

## ARE THERE CORPOREAL LIVING BEINGS OUTSIDE THE EARTH?

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*The question, whether there are corporeal living beings elsewhere than on the Earth, is investigated with the help of information both from observation and from Scripture. Within the solar system, the evidence from observation alone shows fairly conclusively that there is no extra-terrestrial life. Beyond the solar system, observation provides little evidence one way or the other. Scripture, however, and especially certain parts dealing with concepts of the fall and redemption, provides strong evidence to show that there are no rational corporeal living beings outside the Earth. And, again on grounds of Scripture, it is suggested that if there are no rational beings, then there are likewise no irrational beings.*

The question mentioned in the title is one that is often heard today. Indeed, it is often heard without the qualification "corporeal," but it is necessary for us. For many Christians might not be especially surprised if someone should find angels "up there;" yet, it is not angels that many people have in mind when they raise the question.

The present purpose is to investigate the question, using whatever information may be obtained, 1. from general considerations, 2. from scientific observations, and 3. from Scriptural considerations. We include Scripture on the belief that it is a valid source of information, since it is ". . . profitable for doctrine . . ."<sup>1</sup> (the Greek word translated "doctrine" could also be rendered "teaching" or "education").

It is true that sincere men can differ about interpretations; but, then, the same could be said about the evidence arising from scientific observation.

In anticipation, it may be said that evidence from sources other than Scripture is quite inconclusive. The answer derived from Scripture seems to be: "No"; but it must be admitted again that some people may arrive at different interpretations.

### 1. General Considerations

Let us, then, consider some of the arguments, and first those which arise from general considerations.

It is often said that out of so many (assumed) planets around the various stars, there must be more than one with living beings. But back of this is an unproven assumption. It must be supposed, either that other planets, like the Earth, were created to be inhabited, or else that living beings will somehow "arise" wherever there are favorable, or not too unfavorable, conditions.

But there seems to be no evidence in Scripture (the only possible source) for the first supposition; and observation and investigation really gives no support to the second. In fact, some

recent arguments lead to the opposite conclusions. An article estimates that in four billion years, on  $10^{20}$  planets, the chance is only one in  $10^{415}$  that a molecule of DNA would be produced "by chance," on the basis of some reasonable assumptions.<sup>2</sup>

Another estimate, quoted in the same article, makes the probability of producing life by chance on the Earth in two billion years about one in  $10^{225}$ . So if life arose "by chance here, it well might be something unique. If on the other hand, it came about by design, well then, in order to discuss the matter we must know what the Designer intended. And clearly a designer could do something just once, if he so chose; there was but one Parthenon.\*\*

### 2. Scientific Observations

As for scientific evidence, the solar system seems to show that there are no living beings (let us understand "corporeal" henceforth), elsewhere than on the Earth. Recent visits to the Moon have failed to reveal any traces of even the most rudimentary living beings. (Many of the explorations which will be mentioned are recent, and well known; thus no particular references may be given concerning them.)

Not only have the rockets which have traveled close to Mars sent back nothing that could be taken as evidence of living beings; but also, the more information accumulated about conditions on that planet, the less likely it seems that anything could live there.<sup>3</sup> As for the seasonal

\*\*Editor's Note: It is hard even for an evolutionist like Dr. George G. Simpson to imagine seriously that intelligent life has evolved anywhere else, even though millions of other earth-like planets may exist. He concluded, in part, his 1964 paper entitled, "The Non-prevalence of Humanoids" - (*Science*, 143 (3608): 769-775). "There are certainly no humanoids elsewhere in our solar system." (p. 774) If life does exist in any other planetary systems, Simpson asserts, "It is extremely improbable that such forms of life include humanoids, and apparently as near impossible as does not matter that we could ever communicate with them in a meaningful and useful way if they did exist." (p. 775) Simpson's plea to scientists is embodied in his subtitle which reads, "We can learn more about life from terrestrial forms than we can from hypothetical extraterrestrial forms." (p. 769)

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changes of colour, which were once thought to be from vegetation, it now seems likely that they come from some inorganic cause.

