Part 2: The scientific data relative to the Biblical teaching of Genesis 1-11.

Chapter 4: *Teleology (Design): "God created" (Gen. 1:1):*
Biological life forms: creation, not macroevolution – mind the gap.
a] The Earth is prepared for more complex biological life-forms.
b] Darwin Undone on admission of joint founding father of Darwin-Wallace Theory of Natural Selection, Alfred Wallace.
c] The generally United Creationist School view on genetics of both old earth and young earth creationists: scientific laws of genetics support creation and refute macroevolutionary theory.
i] The origins of life, and also genetic complexity of even the most simple cells or life-forms, points to a Creator God.
ii] Convergence factors point to creation, not macroevolution: What came first, the chicken or the egg?
iii] The mutation spiral is downwards, not upwards: the issue of no credible source for the new genetic material of new creatures from naturalistic processes indicating that creatures were created by God at the level of genus or below.
iv] Old Earth Creationist Edward Blyth discovers the law of natural selection long before Darwin uses and abuses this law of nature.
v] Subspeciation or Speciation i.e., either Theistic Microevolution within a genetically rich genus or below created by God or Natural Selection Microevolution within a genetically rich genus or below created by God is inside of Creationism; but speciation with alleged "natural process new genetic material" macroevolution beyond a genus is an anti-creation theory of evolution.
vi] Where creationists may differ: Subspeciation & Speciation – How did varieties within species come about? What about genetically close brother species such as "horse" (Ps. 32:9) + "ass" (Gen. 36:24) = hybrid "mule" (Gen. 36:24; Ps. 32:9) etc.?
vii] Laws of genetics critique Darwinian macroevolutionists.

Chapter 5: *The fossil record: creation, not macroevolution – mind the gap.*
a] The generally United Creationist School recognizes that the absence of transitional fossils flaws macroevolutionary theory.
b] The Gap between the first two verses of Genesis & the Fourth Day.
c] A scientific critique of "flood geology": "What about the Young Earth 'Flood Geology' Theory that originated with George McCready Price, a cult member of the Seventh-day Adventist Church, which says the earth is 6,000-10,000 years old as 'confirmed' by the visions of their cult prophetess Ellen White?"
d] A scientific critique of the Global Earth Gap School's global pre-Adamite flood & following global six day creation.

i] "What about the view that 'the global catastrophe' of Gen. 1:2 was the Last Ice, ending with the Holocene c. 8,000 B.C.?"

ii] "What about godly Global Earth Gap Schoolmen?, And for that matter, What about godly Young Earth Schoolmen?"

iii] "Landing the Gap School jet plane."

e] Common design patterns (homology) point to a monotheistic Creator, not as Darwinists claim to macroevolution: the generally united creationist school.

f] Darwinian evolutionists stand back to back, walk out 10 paces, & then turn to shoot each other to pieces - The theory of slow gradual macroevolution which is ruled out by both the laws of genetics and the absence of credible transitional fossil records VERSUS the "jumping-box theory" of "punctuated equilibrium" which is ruled out by the laws of genetics: the generally united creationist school.

Chapter 6: *The creation of man: creation, not macroevolution – mind the gap.*

a] Human Anatomy: the generally united creationist school.

b] Spotting the wood from the trees - the similarities of homology in promisians, simians, satyr beasts, & men; & the generally united creationist school.

c] Soul-talk:

i] Distinguishing man from animals - the soul gives man a god focus & capacity for religious belief in the supernatural; and conscience morality seen in a moral code.

ii] A revised taxonomy for primates must replace the erroneous twofold taxonomy used for primates.

iii] Distinguishing Satyr Beasts & Man, the Apers & Adamites: A clean cut – like putting a knife through butter.

A] Men have souls, animals do not: the APER (African Pre-Edenic Race).

B] An Aper Case Study: Australia.

C] People "going ape" over the Apers.

iv] Where creationists do differ: Subspeciation with respect to man.

A] Where are the Adamites in the fossil record?

B] Did God create diverse human races? A short preliminary discussion.

d] The illusive search for Y chromosome Adam (or Noah) & Mitochondrial Eve: "I know that my genes have ancestors back to Adam: whereas paleontologists can only speculate that fossils they find had descendants."

e] Perforated bones: "Blowing the bone whistle" on "anthropologists" playing loony tunes on "bone flutes."

f] Frustrated Darwinian Macroevolutionists use fraudulent "transitional fossils" against the generally United Creationist School.

CHAPTER 1

General Theology of Scientific Evidences for the Creator & Bible.

