Gamow himself frankly admitted that the "big-bang" theory could not explain the origin of most of the elements!

We know that hydrogen and helium do in fact make up about 99 percent of the matter of the universe. This leaves us with the problem of building the heavier elements. I hold to the opinion that some of them were built by capture of neutrons. However, since the absence of any stable nucleus of atomic weight 5 makes it improbable that the heavier elements could have been produced in the first half hour in the abundances now observed, I would agree that the lion's share of the heavy elements may well have been formed later in the hot interior of stars.⁴⁷

This is not an isolated instance. Time and time again, Christians have been pressured into adopting some popular scientific theory only to discover, to their sorrow and embarrassment, that they had succeeded in "harmonizing" Scripture to a scientific concept that was proved to be erroneous after all. As someone has well said, the person who becomes wedded to the scientific cosmology of one generation will find himself widowed in the next. Man's understanding of the universe continues to change as he learns more and more of its intricate and marvellous structure; but God's Word never changes, for it is the direct product of an infinite and unchanging God.

It is not surprising that Christians who prefer to accept the Biblical doctrine of origins find themselves under continual pressure, not only from secular scientists, but also from evangelical scientists who adhere tenaciously to the double-revelation theory. For example, Dr. J. Laurence Kulp, one of the contributors to the Christian Life article cited above, feels that it is the height of presumption for Christians to call into question a theory of the origin of the universe that the majority of modern scientists accept:

It may be theologically undesirable for those who hold a particular doctrine of creation to accept the "hot hydrogen hypothesis" of the origin of the universe, but certainly it is not for a theologian to reject the hypothesis that is held in one form or another by practically all scientists in cosmology on scientific grounds... Apparently we are to let the theologians pontificate all knowledge of the physical world and dare not investigate any of it. The first stage of all scientific investigation is guessing (forming hypotheses) prior to testing. Why should the first stage of the created universe be any less subject to study than any other part of history? How the acceptance of a particular theory of the first stage of the universe involves one in total evolution is not understandable.⁴⁸

Even more serious than this statement, as far as the Biblical doctrine of creation is concerned, is Dr. Kulp's insistence that any other view than the uniformitarian view of origins would make God a deceiver of mankind!

Christians should believe in a generally uniform universe and keep themselves informed as to the best factual information about their universe. Such a concept does not rule out miracles nor make them deists. Since the God of the Christian is a God of truth, He would not willfully deceive any more than willfully lie. Therefore, a single probable interpretation of the physical-chemical data of the universe remains which shows it to have had a history billions of years long. If we accepted the idea that God deceived man about the origin and development of the universe, how can we believe in Him for any other truth.⁴⁹

What is the full significance of this statement? In the first place, Dr. Kulp seems to be saying that the evidences in support of a uniformitarian interpretation of the origin and development of the universe are so consistent, powerful, and undeniable, that God Himself would be a deceiver if this view turned out to be wrong after all! We would suggest that the reader check again the nine problems listed earlier in this paper if he is tempted to believe that there is "a single probable interpretation of the physical-chemical data of the universe." A survey of the history of science reveals thousands of instances where scientists throughout the entire western world have held completely erroneous ideas concerning the laws and the structure of the material universe. Until the beginning of the 17th century, practically all astronomers in the Christian world believed that the

Sun revolved around the earth -- and taught the Church to believe this too! Until the middle of the 19th century, scientists believed in the spontaneous generation of life. And not until the 20th century was the strongly-held concept of the indestructibility of matter finally exploded. Are we justified in blaming God for these erroneous views held by all leading scientists for centuries? Is God a deceiver because man is not omniscient and infallible in his insights concerning the natural world around him?

A second, and even more serious, implication of Dr. Kulp's statement is that God has nowhere revealed to mankind the true interpretation of how the universe began. But what about the Book of Genesis? Does not this book shed some light on the question? It is exactly at this point that the true character of the double-revelation theory is manifested. Basic to this theory is a serious underestimation of the significance of Scripture in the modern cosmological and cosmogonical debate. Kulp states:

Some theologians assume that the results of science in space can be accepted but those in time rejected. This occurs because of their paucity of knowledge about science. Matter, energy, space and time are indissolubly related. When we wish to learn in some detail what was or is in the material universe, we cannot get this information from the Scriptures. They are simply not a textbook on the material world. They were not intended to be. References to natural phenomena are brief, general, and non-technical.⁵⁰

To be sure, there is some truth to the oft-repeated cliché that the Bible is not a textbook on science. But it is also true that the Scriptures are inerrant and authoritative wherever they do speak on matters that overlap the so-called domains of the scientist and the historian, and such occasions are neither rare nor obscure. For example, there is a remarkable amount of clear Biblical evidence to show that Adam and Eve received their bodies by supernatural, direct creation (rather than by an evolutionary process); that before the Edenic curse there was no death, disease, or violence anywhere in the earth; that the immediate descendants of Adam and Eve were not illiterate savages; that the human race has not been in existence for scores or hundreds of thousands of years; that the Noahic Deluge was geographically universal; and that the present distribution of the human race traces back to the Tower of Babel and God's judgment upon it.⁵¹

Furthermore, it is the writer's conviction that the Scriptures clearly teach that the heavens, the earth, the sea, and the various kinds of plants and animals were brought into existence as "mature" and functioning entities by the direct and supernatural power of God.⁵² Some have argued that God may have chosen to tell the story of creation in terms of direct creation rather than in terms of evolution, because early man could not have understood an evolutionary concept. But this is simply not true. The ancient Greeks believed in various evolutionary ideas of the origin of life, and if evolution were true, God could very easily have directed Moses to write the first two chapters of Genesis in such a way as to convey this idea accurately.⁵³ It is not, then, a question of whether God has deceived scientists concerning the matter of origins if Genesis should turn out to be true. The real question is whether God has deceived those who have taken the Book of Genesis seriously if the modern uniformitarian and evolutionary view of origins should turn out to be true.