Information about Venus is still scanty, since only the top of the heavy layer of clouds is visible. But again, every new piece of evidence makes the presence of living beings there seem less likely.<sup>4</sup> The temperature, it appears, is high, well above the boiling point of water. Composition of the atmosphere is not at all favourable; in particular, there is little oxygen. Venus appears to be a hot, rather dry, barren planet.

The possibility of life, anything like what we know, on the other planets of the solar system is too small to call for any long discussion. Mercury is far too hot, and has no air or water. Other planets are too cold, and have highly unsuitable atmospheres. (It seems somewhat uncertain how much atmosphere Pluto has; but certainly it is too cold.) And the satellites and asteroids are all unsuitable for one or more of the reasons already mentioned.

The living beings under discussion (if there be any), are assumed to be somewhat like those which we know on Earth; and, in particular, to depend on the same elements and to have the same kind of chemistry. This means that they would need water, and would be restricted to temperatures (at the widest possible range), between the freezing and boiling points of water.

(This statement may need some qualification. Certainly creatures live in winter at temperatures below the freezing point. But they depend, eventually, on things that grew when or where the temperature was above freezing. If the whole planet were below the freezing point all the time, it is hard to see how beings could long live on it.)

And living things need oxygen, nitrogen, and certain other elements. And presumably they depend on photosynthesis by some of their members, and thus need suitable light. Yet, as has been pointed out, all of the planets, satellites, and asteroids, except the Earth, seem to be deficient in one or more of these respects.

One can, of course, imagine something at least analogous to life, depending on different elements and thus capable of existing under different conditions. But we have never seen anything of the sort; we know nothing about it; such "life" is like the "unknown somewhat" which philosophers used to suggest, and intelligent discussion of it is equally impossible.

One might, indeed, assume something more specific, e.g., beings in which silicon replaces carbon, or fluorine replaces oxygen. It might be worth while to undertake a separate discussion of such notions. Here, though, it can be remarked that the more we learn about the com-

plexity of living beings, the less likely such imitations seem. Probably no one seriously believes that there are structures like DNA made with silicon or fluorine; and without DNA, according to the common opinion, there would be nothing even analogous to living beings as we know them.

### Observations Beyond Solar System

Now that the solar system has been considered, what can be said about more distant places?

The more distant places which we can see are the stars. Presumably no one has supposed that there might be living beings on the stars themselves; but it has often been suggested that some of the stars might have planets, and that there might be living beings on some of those planets.

The supposed planets, of course, have never been seen. They are far too small. A planet the size of the Earth, for instance, ten light-years away (and that would be close, as distances go among the stars), would subtend an angle of about  $8 \times 10^{-9}$  degrees; it would be in the same situation, as far as visibility goes, as a green pea about 28,000 miles away. Even if it were not too small, the planet would still be lost in the light of the star. For example, the planets Mercury and Venus are in the sky for the most part in the day time, when the Sun is well above the horizon; but of course they can not be seen.

On the other hand, there certainly are double and multiple stars; so it is not hard to believe that, as well as large and luminous companions, some stars might have small and dark ones. Indeed, there is some evidence that some stars have such companions.<sup>5</sup>

Double or multiple stars are distinguished and identified in various ways. If the members are far enough apart, and bright enough, they can be seen separately, and seen to revolve around a common point, the centre of gravity of the system. If they are too close together, in proportion to their distance from us, to be seen separately, but are both (or all), fairly bright, their motion around the centre can be shown by the Doppler effect.

(As the stars revolve, alternately approaching and receding, the frequency and wavelength of the light, which we receive from them, changes somewhat; just as the pitch of a train whistle seems to change according as whether it is approaching or receding. Many double stars have been identified and investigated in this way.)

Again, if two stars cannot be seen separately, and one is darker than the other but not small, the dark one may make its presence known by eclipsing the other from time to time,<sup>6</sup>

### Problems of Planet Detection

If the companion is small and dark all these methods fail. There is, however, another possibility.<sup>7</sup> Not only would the star attract the planets (if any), which revolve around it, but also the planets attract the star. Thus the star "wobbles" slightly, first one way and then the other, as the planet revolves.

In fact, it could be said in some rough sort of way that they all revolve about the common centre of gravity. (If there are more than two bodies involved, the motion can be rather complicated; but this statement is enough for the present argument.) The common centre of gravity may well lie within the star, but not quite at its centre.

