I am accepting Dr. Holroyd's argument not only because it appears logical and well-grounded; but, also, because I know that there exist other scientific ways to prove that no mechanistic theory of life can be true. I shall mention here two patterns of such reasoning.

The first one² could be called the cybernetic proof. It is based on Gödl's theorem applied to computers. According to that theorem, for any machine which is functioning according to some built-in program, there exists an infinity of prob-

lems which it cannot solve.

It follows that for any machine there exists a limited class of tasks which it may perform or of modes of behaviour which it may simulate. (It does not follow, that for any task that we may think of, we cannot build *the* machine to perform it).

It follows, further, that although any specific goal pursued by man's brain or his muscles can be accomplished by a suitable machine, no mechanistic system can exist that would substi-

tute for man as a whole.

The second pattern of reasoning is based on the concept of negentropy and on the Second Law of Thermodynamics. Both living systems and machines are subject to the Second Law. The living system, however, can locally increase negentropy, regardless of the conditions which are actually reigning in the immediate environment. Man can do so individually, other organisms do it as the total mass of all species living presently and in the past.

There are, however, some limits to which the environment can change without impairing man's ability to "produce" negentropy. As shown by our history, these limits are incessantly expanding

ing.

Considering only the physical limitations, we may notice how they have been unceasingly transgressed in recent years; environmental temperatures from 0°K up to 400°K and more, pressures from 0 to 20 or more atmospheres, velocities greatly exceeding that of sound now have become standard external conditions for many categories of men (for instance Apollo astronauts, men working on off-shore drillings, deep-sea divers, etc.).

Setting aside considerations regarding the questions of limits and environmental conditions, it must be emphasized that no system ruled only by deterministic laws can "produce" negentropy. It follows that man and his development (man as a whole, not his particular functions and modes of behaviour) cannot be understood by any theory based on a mechanistic model. As shown by Dr. Holroyd the model based on chance must also be discarded.

If neither chance nor determinism, where then can one turn?

References

¹Holroyd, H. B. 1972. Darwinism is physical and mathematical nonsense, *Creation Research Society Quarterly*, June.

²Hubert, J. Z. 1968. Gödl, Ruyer and Assembling, *Znak*

²Hubert, J. Z. 1968. Gödl, Ruyer and Assembling, Znal 16, Krakow.

REVIEW OF CREATIONIST ASTRONOMY

George Mulfinger, Jr.*

Introduction

As can be seen from the brevity of the list of offerings presented here, much work remains to be done in the area of creationist astronomy. Christians who have sufficient background in the field and who have strong enough convictions to take a good stand on the issues involved should be encouraged to write.

Frankly, I have been appalled at the number of professing Christians who have taken the easy way out and have compromised with atheistic theories. Yet, whether realized by readers or not, creationists are in the midst of a spiritual warfare. Satanic forces and doctrines, which creationists oppose, exist at all levels, even in the basic sciences of physics and astronomy. Perhaps the heresy in those areas is more subtle than in, say, the doctrine of human evolution, but it is present nonetheless.

And, as has been brought out in Bible-science seminars in various parts of the country, a compromising tendency is taking a tremendous toll among our young people today. How can they be helped to withstand the wiles of the devil in this respect?

It is instructive to note from Ephesians 6:14 that *truth* is listed first among the defenses that comprise the "whole armor of God." But how can they know the truth in some of these subject matter areas unless capable Christians are willing to exercise some of their God-given talent to "dig it out" and make it available to them?

The writings reviewed in this article are, to the best of my knowledge, strictly creationist in their approach. Admittedly some decisions had to be made in determining what was to be included. Several books and articles that exhibit some measure of compromise with an evolutionary cosmology or time-scale have been excluded from the listing.