CONCLUSION

The time has come when evangelical Christians must strongly challenge the popular notion that modern science provides an independent and equally authoritative source of information with the Bible concerning such doctrines as the original creation, the Edenic curse, and the Noohic Flood, and that science alone is competent to tell us when and how such things occurred (or even whether they occurred!), while the Bible merely informs us "in non-technical language" as to who brought these things about and why. The truth of the matter is that the Word of God not only provides us with the only reliable source of information as to the when and how of these great supernatural events (to say nothing of the who and why in each case), but also tells us why the unaided human intellect is utterly incompetent to arrive at the correct answers in such matters (cf. Rom. 1:18-23; 3:11; I Cor. 1:19-29; 2:14; Heb. 11:1-6; II Pet. 3:3-5). Our Lord's condemnation of the sceptical Sadducees of His day adequately expresses the basic problem facing all modern uniformitarian cosmogonists: "Ye do err, not knowing the Scriptures, nor the power of God" (Matt. 22:29).

We are far from denying, of course, that God has given to men a revelation of Himself in the material universe, for the Bible definitely teaches this in Psalm 19:1 ("the heavens declare the glory of God; and the firmament showeth his handiwork") and in Romans 1:20 ("for the invisible things of him since the creation of the world are clearly seen, being perceived through the things that are made, even his everlasting power and divinity"). Furthermore, God commanded Adam to "subdue" the earth (Gen. 1:28), and we may presume that this command finds partial expression in the marvellous inventions and discoveries which God has permitted to His creatures.

But there are a great number of supremely important truths that the material universe can never reveal to the searching eye of man, even if he could bring an unfallen mind and a pure heart to the investigation of its wonders. It is for this reason that God, in His infinite grace and love, has given to us in the Bible the supreme and only authoritative revelation concerning the Persons of the Trinity, the original creation, the nature of man, the Fall and Edenic curse, the Tower of Babel, the Abrahamic and Mosaic covenants, the miracles of Moses, Elijah, and other prophets, the incarnation, atoning death, and bodily resurrection of Christ, the nature and purpose of the Church, the unseen world of spirit beings (including Satan), the Second Coming of Christ, the future judgments, heaven and hell, and many other vitally important truths that are completely outside the scope of scientific investigation. In other words, cosmogony, cosmology, and metaphysics, in the ultimate sense of these terms (and no other sense is truly valid) are impossible apart from God's special revelation in Scripture! The true scientist, therefore, no less than the true theologian, must confess with David: "Thy word is a lamp unto my feet, and a light unto my path...in thy light shall we see light" (Psa. 119:105; 36:9).

In view of all this, the Christian may have perfect confidence that science can make no ultimately fruitful discoveries that are not in perfect accord with the clear and obvious teachings of God's Word. Some, indeed, will consider this to be an unwarranted restriction on their intellectual freedom, and a stumbling block in their pathway as they seek to "follow truth wherever it may lead." But exactly the opposite results will be experienced by those who allow the Scriptures to be their guide in such matters, for the omniscient and truthful Saviour has promised us: "If ye continue in my word, then are ye my disciples indeed; and ye shall know the truth, and the truth shall make you free" (John 8:32).

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4. Loc. cit.
5. Bernard Ramm, in a review of J. I. Packer's book, "Fundamentalism" and the Word of God, in Eternity (March, 1959), p. 40; and Billy Graham, in a letter to the editor, Eternity (Nov., 1958), pp. 18-19.
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40. Loc. cit., p. 91. Cf. Gamow, Matter, Earth, and Sky, pp. 555-58. Gamow had earlier denounced this view as comparable to "the request of an inexperienced housewife who wanted three electric ovens for cooking a dinner: one for the turkey, one for the potatoes, and one for the pie. Such an assumption of heterogeneous cooking conditions, adjusted to give the correct amounts of light, medium-weight, and heavy elements would completely destroy the simple picture of atom-making by introducing a complicated array of specially designed 'cooking facilities.'" The Creation of the Universe (Mentor Books. N. Y.: The New American Library, 1960; written in 1952), pp. 56-57.
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46. Bernard Ramm, The Christian View of Science and Scripture (Grand Rapids: Wm. B. Eerdmans Pub. Co., 1954), p. 128. The Christian Life article (p. 16) refers to the original creative act as "spontaneous" but appeals to Gamow's theory to explain it. This is quite contradictory.
47. George Gamow, "The Evolutionary Universe," Scientific American (Sept., 1956), p. 154. Underlining is ours.
48. J. Laurence Kulp, "The Christian Concept of Uniformity in the Universe," His Magazine, (May, 1952), p. 24. How far Kulp has travelled on the road to total uniformitarianism may be judged by another statement in this article: "Miracles should not be described as acts whereby God breaks His laws but rather as acts whereby He superimposes higher laws to effect His purposes. They are 'higher' only in the sense that man has not been permitted to discover them yet. Thus miracles occur from definite causes and the effect should be reproducible" (p. 16 - underlining ours).
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53. Cf. Wilbert H. Rusch, "Darwinism, Science, and the Bible," Chapter 1 in Darwin, Evolution, and Creation, pp. 5-12.