In the solar system, for instance, Jupiter, with a mass about one thousandth that of the Sun, and an orbit of radius about 480,000,000 miles, would have the greatest effect. In the absence of effects due to the other planets, Jupiter and the Sun would revolve about their common centre of gravity, which would be about 480,000 miles from the centre of the Sun, near its surface, making one revolution in about 12 years.

The Earth, with a mass about one three hundred thousandth that of the Sun, and about 93,000,000 miles from the Sun, has less effect. If there were no effect from the other planets, the Earth and the Sun would revolve about their common centre of gravity, about 280 miles from the centre of the Sun, going around, of course, once in a year.

Thus the effect of Jupiter would make the Sun wobble over a total extent of about 960,000 miles, about its diameter. The Earth, by itself, would make the Sun wobble over a total extent of about 560 miles, less than one thousandth of its diameter.

The wobbling might either be observed directly, or possibly detected by the Doppler effect. at a distance of 10 light-years, the effect of Jupiter on the Sun, calculated above, would make the Sun seem to wobble by about  $9 \times 10^{-7}$  degree; the effect of the Earth, from what was said, would be only about one thousandth as much. The velocity of the Sun, in its wobbling due to Jupiter, would average 960,000 miles in 6 years, or about  $5 \times 10^{-3}$  miles per second.

Since the velocity of light is about 186,000 miles per second, the Doppler effect, due to Jupiter, would shift the wavelength, and the frequency, of the light by about one part in forty million. The effect of the Earth, (in the absence of other effects), would be only about one per cent of that. Thus it appears that the wobbling of a star, due to a planet accompanying it, could be detected in some cases, but it would need to be a quite large planet.

### Supposed Life on Speculated Planets

Now from time to time such wobbling is, in fact, detected on the part of certain stars. So it appears that some stars have, indeed, a planet or planets. As was already mentioned, though, the larger a planet is the more likely it is to be detected.

Therefore, as far as we can tell from what we see here in the solar system, a large planet is not likely to be a suitable home for living beings; (a) the atmospheres are all wrong, (b) there is too much of such gases as methane and ammonia, and (c) too little of the gases which living beings need. So it might be said that the more likely a distant planet is to be discovered, the less likely it is to be a suitable home for living beings.

Sometimes it is supposed that, given a star and any arrangement, (or disarrangement!) of bodies around it, there would be a system which might serve as a home for living beings. Thus, it seemed to follow, such systems might easily come about by accident, almost.

It has recently been argued, however, that there are many regularities, such as "resonances," relations between the periods in the solar system.<sup>8</sup> The probability, it was estimated, that all these regularities would come about by chance was no more than about one in  $10^{10}$ . So systems like ours might be rather rare; ours might even be unique.

At first sight, it might seem that these regularities would have nothing to do with the suitability of the system, or some parts of it, as a home for living beings. But one should not be too hasty here; certainly the disposition of the system has something to do with its suitability as a home of living things. For instance, if Mercury, Venus, Earth, and Mars were where Jupiter, Saturn, Uranus, and Neptune are, and vice versa, our system would not be suitable for living beings anywhere.

The wobbling of a star, of course, tells us nothing about the chemical composition of the planet that causes it to wobble. The stars themselves vary widely in composition, as has been determined by spectroscopy.<sup>9</sup> Even in the solar system, with one Sun, there is a great variation among the planets. So it seems likely that planets belonging to different stars might differ widely in composition.

It is widely supposed that the different kinds of stars are simply different stages of development from more or less the same beginning.<sup>10</sup> But even if that is so it proves nothing about the planets, unless also we assume that the planets were formed at the same stage during the development of each star.

Again, the planets which we can observe, viz.:

those of our system, certainly differ in composition, and the differences seem to be as permanent as the planets themselves. So it is possible that the stars have differed from the beginning.

In any event, differences in a star, even if they be only differences in the stage of development, might easily spoil any planets around that star as a home for living beings. Planets around a red giant star, e.g., might not receive the proper radiation necessary for photosynthesis. And other stars, much different from the Sun, might cause other unfavourable conditions.