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"The Origin of the Solar System" by John C. Whitcomb, Jr. Presbyterian and Reformed Publishing Company, Nutley, New Jersey, 1964,

In this well written, well documented little booklet, Whitcomb raises questions that the theorists will never be able to answer, so long as they insist on restricting themselves to blindly acting naturalistic mechanisms. Some of the areas covered include problems in the alleged condensation of the sun and planets, angular momentum, eccentric and inclined orbits, retrograde rotation of planets, retrograde revolution of satellites, and distribution of elements in the solar system. The booklet also includes an exposure of the fallacies of the double revelation theory.

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"On the Origin of the Universe" by Donald O. Acrey in Creation Research Society Quarterly,

July 1964, pp. 10, 11.

Acrey points out some of the observational hindrances to astronomy such as absorption of light by the atmosphere, absorption in the interstellar medium, back-scattered solar radiation, and cosmic radio noise. It is sobering to contemplate that theories in astronomy are not the only aspect that is suspect. The very observations are often questionable.

One thinks of the canals of Mars. At one time in the not-too-distant past many capable astronomers were seeing and sketching the "canals." But somehow they never seemed to be able to photograph them successfully. The Mariner space probes have now shown them to be nonexistent. What were they? No fully satisfying explanation has yet been proposed.

The author stresses the futility of attempts to date the universe, most especially those methods involving the use of light. He suggests the logical creationist view that light waves were formed instantaneously, already in motion, at the beginning. How long ago this took place, however, cannot be determined because of lack of proper tools and techniques.

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"God of the Universe Watching Over the Earth" by Oscar L. Brauer in Creation Research Society Quarterly, January 1967, pp. 4-11.

This paper is broader in scope than just astronomy since the author touches also on biology, geology, and theology. Brauer presents some compelling arguments for teleology, drawing from a wide assortment of illustrations and experiences. He makes some astute observations concerning those who would attempt to harmonize the Bible with some scientific theory by annihilating the portion of Scripture in question. He asks, "Why not change the theories to fit God's Word?"

In his list of references the author gives the chapter and verse for each of the 71 portions of Scripture that say or imply that God created the heavens and the earth. Of these, 53 are found in the Old Testament, 18 in the New Testament.

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"Examining the Cosmogonies—A Historical Review" by George L. Mulfinger, Jr. in Creation Research Society Quarterly, September 1967, pp. 57-69. (Also reprinted in Why Not Creation? Walter Lammerts, Editor. Presbyterian and Reformed Publishing Company, Nutley, New Jer-

sey, 1970, pp. 39-66.)

This is a study of the fickleness and transitoriness of man's "best" thinking in the realm of cosmogony. The paper covers eleven theories of the solar system chronologically from 1644 to 1951, and four theories of the universe from 1927 to 1965. Viewed in historical perspective this naturalistic guesswork perpetrated in the name of science is seen to be a vast chain of changeableness, with no guarantee that the theorists are coming any closer to the truth today than when they first started speculating.

As a matter of fact it appears that, from a philosophical standpoint, at least, they are actually getting farther from the truth. In their attempt to force God to abdicate His creatorship they have turned to more and more bizarre schemes that increasingly involve violation of natural laws. The vast spans of time that are invoked to make the theories seem more plau-

sible actually work against them.

In conclusion it is suggested that it is totally useless to speculate about what the universe used to be when we don't even understand what it is today! The challenge to those who reject the Word of God on the subject still stands:

Let him who scoffs at the Genesis record state specifically which hypothesis he would put in its place. Then let him attempt to resolve the insuperable difficulties inherent in that hypothesis and defend it against the onslaughts of future experimental findings.

If this can be done successfully it will be a "first" in the history of astronomy.

"The Creation of the Heavens and the Earth" by John C. Whitcomb, Jr., in Creation Research Society Quarterly, September 1967, pp. 69-74. (Also reprinted in Scientific Studies in Special Creation. Walter Lammerts, Editor. Presbyterian and Reformed Publishing Company, Nutley, New Jersey, 1971, pp. 22-31.