(Chapter 1) General Theology of Scientific Evidences for the Creator & Bible:
a] "God" hath "left not himself without witness" (Acts 14:15,17).

God is both the Creator and sustainer of the universe, and so Nehemiah says, "Thou, even thou, art Lord alone; thou hast made heaven [God the Creator], … the earth, and all things that are therein, … and thou preservest them all [God the Sustainer] …" (Neh. 9:6). The Christian recognizes the Trinitarian meaning of a passage such as Nehemiah 9:6, for "to us there is but one God, the Father, of whom are all things, and we in him: and one Lord Jesus Christ, by whom are all things, and we by him" (I Cor. 8:6). And so, for example, we read of the Second Divine Person of the Trinity as Creator, "by him were all things created, that are in heaven, and that are in earth, visible and invisible," and also as Sustainer, for "by him all things consist" (Col. 1:16,17). Or we read of the third Divine Person of the Trinity, the Holy Ghost, proceeding from both the Father (John 14:26) and the Son (John 15:26), as Creator in Ps. 104:24,30, "O Lord," "Thou sendest forth thy Spirit," they are created: and thou renewest the face of the earth." Thus, for example, we also see this Trinitarian presence in Genesis 1 with the words, "God said, Let us make man in our image, after our likeness," which is seen in the threefold form of an adult "male and female" who are to be "fruitful and multiply" with children (Gen. 1:26-28). From e.g., Gen. 1:2 we know one of these three Divine Persons is "the Spirit of God;" and from e.g., I Cor. 11:3,7, that another is God the Father, and another God the Son. Hence we find this recognition of a Trinitarian Creator in the words of the *Nicene Creed*, "I believe in one God the Father Almighty, maker of heaven and earth, and of all things visible and invisible; and in one Lord Jesus Christ, … by whom all things were made … . And I believe in the Holy Ghost, the Lord and giver of life …" (1662 Anglican *Book of Common Prayer*).

As will now be discussed in this Part 2, entitled, "The scientific data relative to the Biblical teaching of Genesis 1-11," it is clear that the scientific data strongly correlates with, and manifests, the Biblical teaching of Genesis 1-11. Again and again we will see how this correlation leads us to recognize that *If the Bible says it, you can believe it; it is accurate; it is reliable; it is true!* The correlation between science and the Holy Bible is such a perfect fit, that we cannot doubt that the Book of Nature repeatedly testifies to us that the God of the Bible is the God of Nature.

In terms of Biblical Apologetics with respect to defending the broad Biblical claims of Genesis 1:1, I shall employ the five classic arguments from godly reason for the reality of God and creation miracles, and associated accuracy of the words of Genesis 1:1, "In the beginning God created the heaven and the earth." In harmony with the Anglican 39 Articles, this will not contain "anything that is contrary to God's Word" (Article 20) so that "nothing be …. against God's Word" (Article 33). The Anglican

Protestant view that Scriptural authority means that nothing be done "against God's Word," is different to the Puritan view which in, for example, the so called "Regulatory Principle" of worship forms, looks for a specific Biblical statement to do something; and while diversity exists among Puritans on the issue of godly reason or godly natural law, the methodology I use would not be agreed with by some Puritan derived Protestants, and some European Continental derived Reformed Protestants. But as more developed at the relevant sections, I maintain that this type of methodology is Biblically sound (e.g., Job 12:7-9; Ps. 19:1; Rom. 1:19,20). In broad terms, I shall be developing the five classic arguments based in godly reason, firstly, *cosmology* i.e., God as the First Cause; secondly, *teleology* i.e., recognizing God from design; thirdly, *ontology*, i.e., amidst some diversity as to exactly what ontology is, by it I mean *a soul manifested capacity of man to recognize the idea of an absolutely perfect Being, one of whose Attributes is existence, and thus this points to the fact that such an absolutely perfect Being does exist, who is the Creator of the Cosmos*, in short, "If ye believe not, neither will ye at all understand (Isa. 7:9, LXX); fourthly, *conscience morality* i.e., every human being has a conscience and so every human culture has the idea of right and wrong with the idea of what should be, or ought to be, and in the first place this manifests the fact that the Creator God is a moral Being who has put a conscience into man who thus always has the idea of a "right" and a "wrong," even if he's perverted what he thinks of as "right" and "wrong," and in the second place, this is manifested in the fact, particularly though not exclusively evident when men are in fear, that men instinctively think they should turn to a higher supernatural entity, which may be reasonably said to be the Creator; and fifthly, the *ethnologically universal belief in the supernatural*; after which I shall make some reference to the issue of *Christian experience*. Thus with reference to Biblical Apologetics, the basic point of commonality in all these five classic arguments of godly reason, and which I maintain inexorably flows from all these lines of arguments, is the reality of God and creation miracles, and the associated accuracy of the words of Genesis 1:1, "In the beginning God created the heaven and the earth."

