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Old Universe But Young Life?

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Notes:
1. An early draft of this paper was presented to the GRICO Conference, held in Salt Lake City, Utah, from July 27-30, 2007.
2. Some elements of this paper were presented in a popular article included in *Record*, Oct 24, 2009.

ABSTRACT

Most Seventh-day Adventist thought leaders have never questioned a "young" age for the Earth's biosphere, i.e. from six thousand to tens of thousands of years. However, while pioneer Adventist Church leaders were also explicit in accepting these same ages for all inanimate matter on Earth and in space many prominent Adventist individuals and institutions now allow or accept a conventional "Big Bang" cosmology with its implications of 4.5 and 13.7 billion-year ages for the Earth and universe respectively. This view has been increasingly championed by a number of Adventist writers on science during the last five decades and in recent years there has been a renewed theological attempt to strengthen its exegetical foundation. This paper argues that the coherence of this "old universe but young life" model is compromised at two levels. The first involves the selective acceptance of scientific evidence and inconsistent use of scientific methodology. The second, more fully developed in this paper, relates to the implications of the tacit admission of ongoing "process" made by the "old universe but young life" model.

Keywords: biosphere, Big Bang, infidel, abiotic, day-age theory, gap theory, process, symbiosis, singularity, top-down, bottom-up

HISTORICAL INTRODUCTION

Since its inception in 1863 the Adventist Church has taken a firm and consistent stance in favour of a recent age for "creation". Most prominent Church pioneers appear to have rejected any view other than that life, the Earth and indeed the physical universe were created as part of the literal six-day sequence of Genesis 1. For example, in the earliest publication of her only vision concerning origins, that given at Lovett's Grove, Ohio in 1858, Ellen G. White lamented that, "Infidel geologists claim that the world is very much older than the Bible record makes it", and she noted that "many who profess to believe the Bible record . . .(are denying) . . . that the world is now only about six thousand years old".[1] In 1861 J. N. Andrews wrote that giving existence to the Earth was the "event which marks the commencement of the first week of time".[2] His well known statement of 1874 is even broader, suggesting a recent origin not only for the Earth, but for the stars as well. He opined:

> If we could be placed back some 6000 years in the past and from that point survey the vast abyss of space now studded with the stars of heaven, what should we behold? Blank nothing. The host of heaven did not then exist. The earth itself had not risen into being.[3]

Interestingly, at the same time, early Adventists never doubted the prior existence of other created but unfallen worlds, since this view had also been strongly articulated by White.[4] It seems, however, that no serious discussion ever emerged over whether these worlds were located within our physical universe, and if so, how long they had been there and how much of the universe had pre-existed with them. However, one cannot help but wonder whether the quiet presence of this construct has helped to move Adventist understanding toward an acceptance of an older age for the universe.

THE EMERGENCE OF THE OLD UNIVERSE - YOUNG LIFE MODEL

While belief in a recent date for the creation of life has always been strongly defended by most Adventists, the age of the abiotic universe has become a separate issue, at least for some. The fact that some plurality of viewpoint in this area appeared quite early suggests that the age of the inanimate creation is seen by some as a subordinate matter to the age of life. We know that while the convictions of such leaders as White and Andrews appear to have defined the early Adventist viewpoint of a young Earth and universe, there were occasional voices of dissent. At least as early as 1860 the *Advent Review and Sabbath Herald* carried an article by a non-Adventist suggesting that the "substance of the earth was

formed long before it received its present organisation".[5] In the late 1800s articles were published in both major Church periodicals, *Advent Review and Sabbath Herald* and the *Signs of the Times*, urging that the primitive Earth and the heavens were not part of the six-day creation sequence of Genesis 1.[6] Gerhard Pfandl correctly noted the presence of this view by the year 1900 although this author believes he was incorrect when implying that it had equal prominence with the historic stance of White and Andrews.[7] In subsequent discussions the rocks of our Earth, the solar system and the outer universe were sometimes regarded as differentiable components within the creation story: at other times these entities were variously lumped together.