Whitcomb shows the Biblical basis for an ex nihilo creation and enumerates nine defects inherent in the various evolutionary theories of the origin of the solar system. He then adds, "In the light of all these facts of astronomy, it seems to me that evangelical scientists have no right to lend their support to evolutionary cosmogonies."

As all these theories demand vast spans of time it is profitable to study from a textual standpoint whether such time can in fact be comprehended within a Scriptural framework. Thus the paper includes a discussion of the Gap Theory, showing its various difficulties. Whitcomb concluded the paper with consideration of the *purpose* of the stellar creation, stressing the uniqueness of the planet earth in the overall scheme of the physical universe.

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"Modern Cosmology and the Origin of the Solar System" by John Read in *Bible-Science Newsletter*, October 15, 1967. (Also reprinted in *The Creation Alternative*. Walter Lang and Vernon Raaflaub, Editors. Bible-Science Association, Caldwell, Idaho, 1970, pp. 80-85.)

It is refreshing to see Read's strict interpretation of Genesis I with respect to astronomical creation. No gaps are postulated and it is stated emphatically that no harmonization can be effected between Genesis and modern cosmology.

The author presents two very excellent quotes from noted astronomers admitting quite candidly the failures of modern theories—one from Thornton Page and one from Jastrow and Cameron. The latter enumerates three serious problems in the origin of the solar system: angular momentum, mass distribution, and difficulties in the alleged condensation process.

After sketching a brief historical review of the unenviable record of failure of the various hypotheses that have been attempted, Read concludes, "There is zero chance the solar system could have evolved. In fact, the Genesis account recorded by Moses is the only explanation that is consistent with the scientific facts."

"Degeneration Processes in the Cosmos" by George L. Mulfinger, Jr. in *Bible-Science Newsletter*, September 15, 1968. (Also reprinted in *The Creation Alternative*. Walter Lang and Vernon Raaflaub, Editors. Bible-Science Association, Caldwell, Idaho, 1970, pp. 72-79.)

This is a brief survey of some of the specific examples of degenerative events in the universe that can be observed readily. The paper touches on normal stellar processes, novae, supernovae, shell stars, planetary nebulae, comets, meteors, cosmic rays, natural radioactivity, and the slowing of the earth's rotation. There is overwhelming evidence that natural events are "running downhill." Properly interpreted, this evidence can be used to completely deny all theories of cosmic evolution.

"Is There Life on Other Worlds" by Frank W. Cousins in *Creation Research Society Quarterly*, June 1970, pp. 29-37.

The author states that the question raised in the title is an open one. The alleged direct evidence (i.e., results from analyses of carbonaceous chondrites) is shown to be unsatisfactory at best. Lacking scientific evidence, then, the question is seen to be a philosophical one rather than a scientific one.

Cousins first shows the arbitrary nature of the guesswork concerning the existence of other planets suitable for life. The estimates of the possible number of such planets vary greatly. Shapley's guess of 10⁸ differs from Hoyle's guess of 10¹⁴ by a factor of a million! The study of astrometric binaries is shown to be difficult and unrewarding, at least insofar as shedding light on the question at hand.

The author then attacks the hypotheses of spontaneous generation and biological evolution. Considering the case he presents it seems impossible to accept the occurrence of either one once here on earth where conditions are known to be "right," much less multiplied billions of times out in space where conditions can only be imagined.

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"Origin and Development of the Universe" by Thomas G. Barnes in *Creation Research Society Quarterly*, June 1970, pp. 51-53.

The origin and development of the universe is a paradox in science. There is no way that the first and second laws of thermodynamics can be used to achieve a scientifically consistent explanation of the origin of the universe and its transition to the present state. This is a paradox in science per se.

Apart from divine intervention, the first law, consistently applied, would lead to a belief in the eternality of matter. Yet the universe would have *already* run down as a result of conditions described by the second law. "Obviously that is not the present state of the universe. Hence the paradox."

The difficulty is not resolved by the "big bang" idea or any other so-called hypothesis that is based upon strictly naturalistic processes.