While there is some evidence to show that certain stars may have planets of some sort, there is no evidence to show that any such planets would be suitable as homes for living beings. In particular, it certainly should not be assumed that any planet, which should be at the right distance from its star to have a suitable temperature, is sure to be suitable for living beings in all other respects.

### Scripture Considerations

Those of us who believe seriously in Scripture must inquire whether there is anything there which might throw any light on the question under discussion. Some have thought that Scripture does, indeed, contain hints of living (and rational), beings on other planets.

For instance, the "other sheep, which are not of this fold."<sup>11</sup> However, if the other folds are planets around other stars, it is hard to see how they and this Earth could be consolidated into "one fold." It seems easier, and indeed more common, to suppose that "the other sheep" were the Gentiles. Or they might have been people in the New World; or the lost tribes, in view of Ezekiel 34: 11-31, and 37:15-28.

There seems to be nothing in the account of Creation which tells us anything about the matter; the fact that the stars were created "for signs, and for seasons, and for days, and for years"<sup>12</sup> perhaps does not necessarily preclude other uses.

If "all flesh,"<sup>13</sup> in the account of the flood means all, everywhere, there seems to be no notion of corporeal beings elsewhere than upon the Earth.

Again, there are passages such as: "The heavens, even the heavens, are the Lord's but the Earth hath He given to the children of men."<sup>14</sup> But it seems to be in the New Testament that we shall find most of the evidence, and it may be presented in the following formulation.

The whole universe, in some sense, needs redemption. "The whole creation groaneth and travaileth together in pain until now."<sup>15</sup> Moreover, this state of affairs is the result of Adam's

fall. ". . . by one man sin entered into the world, and death by sin."<sup>16</sup> (In the Greek, "world" is "cosmos").

Now if the universe was made for Adam and his descendants, such a state of affairs can be understood; but if there be, on other planets, other races of beings, who never had anything to do with Adam, it is hard to see how his fall would have affected them. And if not them, surely not the whole universe, in which they would presumably have as much of a share as we.

But it is also hard to believe that there is, somewhere, a race which, never having had anything to do with Adam, has not fallen. This situation was suggested, I do not know how seriously, in stories by C. S. Lewis.) But "the whole creation groaneth," and ". . . there is none righteous: no, not one."<sup>17</sup> So if there are any rational beings elsewhere in the universe, they need salvation, even as we do.

### Importance of Salvation on Earth

Now any salvation must be through the Son, for "there is none other name under heaven given among men whereby we must be saved,"<sup>18</sup> and ". . . it pleased the Father . . . by Him to reconcile all things unto Himself . . ."<sup>19</sup> Moreover, it was through His death, for ". . . without shedding of blood is no remission. . ."<sup>20</sup>

However, the Son did not shed His blood on each of untold myriads of planets, for "Christ was once offered to bear the sins of many,"<sup>21</sup> and ". . . Christ being raised from the dead dieth no more, death hath no more dominion over Him. For in that He died, He died unto sin once. . ."<sup>22</sup>

If, on the other hand, there should be any fallen beings somewhere on other planets, it does not seem that God would just leave them utterly to their doom, for He is ". . . not willing that any should perish. . ."<sup>23</sup>; rather His purpose is that ". . . He might gather together in one all things in Christ. . ."<sup>24</sup>

So rational beings outside the Earth, if there be any, are to be redeemed (some of them, anyway), and redeemed through Christ's sacrifice here on Earth, at Calvary. But that would seem strange. It seems to be considered fitting that the redemption be by One Who, in the human sense, was descended from Adam. ". . . since by man came death, by man came also the resurrection from the dead. For as in Adam all die, even so in Christ shall all be made alive."<sup>25</sup> Also, it seems to be important that the Son, in His incarnation, was ". . . made of a woman, made under the law. . ."<sup>26</sup>

In the light of all this, the most likely conclusion from Scripture seems to be that there

are no rational (corporeal) beings outside the Earth. In that case, we might venture to suggest that there are not many irrational beings. For it seems to have been God's purpose to put rational beings in charge of His Creation, to ". . . have dominion . . . over every living thing that moveth. . ."<sup>27</sup>. This argument might, perhaps, not exclude a few bacteria or lichens. It may be that, on questions of this sort, we can reach only probable conclusions.