In Part 1 it was observed that Hugh Ross (b. 1945), the founder of *Reasons To Believe* in California, USA, is "Strong on astro-physics creationist science, weak on Hebrew." "Strong on anti-macroevolution old earth creationist science, weak on Theology." "Strong on the broad-brush creationist science of earth's geological layers, patchy on the finer detailed earth science of the Late Pleistocene and Holocene[1]." Thus I thank God for the valuable contribution made by Hugh Ross and his organization in those areas where he is strong; but distance myself from him in those areas where he is weak[2].

---

[1] The *Late Pleistocene* dates from *c.* 128,000 B.C. to *c.* 8,000 B.C., and as further explained in Part 2, Chapter 3, section f, *infra*, I distinguish between *Late Pleistocene I* (*c.* 128,000 B.C. to *c.* 68,000 B.C.) and *Late Pleistocene II* (*c.* 68,000 B.C. to *c.* 8,000 B.C.); and the Holocene dates from *c.* 8,000 B.C. to the Second Advent.

[2] Part 1, Chapter 7, section c, subsection iii, subdivision D, at heading "A General Consideration of Hugh Ross and the Congregationalist Savoy Declaration & Baptist Confession;" & Part 1, Chapter 7, section c, subsection iii, subdivision E, at heading "Hugh Ross on devil-possession."

And I also say that as at 2014, "I have been familiar with the work of Ross and his organization over a period of more than twenty years[3];" and "there are … excellent pieces of old earth creationist work in the wider writings of Hugh Ross that I refer to in this work. … Hugh Ross would surely be the best known old earth creationist of contemporary times[4]." Hence a number of pieces of relevant very good work undertaken by him and his organization will be considered in this Part 2. Hugh Ross is "Strong on astro-physics creationist science" and "Strong on anti-macroevolution old earth creationist science," *supra*, and he makes a most valuable contribution to the matters we shall consider on cosmology and teleology. Hence I say in Volume 1, Part 1, Chapter 7, section d, "*when Hugh Ross is good, he can be very good, and too good to ignore* e.g., in his scientific cosmological and teleological arguments." Thus when e.g., we consider Ross's work in connection with cosmology in Part 2, Chapter 2, section a, subsection i, *infra*, or in connection with teleology in Part 2, Chapter 2, section b, subsections i & iii, *infra*, then we see the scientifically learnèd Dr. Ross *at his very finest*, and it is truly a pleasure to benefit from his work when he is so *at his very best!* Indeed, as a scientist, he is without contemporary peer in the general excellence with which he presents the cosmological and teleological arguments (I do not say absolute excellence, for I particularly make a qualification to his work at the point of the creation of the earth[5]), and in availing ourselves of his work in these areas we can give thanks to both God and Hugh Ross for his labours. For cosmology and teleology have both been greatly enriched due to the contribution of Hugh Ross, whom I consider to be one of the most important old earth creationists of contemporary times.

---

[3] Part 1, Chapter 7, section c, subsection iii, subdivision D, at heading "A General Consideration of Hugh Ross and the Congregationalist Savoy Declaration & Baptist Confession."

[4] Part 1, Chapter 7, section d, "The orthodox may use the writings of the unorthodox in areas where a heretic is orthodox, if they find something of value in such writings."

[5] See Part 2, Chapter 2, section b, subsection iv, *infra*.


Hugh Ross (b. 1945), Founder and President of Old Earth Creationist, *Reasons To Believe*, USA. *Left:* in *c.* 1991, as he looked when I first saw him in the early 1990s at Macquarie University in Sydney, Australia. *Right:* in *c.* 2013, as he looks (at as *c.* 2014) more than 20 years on[6].