Barnes mentions one highly amusing ruse that has been suggested in an attempt to salvage the situation—namely, that the universe is an open system with energy continually being pumped in from the outside! Objections to the idea should be rather obvious. But no theory, either serious or facetious, can be used successfully to answer the question that Barnes raises.

"Is the Universe a Thermodynamic System?" by Emmett L. Williams, Jr. in *Creation Research Society Quarterly*, June 1970, pp. 46-50.

This paper deserves to be studied. The author defines the frequently misused terms "open system," "closed system," and "isolated system." It is his studied conclusion that it is impossible to tell if the universe is in fact a thermodynamic system on the basis of the scientific method. We simply do not have enough information at our disposal to make a positive statement.

disposal to make a positive statement.

However, on the basis of Scripture it is assumed that the universe is a thermodynamic system, and, because it does not appear to exchange energy or matter with its surroundings, it is further assumed that it is an isolated system. Yet, "whether the universe is open, closed, or isolated, it is definitely degenerating. No matter what type of thermodynamic system is chosen, the entropy of the system always increases with the occurrence of an irreversible process."

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"Critique of Stellar Evolution" by George L. Mulfinger, Jr. in Creation Research Society

Quarterly, June 1970, pp. 7-24.

This is a protest against the all-encompassing "hydrogen-to-man" concept of cosmic evolution popularized by Shapley, Gamow, and others. Such thinking, in spite of many scientific and philosophical absurdities, is widely adopted to-day.

Furthermore, many professing Christians are being "carried along with the tide." Surely they fail to realize the consequences. There is no logical stopping point. The theory is a broad philosophical "pathway" leading ultimately to

atheism.

It is remarkable how evolutionists can turn the truth around. Degenerative processes in stars, predicted by both scientists and Scripture, are termed "stellar evolution," leading the unsuspecting to believe that some kind of upgrading or improvement is involved. The most incredible part of this system of belief is the concept that stars, planets, and other astronomical bodies do not need a Creator. Rather they supposedly have been structured spontaneously, which occurs continually. Such an alleged process is unscriptural (Gen. 2:1-3), would violate the known laws of nature, and has never been observed.

The paper includes an entropy calculation indicating that the star formation process would be in flagrant violation of the second law of thermodynamics. It has been interesting to observe responses of evolutionists to this dilemma. Amusingly, some have attempted to take refuge in "entropy sinks," which would appear to be about the only "loophole" available. But any knowledgeable thermodynamicist would be able

to point out that there is no such thing as an entropy sink in the macroscopic world! And there is little question that an interstellar cloud several light years across (which is supposed to be condensing into a star) is indeed macroscopic!

Similarly, a calculation of the forces acting in such a cloud demonstrates that it would tend to expand rather than contract. I am now working on a new improved force calculation that shows the expansive force of the cloud to be considerably stronger, even, than I had originally thought. This will hopefully be published in this *Quarterly* in the near future.

Astronomical dating methods are discussed and rejected as invalid. Such methods involve a two-step guessing procedure: (1) guessing at an evolutionary history for the object being dated; (2) guessing how long that history would take to complete itself. By this line of reasoning, for example, it has been concluded that the Pleiades are 900 million years old! Many age discrepancies existing in the astronomical literature are cited to show that such dating methods must be quite unreliable. In some cases discrepancies involve many hundreds or even thousands of percent error.

Other difficulties are discussed to illustrate the fact that the reader is beset today with a hodge-podge of mutually contradictory ideas in the literature, brought about by a desire to superimpose an evolutionary framework on a degenerating universe. But this view avails nothing. The evolutionary approach is utterly bankrupt when attempting to explain the ultimate origin of anything. To the evolutionist each stage of development requires a previous stage. Never can there be a true beginning. Yet scientific data and Scripture both demand such a beginning.

The most satisfactory explanation for the origin of stars, galaxies, and planets is a rapid and miraculous Creation which endowed the heavens initially with all the diversity of structure and function that we observe today.