Certainly the individual whose views proved most influential in opening up the question of the age of the inanimate creation within the Seventh-day Adventist Church was George McCready Price. Indisputably the most influential Adventist creationist during the first half of the twentieth century, Price authored some twenty books during this period. Interestingly, his views on the age of the Earth fluctuated considerably during his long life. Although he always followed White in ruling out any accommodation involving pre-Edenic life, such as the day-age theory and the gap theory, he was prepared to admit in the early years of his writing career that "the solar system might have been created 'any number of millions of years in the long ago'".[8] Although it seems that he discarded this view in the 1920s, settling on a view of all creation as having taken place within the six days, it appears that he did not regard this point as an essential part of his platform, so he did not advocate it with any of his characteristic fervour. However, his position was sufficiently well known in 1940 for one of his previous students, Harold Clark, then struggling to re-establish his credibility with Price, to remind him "of the many ideas they continued to share: 'I believe that the world was actually brought into existence on the first day of creation, about six thousand years ago; that it was organized during the creation week. . . '"[9]

Clark had greatly offended Price on an earlier occasion by conceding order within the geologic column. The latter particularly took umbrage when previous students, in whom he had placed trust, departed from his views.

A short time later, in *Genesis Vindicated*, Price relaxed somewhat by clearly differentiating between the outer universe and the solar system itself.

> I have always been contending for a system of (Earth) geology which can be fitted within the time limits of the Bible; but what is there in Genesis which tells us anything

> whatever about how old the universe is – I mean the rest of the universe outside our solar system? Absolutely nothing at all![10]

However, within five years his view had changed once more and Price declared himself persuaded by evidence for an old Earth.[11] Numbers suggested that this change of heart may have been in part a consequence of his deep antagonism to Clark, who in the same publication had defended the more conservative view of a recent origin of Earth.[12] Price's about-face persuaded many other Seventh-day Adventists who had been wavering on this issue. Much of this "damage" was permanent by 1948 when Price changed his mind yet again, and reverted to the belief that the Earth had been created recently. Thus from the mid-1940s Adventists have been able to adopt a range of positions on the relative ages of the Earth, the solar system and the universe while still claiming orthodoxy.[13]

Within the Australian Adventist community the acceptance of an old Earth lagged behind, compared to its adoption by Adventists in the United States. It was not until the 1960s that any discussion on this issue surfaced, with most Church members deeply suspicious of anything which might be construed as contradicting *Spiritual Gifts*.[14] Indeed, as late as 1995, Clyde Webster from the Geoscience Research Institute (GRI) encountered huge resistance when presenting evidence for an old Earth and universe to a meeting of South Pacific Division (SPD) ministers on the campus of Avondale College, at which the writer was present. Clearly, many attendees were hearing these ideas for the first time from an "official" source. A report of this material published in the SPD weekly periodical, *Record*[15] provoked a vigorous series of letters from questioning Church members that continued for some weeks[16] and an indignant response from the Brisbane-based, non-denominational Creation Science Foundation (CSF). The editor published an apology to the CSF.[17] (Interestingly, a few years earlier *Record* had carried an article by Adventist astronomer Mart de Groot expressing these same views,[18] but without any significant responses being received by the editor.[19] It seems that either this article had not been widely read or it had not been understood!)

Growing acceptance of an old age for the universe was further demonstrated on Australian soil a year later. Possibly in a continuing attempt to conciliate the CSF and also to explore the possibility of cooperation between the Creation Science Foundation and the Seventh-day Adventist Church in Australia the South Pacific Division hosted a one-day “Creation Science Conference” at its head office in Wahroonga, NSW, on October 29, 1996. Three representatives from the CSF were

in attendance as were three American scholars representing the views of the Seventh-day Adventist Church. The latter strongly defended the view that accepting long ages for the non-living components of the universe was quite in accordance with the Bible.[20]

It is interesting to note that since 1977 the GRI journal, *Origins*, has moved from mild opposition,[21] through ambivalence,[22] to outright support for the old-universe position.[23] Probably for pastoral reasons, however, books written for general readership by GRI staff, while certainly presenting the newer view, have tended to stop short of definite endorsement.[24] Over the last two decades or so the idea of an old Earth, solar system and universe has gained increasing acceptance within institutional Adventism, as evidenced by the substantial adoption of this view by many seminarians at Andrews University. Describing the contributors to *Creation, Catastrophe & Calvary*, John Baldwin wrote in his preface:

> . . . the authors hold that biblical and contemporary scientific evidence combine to indicate convincingly that the total galactic universe is at the minimum billions of years old.[25]