Thus e.g., in considering the cosmological and teleological arguments of Hugh Ross, *infra*, we find that he is rightly uninhibited by the religious tests imposed by the anti-supernaturalist secularists in secular state colleges, universities, and "academic" journals. E.g., the religious liberal, Alan Richardson, wickedly speaks with favour of what he calls, "Methodical Atheism," or what might also be called, *Methodological Atheism*. He falsely claims, "The progress of modern science was achieved by the crucial recognition that God must not be used as a term of explanation in science. Science by its very nature must employ 'methodical atheism,' i.e., commit itself to the principle … 'as if there were no God' … . It is a confusion … to imagine that, because science … must employ this method, scientists must therefore be atheists …[7]." Richardson's religiously liberal "Methodical Atheism," is anti-supernaturalist and so denies God's creation miracles, and is in fact, *Methodical Folly*, for "The fool hath said in his heart, There is no God" (Ps. 14:1; 54:1). "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that" religious liberals like Richardson "are without excuse … . Professing themselves to be wise, they became fools" (Rom. 1:20,22). Richardson seeks to brings things down to the puerile level of foolish and ungodly men's

---

[6] Left photo of *c.* 1991 from Hugh Ross's *Noah and the Ark* (1991), Video, Trinity Broadcasting, Reasons To Believe, California, USA; & Right photo of *c.* 2013 from "Who We Are," Hugh Ross, *Reasons To Believe*, California, USA (as accessed in August 2013) (http://www.reasons.org/about/who-we-are/hugh-ross). This second work is cited in Part 2, Chapter 2, section b, "Teleology (Design)," subsection i, "'God created the heaven and the earth' (Gen. 1:1) & the Anthropic Principle," at "Universe Factor 15] The rate of luminosity increase for stars in general and solar luminosity in particular," *infra*.

[7] Richardson, A. (Editor), *A Dictionary of Christian Theology*, SCM Press, 1969, London, UK, sixth printing 1979, p. 213 at "Methodical Atheism" (emphasis mine). Richardson's *Dictionary* is a mix of orthodoxy and unorthodoxy, and where he is better than this his work contains some valuable information.

minds; and his claim that science should proceed on the religiously liberal "principle … 'as if there were no God'," is a circular argument that insists that no matter how strong the evidence is for the Almighty hand of the Creator God as First Cause (cosmology) or Divine Design (teleology), God's creatorship must be denied, and with it must also be denied the very first verse of the Divine Revelation which declares, "In the beginning, God created the heaven and the earth" (Gen. 1:1).

By contrast, to his credit, Hugh Ross is prepared to repudiate this type of anti-supernaturalism from "secularists[8]" in his arguments from cosmology (God as First Cause) and teleology (Divine Design). When e.g., I read the type of thing Hugh Ross brings our from NASA's *Galileo Spacecraft* which was collecting data from Jupiter between 1995 and 2003 (see "Earth's Solar System Factor 21," "Jupiter's size relative to Earth," at "'God created …the earth' {Gen. 1:1}'," *infra*), and compare and contrast it with the lack of such insight in NASA's published findings, I see how the anti-God anti-supernaturalism of the secular state's religious tests in science, have in fact greatly retarded elements of the sciences. The type of finding brought out by Hugh Ross on these matters is in fact the type of finding that NASA *should* have brought out, and under a religiously conservative Protestant Christian state (Pss. 2:10-12; 72:10; Isa. 49:22,23; 60:3; Matt. 2:1-12), the type of finding *they would* properly have brought out.

Moreover, as discussed in the Preface of this work, while a number of my views have changed and matured since I wrote some journal articles, a number of elements in them also remain the same, and so I also refer to parts of these.

In Volume 1, Part 1, Chapter 8, "The Seventh of Seven Keys to understanding Gen. 1-11," section a, "What is Natural Law? And what is the Book of Nature?," *supra*, I discuss the issue of natural law or reason. Historic divisions exist within Protestantism between those who like myself support the usage of various apologetic evidences for the existence of God through reference to nature and science, and evidences for the absolute reliability of the Bible through reference to apologetics proofs such as fulfilled prophecies; as opposed to those who are opposed to the usage of such evidences. I have come across this type of divide at the local church level as well as in theological writings. E.g., before I was Confirmed, I recall how in the 1980 Confirmation classes we were presented with some simple natural law arguments for the existence of God[9].

Or e.g., at the local church level, back in the 1990s, there were a couple of senior ladies who were over 70 years old (Mavis Brady & Bertha Francis), whom I used to sometimes drive home from church at St. Philip's Church Hill, York Street, inner city of Sydney (at the time a Low Church Evangelical Anglican Church that used only the 1662 *Book of Common Prayer* with Lessons read from the Authorized Version). As I only found out after driving them for some time, one of them, (Bertha,) knew my mother since

---

[8] Hugh Ross's "Concordism Under Fire," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 4, No. 3, 2012, p. 9.