It may be proposed that there must be rational corporeal living beings somewhere outside the Earth, for they have visited us, e.g. in flying saucers better called "unidentified flying objects" or simply UFO's. However, the evidence for UFO's is certainly not conclusive.<sup>28</sup>

Even if it be granted that UFO's are real, it does not necessarily follow that they have come from outside our Earth. It is difficult to imagine a technically advanced race living on any of the other planets of the solar system. As for other planets, if there be any suitable ones, belonging to other stars, the problem of getting here from such distances would surely be very great. So the reality or otherwise of the UFO's has no necessary bearing on the question under consideration.

In final conclusion, then, it may be said that such evidence as may be obtained, 1. from general considerations, 2. from scientific observations, and 3. from Scriptural considerations are against the existence of rational corporeal living beings outside the Earth.

## References

- <sup>1</sup>II Timothy 3:16.
- <sup>2</sup>Salisbury, F. B. 1969. Natural selection and the complexity of the gene, *Nature*, 224:342.
- <sup>3</sup>Pollack, J. B., and Eagan, C. 1969. *Space Science Review*, 9:243.
- <sup>4</sup>See 1969 reports in *Icarus*, 11:139.
- <sup>5</sup>Baker, R. H. 1950. *Astronomy*. Fifth Edition. D. Van Nostrand Co., Inc., p. 365.
- <sup>6</sup>*Ibid.*, Sections 13.16 to 13.23.
- <sup>7</sup>*Ibid.*, Sections 13.5 and 13.6.
- <sup>8</sup>Molchanov, A. M. 1969. The reality of resonances in the solar system, *Icarus*, 11:104. See also references cited, and related articles in that issue.
- <sup>9</sup>Baker, *Op. cit.*, Sections 11.15 to 11.19.
- <sup>10</sup>*Ibid.*, Sections 15.15 to 15.19.
- <sup>11</sup>John 10:16.
- <sup>12</sup>Genesis 1:4.
- <sup>13</sup>Genesis 6:13.
- <sup>14</sup>Psalms 115:16.
- <sup>15</sup>Romans 8:22.
- <sup>16</sup>Romans 5:12.
- <sup>17</sup>Romans 3:10.
- <sup>18</sup>Acts 4:12.
- <sup>19</sup>Colossians 1:19 and 20.
- <sup>20</sup>Hebrews 9:22.
- <sup>21</sup>Hebrews 9:28.
- <sup>22</sup>Romans 6:9 and 10.
- <sup>23</sup>II Peter 3:9.
- <sup>24</sup>Ephesians 1:10.
- <sup>25</sup>I Corinthians 15:21 and 22.
- <sup>26</sup>Galatians 4:4.
- <sup>27</sup>Genesis 1:28.
- <sup>28</sup>Markowitz, William. 1967. The physics and metaphysics of unidentified flying objects, *Science*, 157 (3794):1274-1279. Markowitz presents an excellent case against these UFO's being under extra-terrestrial control. He concludes, "The control of reported UFO's by extraterrestrial beings is contrary to the laws of physics. The data published do not justify the holding of investigations." (p. 1278)

## THE NATURE OF SPECULATIONS CONCERNING THE ORIGIN OF LIFE

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*Though a majority of scientists believe that the origin of life was due to a natural evolutionary process, a significant minority disagrees.*

*By examining some important implications and limitations, prejudicial aspects of the materialistic position are made manifest with regard to some of the experimental work being conducted today in support of speculations on the origin of life.*

*Attention is given to the impossibility of the existence of many present day reagents on a primitive earth, and to weaknesses of many comparisons of precellular models of actual cellular conditions, before a five point enumeration is offered of problems that must be solved by a naturalistic approach.*

It is inherent in any acceptable definition of science that statements that cannot be checked by observations are not really *about* anything—or at the very least they are not science. (Simpson<sup>1</sup>)

. . . how life originated, I am afraid that,

since Pasteur, this question is not within the scientific domain, at least if we consider probability as an essential part of a scientific statement. (Mora<sup>2</sup>)

Due to the nature of the process, the origin of life by an evolutionary process could have left no record for man to investigate. Any organic compounds which would have been formed abiogenetically, and which remained available to organisms, would long ago have been degraded.

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