Richard Davidson and Randall Younker presented papers affirming this view at the 2002 International Faith and Science Conferences,[26] one of which was reprinted in an issue of the *Journal of the Adventist Theological Society* devoted to creation.[27] These papers argued that a valid exegesis of Genesis 1 allowed an acceptance of an old age for the universe. Continuing this trend, reports indicate that key presenters at the recent International Conference on the Bible and Science, held in St. George, Utah in August, 2014, also conceded conventional scientific ages for the Earth and universe, although the papers have not yet been released.[28]

It is also interesting to note that over the last decade three Adult Sabbath School Quarterlies produced by the General Conference have unashamedly articulated these views as allowable options for Adventists, citing particularly the anthropic evidence associated with the Big Bang model.[29] Clearly, field trips and conferences involving GRI personnel, such as the Avondale meeting noted earlier, have been a significant factor behind the gradual acceptance of an old age for the Earth and universe on the part of participants, although there remain many Church members, perhaps even a majority of them, who are still either unaware of these changes or opposed to them.

This paper contends that the simultaneous acceptance of an old universe and a young biosphere, while superficially attractive, represents a deep tension. This tension arises largely from two observations:

- the inconsistent use of science demonstrated by the acceptance of many scientific concepts and bodies of data which imply long abiotic ages whilst simultaneously rejecting the same or similar concepts and data when they imply a long age for life;
- the implications of ongoing *process* in the long-age "Big Bang" scenarios, particularly with respect to symmetries between these and those conventionally invoked for the development of life over long ages.

The rest of this paper elaborates these two difficulties. The first is given a summary treatment for the sake of completeness. The second is developed in greater detail, since it is almost certainly the least understood, possibly the least obvious, of the two.

INCONSISTENT USE OF SCIENCE

The most obvious problem with allowing an ancient universe while insisting on a young age for life, and one which has already received considerable discussion, is that many of the scientific principles, methodologies and experiments that are employed to show an ancient Earth and universe also suggest an old age for life.[30] The following examples illustrate this:

- The enormously successful theory of plate tectonics not only brings together otherwise unconnected data concerning measureable continental drift, the similarity of now distantly separated continental outlines, the existence of mid-oceanic ridges and sea floor spreading, paleomagnetism, apparently conflicting magnetic pole positions and the distribution of earthquakes and volcanoes, but is also highly consistent with observed biogeographic distributions, both for living and fossil forms. For most, this clearly implicates life as being concurrent with this very slow process.
- The simple recognition of the validity of sequential layering within the geologic column carries temporal and sequencing implications for the life forms entombed. Attempts to explain this ordering in terms of a short timescale and flood geology, utilizing sorting mechanisms such as hydrological sorting, ecological zonation and relative mobility, are not widely regarded as successful. (Of course, it must be stated that many features of the fossil record, such as the sudden emergence of various life forms, also do not buttress standard Darwinian models!)
- Radiometric dating techniques not only date igneous rocks, but frequently also provide a minimum age of fossils contained in sedimentary layers through which (later) igneous rocks have intruded. While it is sometimes possible to point out some anoma-

lous results, the high degree of concordance exhibited by the data is compelling for most scientists, theists as well as non-theists. Furthermore, carbon-dating, the only radiometric method which specifically dates recent life forms, has been increasingly developed and cross-correlated with other later Quaternary dating methods, such as amino acid racemisation. It should also be kept in mind that the often-attempted critique of radiometric dating on the basis of uncertain constancy for half-life is rather self-defeating, since the latter is now understood to be a consequence of the relative strengths of the fundamental forces acting at the nuclear level. As Richard Bottomley has pointed out, it is not possible to perturb half-life without significantly compromising the possibility of any stable matter at all, over any time scale.[31] To suggest such is thus to undercut one's own use of the "fine tuning" argument discussed later in this paper.

- Recent ice-core studies in Greenland and the Antarctic are generally perceived to have yielded valuable data on volcanic activity and climate patterns, including precipitation and temperature, over the last several hundreds of thousands of years.[32] These data are highly concordant with those obtained from other sources, such as lake-bed sediment cores. Since organic remains such as pollen grains and diatoms are spread through both ice-cores and other sedimentary sequences, it appears that life has existed through the same spans of time.

Such examples could be multiplied. Thus, to allow those methodologies which support old ages for rocks, whilst denying or ignoring those which imply old life, risks a charge of methodological inconsistency.