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"A Scientist Explains" by Harold S. Slusher in Science and Scripture, March-April 1971, September-October 1971, November-December 1971, January-February 1972, July-August 1972.

In this series of very excellent articles Prof. Slusher discusses a number of evidences for a young solar system. The indicators he has selected include the decay of the earth's magnetic field, the mercury content in the oceans, juvenile water from volcanoes, comets, the Poynting-Robertson effect, and the behavior of light in Riemannian space. The last named is a most fascinating subject that warrants a great deal of further investigation.

Slusher's discussion of light in space is based on a paper that appeared in the Journal of the Optical Society of America, August 1953, entitled, "Binary Stars and the Velocity of Light." The two investigators (Moon and Spencer) concluded that if light travels in Riemannian space with an effective radius of 5 light-years (and there is some experimental evidence to indicate that such may well be the case), then light can arrive here on the earth from the farthest star in only 15.7 years. To the best of my knowledge this original paper has never been refuted.

Slusher's treatment of comets is also noteworthy. According to figures quoted from Lyttleton, long-period comets would be expelled from the solar system in relatively short time. In "only" 5 million years about 95% would have been lost. The short-period comets, by virtue of their closer approach to the sun, would suffer rapid breakup into meteoroids. The author cites calculations by Richardson which are truly amazing. According to Richardson's figures, out of an original family of 1000 short-period comets, at the end of 3000 years only 1 or 2 would be left! Slusher concludes, "The destruction and the loss of comets puts a definite upper limit on the age of the solar system. Instead of 4.5 billion years, it appears at the most to be only a few to several thousand years old."

Also in this series of articles Prof. Slusher discusses the question, "Does Life Exist on Other Planets?" His conclusion is as follows: "It seems highly improbable that there is life in our solar system outside of the earth. If other intelligent life does exist then it must be in another planetary system somewhere in space. We do not know for certain that any other planetary systems exist."

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"Some Astronomical Evidences for a Youthful Solar System" by Harold S. Slusher in *Creation Research Society Quarterly*, June 1971, pp. 55-57.

This is a discussion of several indicators of a youthful solar system—meteoritic dust accumulation on the earth and moon, the Poynting-Robertson effect, comets, the helium content of the earth's atmosphere, etc. The Poynting-Robertson effect is especially interesting. It can be shown that particles in solar orbit gradually spiral into the sun.

The question then arises: Why is there still so much particulate matter present in interplanetary space, such as that which gives rise to the zodiacal light? There appears to be far too much material for the alleged age of the solar system. The questions raised in this paper should be given serious consideration and study—not the condescending smile and cursory dismissal that is so often encountered.

"Comets and a Young Solar System" by Harold Armstrong in *Creation Research Society Quarterly*, December 1971, pp. 192, 193.

The fact that there are still comets in orbit around the sun can be used to argue strongly against a multibillion-year history for the solar system. It has been estimated that a typical comet can only survive 50 or 60 revolutions before disintegrating completely. Another possible fate that can befall a comet is perturbation by a large planet such as Jupiter, resulting in its ejection from the solar system. With depletion of comets possible by both of these processes, it is remarkable indeed that any survive today.

The "comet bank theory" of Opik and Oort is an ad hoc speculation that has been devised to provide a continuing source of comets "as needed" from regions beyond the orbit of Pluto. Armstrong states, "There is no evidence for any such thing, and some evidence against it." The question should be studied further. Unfortunately the alleged comet bank lies (conveniently for the theorists) beyond any possibility of observation, at least for the present. Therefore it cannot be studied scientifically. However, the reality of this defect is overlooked, in this case, because naturalistic scientists are so desperate for some idea.

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The Early Earth by John C. Whitcomb, Jr. Baker Book House Company, Winona Lake, Indiana, 1972, 144 pp.

This is a remarkably comprehensive new book covering such subjects as the nature of Creation, astronomical theories, the geologic timetable, the creation of plants and animals, theistic evolution, the antiquity of man, the day-age theory, the gap theory, and the double revelation theory. The reader is referred to a complete review in the March 1973 issue of *Creation Research Society Quarterly*.