THE IMPLICATIONS OF COSMIC PROCESS

The second argument concerns the involvement of process and is a little more subtle than the preceding discussion. It also involves a charge of inconsistency, although in a different way. We begin this discussion by noting some attributes of the universe which have always comforted theists. Believers from at least as far back as a writer of Psalms have argued for a Divine First Cause on the basis of what is "out there". For many these historical arguments were strengthened by twentieth-century discoveries of unsuspected complexity within living organisms and, of course, we now live in the age of the genome. As we know, it is these discoveries in particular that have led to much recent speculation over design, including the much-publicised Intelligent Design (ID) argument.

However, over the same period other

discoveries, ranging from particle physics to large-scale structures in space-time, have revealed the fantastic degree of specificity required within the *non-living* components of our universe in order for life to exist at all. Perhaps these have been even more unexpected than the discovery of the complexity of life! Indeed, the exquisite bio-friendliness of (some parts of!) our cosmic environment, as evidenced by many examples of ultra-delicate fine-tuning, has given rise to what has been called the Anthropic Principle and has been one of the significant factors suggesting a cosmic designer to many contemporary minds.

Some of this evidence is not new. It is 100 years since Harvard's Laurence Henderson suggested that our universe was amazingly constituted for life.[33] It was in the 1930s that Fred Hoyle was so impressed with the precisely gauged resonance found to be involved with the formation of carbon, the atomic species on which life is based, that he suggested the universe was a "put-up", or contrived, job.[34] Many others have elaborated on this theme, including a number of non-Christians.

The writer listened as Bernhard Lovell FRS (who was a Christian), presenting the 1985 Rutherford Memorial Lecture at Sydney University, spoke for two hours to many of Australia's physicists about the apparent coincidences uncovered by cosmologists and astrophysicists.[35] The discussion over this unexpected aspect of the universe was further developed by Tipler and Barrow in *The Anthropic Cosmological Principle*.[36]

Paul Davies, Physicist and Astrobiologist, has written a number of well-known books in which he either mentioned these facts or elaborated on this theme.[37] In a recent book Martin Rees, the Astronomer Royal, argued that a slight change in any one of six fundamental constants, including the number of dimensions and the comparative strength of the forces acting in our universe, would rule out the possibility of life as we know it.[38]

Michael Denton suggested a comprehensive list of stringent but essential conditions for the sustenance of intelligent life which are satisfied by our situation:

- a universe so long-lived as to provide stable energy sources for life;
- an energy source which radiates its energy primarily at those wavelengths most conducive to life;
- a planet of just the appropriate size to retain an atmosphere which transmits radiation bands essential to life while blocking most of those which are harmful, and which now holds sufficient oxygen to support life without excessive risk of spontaneous combustion;
- the right distance of this planet from its energy source to provide

an ideal energy flux;

- a fit rate of rotation so as to average this flux effectively and also to aid the safe redistribution of energy (and also the distribution of water over land) by means of ocean currents and winds; and
- an abundance of terrestrial water in its three states. It has been noted that so many of water's properties are absolutely vital to life, such as its high specific heat, high latent heat, efficiency as a solvent, liquidity at predominant Earth temperatures, and the manner in which it expands as it freezes.[39]

The life-sustaining properties of water ultimately depend on its molecular polarity and its particular bond length and angle. These in turn rely on highly specific values for the fundamental constants and force strengths, meaning that they depend on the more intrinsic properties of the particles concerned, in fact the same fundamental constants we encounter in cosmology, so in one sense this is just the same argument in a different guise. For that matter, electrons and protons and their ilk are just the stable particles which appear when the temperature is low enough! Scientists have not yet found the bottom line but they are sure it is highly specific. None of this is now new.

These various data have given rise to a recognition, even by many non-theists, that the probability of the naturalistic appearance of a matrix capable of supporting life, even if only in isolated pockets such as Earth, is vanishingly small. Indeed, Francis Collins (theist) appears to see stronger evidence for God's intervention in the Big Bang and cosmic fine-tuning than in the subsequent diversification of life itself.[40] Not surprisingly, he has been criticised for this view by the ID movement![41] Of particular interest to the thesis of this paper is the fact that in recent years a number of conservative Adventist scholars have also cited this cosmic fine-tuning as evidence of God's creative hand.[42]

However, as pointed out by Karlow, the indiscriminate use of the anthropic argument is fraught with the danger of inconsistency[43]. It is important to note a significant difference between early Adventists, such as Ballenger and Wilcox and even Price, who may have allowed a pre-existent universe, and those who do so today. Earlier adherents to an old-universe view would definitely have understood the universe to have resulted from a discrete earlier creation, or possibly a series of such creations back in deep time, although one conjectures that these writers could have had little premonition of just how deep this time might be! However, accepting the Big Bang as God's manner of bringing the universe into being is quite a different matter indeed. Not only does it concede deep time, it is also an admission of ongoing *process*, since the

"Big Bang" itself represented just the beginning of space-time as we know it.

Furthermore, by all appearances this process has been quite random and extremely violent. It has involved considerable recycling and has been incredibly wasteful. These features are not those which theists might expect, on the basis of the biblical pictures of creation – particularly that of Genesis 1– to be associated with God's creative acts. Further, the resourcing required seems totally out of proportion to the ends achieved, namely the creation of a single world on which God could ultimately situate humanity. In addition, despite these features of the cosmic forces by which our universe appears to have been shaped, God seems to have been able to work through them to such an extent that, against all apparent odds, the final product is not only capable of supporting life but now appears to have been artfully designed for this very purpose. Surely these considerations suggest some theological cautions. The implications of accepting a process-driven model for the universe while largely denying significant process in the biosphere have been pointed out by the author elsewhere:

> . . ., cosmologists understand that the Big Bang singularity was just the beginning of a long process, which by all appearances was hugely violent, random and wasteful, but through which God has obviously produced a highly specific outcome - our anthropic universe. How do we feel about God implementing his grand design in such a protracted manner? Further, if as creationists we accept this view, do we in any way weaken the basis on which we might counter others who suspect that God may have used similar processes to develop life?[44]

If God could set off the blue touch powder of the Big Bang in order to initialise this universe and set it on an inexorable path to a finely tuned state of suitability as a womb of life, why could not some similar event under His direction have initiated life itself and established its path to sentience and God-recognition? If it is theologically acceptable for God to use a developmental process for one, why not for the other? Conversely, if it is theologically unacceptable to entertain the idea of such a developmental sequence for life, then why is it acceptable for the universe?

These questions seem the more insistent because of striking similarities between those processes conventionally thought to be behind the development of both abiotic and living components of the universe. Although these symmetries may seem inconsequential to the non-scientist, practising scientists know that such patterns lie at the very heart of their endeavour and have frequently pointed the way to advances

of understanding.

Evolution and Symbiosis

As pointed out by Templeton Prize winner Freeman Dyson, cosmological diversification following the Big Bang has resulted from the interplay between two quite different processes: what might loosely be called *evolution*, i.e., the gradual change, development and diversification of forms, and *symbiosis*, the serendipitous re-attachment of two structures after they have been long separated – to the clear benefit of at least one of these entities.[45] Clearly evolution is more a bottom-up process whilst that of symbiosis is essentially top-down.

Dyson suggests that cosmic evolution is evident in the various symmetry-breaking processes, such as

> . . . the separation of the universe into two phases, one phase containing most of the matter and destined to condense later into galaxies and stars, the other phase containing most of the radiation and destined to become the intergalactic void. As a result of this transition the universe lost its original spatial symmetry.[46]

He goes on to note that this diversifying process of symmetry-breaking occurred with long periods of metastability punctuated by short bursts of rapid change. It was repeated at smaller and smaller scales as gravitational attraction clustered matter together into galaxies, individual stars, and eventually planets. We ended up with the universe we see today through our telescopes, consisting of a hierarchical series of lumps of various sizes and complexities. All of these entities operate according to the same physical principles.

However, as well as bringing about the clustering of matter into galaxies, stars and planets, gravity has a second mode of action, namely the symbiotic bringing together of these separate entities, once formed, into systems. Indeed these processes are so prevalent, and such structures as binary star pairs so common, that astronomers sometimes say, tongue-in-cheek, that "three out of every two" stars are binaries! These systems represent huge new cosmic opportunities. For example, the symbiotic association at some time past of the Earth with our energy-producing Sun provided the former with just the highly specific energy flux required to sustain life.