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"Could There Be Life on Other Planets of the Solar System?" by Oscar M. Erpenstein in *Creation Research Society Quarterly*, June 1972, pp. 58-63.

The author concerns himself only with "life as we know it." This would appear to be a wise approach because, in his words, "life in any other form is no more than a metaphysical speculation, incapable of proof." The question posed in the title is answered decisively in the negative, the chief reason being the absence of liquid water.

This much is now certain, without necessarily going even further, that the earth is the only planet on which liquid water is to be found, and this is absolutely necessary for the sustenance of life as we are familiar with it.

Some interesting information not usually available from astronomy texts is included in the paper: the apparent diameter of the sun as seen from the various planets, the apparent stellar magnitude of the sun from each of the planets, and the relative amounts of heat and light received by each planet.

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"Our Degenerating Universe" by George L. Mulfinger, Jr. in *A Challenge to Education*. Walter Lang, Editor. Bible-Science Association, Caldwell, Idaho, 1972, pp. 53-58.

This paper was presented at the Milwaukee Creation Convention, October 1972. It touches on the following general areas: mass and radiation losses from stars, catastrophic events in stars, white dwarfs, neutron stars (pulsars), black holes, "normal" degeneration in galaxies, and exploding galaxies, including Seyfert galaxies and quasars. Everything from stars to galaxies is seen to be wearing out. Yet the cosmic evolutionist is unable to point to new objects that are forming to take their places.

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"Airy's Failure Reconsidered" by W. van der Kamp. Printed by the author (14813 Harris Road, RR #1, Pitt Meadows, B. C., Canada). Copyright, 1970.

This is a thought-provoking little booklet. The subject is a bit esoteric for the average Christian, touching on matters both scientific and philosophical, but it has definite merit for the serious-minded reader in that it forces one to think through some of the concepts and notions he has taken for granted without proof since childhood.

More specifically, van de Kamp's treatise points up the fact that much remains to be learned about the nature of light and the manner in which it is propagated. The title refers to an experiment performed by Sir George Airy, British Astronomer Royal, in the year 1871. Airy failed to observe any difference in the required angular setting between an ordinary telescope fixed on a given star, and a water-filled telescope fixed on the same star. There are a number of ways of interpreting this result.

This reviewer would disagree with van der Kamp's interpretation that the earth is in fact static while the rest of the universe turns around it. (The author embraces Tycho Brahe's cosmology rather than Ptolemy's.) Such a view calls into question the entire framework of celestial mechanics erected by Newton, Kepler, and others. This edifice has withstood the test of centuries, and is admirably useful in the space program today.

Some of the outcomes of Einstein's work are similarly challenged, but this is a different matter. Einstein's results have not yet "weathered" the test of centuries of observations, and while some recent research tends to confirm his Special Theory of Relativity, other findings are troublesome for supporters of the General Theory.

The author proposes an experiment to resolve the question that may or may not be definitive. He also sets forth a unique view of gravitation which sounds quite strange to those who have received orthodox instruction in physics, but then it must be admitted that *no one* really knows just how gravitation *does* work.

Christians might be willing to accept van der Kamp's geocentric view to a degree. Certainly we cannot deny that the earth is the center of God's interest. It is to this planet that God sent His Son to die on the cross, and it is to this planet that He will return to set up his Kingdom. Creationists might not even quibble too much about the idea that the earth is at the geometric center of the visible universe.

But the idea of a stationary earth will loom as a stumbling block to many. The author apparently has Biblical reasons for this belief, but does not spell out in detail (at least not in this treatise) which portions of Scripture he feels would compel one to the geocentric point of view.

The booklet is written in an attractive style and is well documented. It is recommended reading for anyone who enjoys exercising his mind, and who is willing to rethink some of his long-cherished beliefs about the universe in which he lives.