As Dyson suggests, these dual processes of evolution and symbiosis are also thought to have produced the biological diversity observed on Earth today. As for its stellar equivalent, evolutionary speciation of life forms is thought by some to have taken place in bursts, principally in response to environmental changes. Long and comparatively quiescent periods separate these times of rapid

development. These need no further elaboration. Biological symbiosis has also been of enormous significance, enabling giant steps in the development of living organisms. An example of this phenomenon suggested by Dyson is the invasion of a primitive cell by prokaryotic bacteria, the process thought to have produced the ancestral eukaryotic cell and that eventually produced mitochondria and chloroplasts. This fortunate invasion is understood to have enabled a "complexity of structure and function that neither component could have evolved separately".[47]

Indeed, scientists also understand that there has been such interaction between the living and non-living components of our near environment. It is thought that some of the existing features of our Earth's atmosphere (such as its oxygen content) and surface (its soils and perhaps some of its water) are the results of concurrently acting and interacting biological processes on Earth.

God in the Machinery

An obvious question arising from this interplay of process concerns the creative mechanism employed by God and the "directness" of the divine interaction involved. A number of theists have explored this issue, with perhaps a surprising degree of concordance.

John Polkinghorne FRS has argued for a multi-level process in which God's continual top-down causality acts paradoxically in conjunction with the fundamental and genuinely ontological bottom-up freedoms with which He has invested nature at a number of levels.[48] According to this view, which effectively abolishes the natural/supernatural divide, the universe is both free and under God, who is always the creator and guide. God's causality is then indistinguishable from natural law, which is best understood as the instantaneous manifestation of His will. Cosmic processes, which result in the fine tunings we observe are simply a consequence of continual divine causality. Although this might be seen as slightly more "hands-on" than the "fully gifted creation" suggested by van Till,[49] for a God outside of time there may be little difference. Also in broad agreement with this notion, Peters and Hewlett have suggested the usefulness of Aquinas's picture of God as primary cause, directing natural things to their end, as an arrow "shot to its mark by the archer".[50] As scientists we can study the arrow in flight but science itself can show us neither the archer directing the process nor the end point – the target. All three of these views see God working through process. It is important to note that the proponents of these mechanisms see them as working similarly in, and being equally efficacious for both the biosphere and for the non-living universe.

CONCLUSION

Although there are no published responses to the Adventist "old universe but young life" model of which this author is aware, discussion of this model with theistic scientists outside Adventism invariably raises questions over its consistency and credibility. This paper has endeavoured to show that there are valid reasons underlying this concern. The future of the old universe but young life model appears to face three main possibilities within Adventism. First, it may persist in its current form, although in all likelihood facing increasing pressure from the data, in which case Adventism will continue to stand apart from most Origins protagonists. Second, it might gradually disappear in favour of the more conservative, although more consistent original young-Earth view of the Church pioneers, in which case the Adventist Church will be more firmly located within the contemporary recent creation movement. Third, it may gradually disappear, having provided an easier transition to a process-dominated understanding of God having brought into being both the non-living and living components of our universe. In this latter case the old universe but young life model could then be said to have functioned as did the Tychonic cosmology of the 17th Century. This was an unstable amalgam of both Ptolemaic and Copernican constructs with the Earth at the centre as was thought to be required, the Sun and Moon going around it, and the other planets orbiting the Sun as it circled the Earth. While clumsy and at no time accepted by Galileo, it did, for a time, provide a much needed stepping stone for those unable to make the broad jump to the now universally accepted heliocentric cosmology.

QUESTIONS

1. Is it appropriate for the Seventh-day Adventist Church to move away at all from the ideas of its founders in important areas such as Origins? Is the answer to this question informed by the fact that early Church views were derived from the ministry, thought to be prophetic, of Ellen White? Is the answer to this question qualified at all by the insistence of early Adventism on the idea of "present truth"?
2. Does it matter to us if there are inconsistencies in our understandings and formulations which are apparent to significant groups outside our Church?
3. Is it appropriate to use scientific discoveries to inform our understanding of scripture? Can you think of any historical precedents where this has actually happened, now to the satisfaction of most Christians?
4. In a poem called *The Day-Dream* Tennyson wrote in 1842, possibly in connection with different ideas on Origins:-

   But any man that walks the

mead
In bud or blade, or bloom, may find,
According as his humours lead,
A meaning suited to his mind.

How much does our "type of mind" influence our ability to recognise apparent paradoxes in the Origins discussion, the fervour with which we seek resolutions to such paradoxes if we see them, and the final solutions we adopt? If our conclusions are, even in small part, dependent on our type of mind how should we regard those who think differently?

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