[9] See Dedication, at 2, "St. Basil's Day."

in World War Two they were both in the *Women's Royal Australian Navy* (WRANS) together. I remember the other one (Mavis,) saying to me once, that she could not see why anyone did not believe in God. She said that when she was a girl, her mother used to say to her that if anyone doubted the existence of God, all they had to do was look at a flower. *In theology this is known as the argument from design (teleology).*

But also at the local church level back in the 1990s, I recall talking to a Baptist school teacher I knew who was at a church school in western Sydney. He was very hostile to the usage of any sort of apologetics material. E.g., even though one must exercise some care and caution with them as they contain some errors, both then and now I think highly of the apologetics type work found in Bernard Ramm's *Protestant Christian Evidences* (1953) or Josh McDowell's *Evidence That Demands a Verdict* (1979). But in our discussion, my friend was absolutely hostile to them because he was opposed to the usage of any type of apologetic evidences. He was a *Young Earth Creationist* who believed in a 6,000-10,000 year old earth. But when we discussed Whitcomb & Morris's *The Genesis Flood* (1961) he was exceedingly hostile to this work also. He described its arguments as being weak and unconvincing, a conclusion with which I heartily agreed. But when I asked him on what basis he therefore believed in Young Earth Creationism, he said it was purely on the basis of his reading of what the Bible meant. He said he was opposed to the usage of any form of evidences, and considered the whole thing was determined by the conviction in the believer's heart and mind, which he understood to be from God. His view of science was that it can only be used for matters that can be empirically tested in contemporary times e.g., he was happy with Newton's laws of physics, or Einstein's $E = mc^2$. But he considered that when dealing with something like creation, or earth's geological record, that the matter was beyond the limits of science, and beyond the capacity of man's mind to analyze or work out. Thus as far as he was concerned, the geological layers were *like a mad woman's custard* and could not be understood by the mind of man. The thing was unfathomable. I consider the man was intellectually gifted; but also intellectually slothful. *In theology this is known as the argument of presuppositionalism, and it is usually connected with one type of Reformed Christian; although another type of Reformed Christian is happy to use apologetics and evidential arguments.*

This divide which can be found at the local church level, is also represented at the academic level in rival theological writings. In terms of rational or natural law arguments for the existence of God, I shall here consider and endorse the five classic arguments based on reason known as: The Cosmological Argument (Part 2, Chapter 2, section a; The Teleological Argument (Part 2, Chapter 2, section b; & Chapter 7, section a), the Ontological Argument, the Conscience Morality Argument, & the Ethnological universal belief in the supernatural Argument (Part 2, Chapter 7, sections b, c, & d). As one who is of Reformed theology in an Evangelical Anglican tradition, I find no tension between the simultaneous usage of this type of natural law with Divine revelation. The classic Anglican position considers the church may so use reason providing it is "not … contrary to God's Word written" (Article 20, Anglican *39 Articles*), "so that nothing be ordained against God's Word" (Article 34, Anglican *39 Articles*). Thus e.g., I make

favourable reference to the sometime Anglican Canon of St. Paul's *Church of England* Cathedral in London, Canon Paley (1743-1805), *infra*.

Among Protestant Christians, the Anglican type of methodology has also been historically been followed by Lutherans. However, some other Protestants have in varying degrees disagreed with this type of methodology. E.g., Puritan Protestants historically argued for the so called, "Regulatory Principle" in which they looked for a specific command in Scripture to do something, whereas Anglican and Lutheran Protestants have maintained that a practice which the church has found useful and good may be maintained providing it is not contrary to Scripture. E.g., the Presbyterian Westminster Confession 21:1 says, "God … may not be worshipped … any way not prescribed in the holy Scripture;" although Westminster Confession 1:6 makes an unclear qualification to that, saying, "there are some circumstances concerning the worship of God, and government of the church, common to human actions and societies, which are to be ordered by the light of nature and Christian prudence, according to the general rules of Word, which are always to be observed (I Cor. 11:13; 14:26,40)" (emphasis mine).

Perhaps then it might be said that in terms of *an emphasis*, natural law meaning godly reason, that is found to be useful and good and not contrary to God's Word, has been historically used far more by Anglicans (by which I mean the historic Reformed Anglicans of Cranmer's 1552 prayer book in its various forms up to 1662, and the 39 Articles, as carried on since the 19th century by the Low Church Evangelical Anglicans such as myself), than it has by Puritans, although as seen by Westminster Confession 1:6 Puritans have made some lower level usage of it. But it must also be said that in the realm of creation, a number of writers in Puritan derived traditions have been prepared to use the type of natural law more commonly associated with Anglicans. E.g., the Presbyterian, Thomas Chalmers (d. 1847), derived from Reformed Puritans, so used natural law or reason for understanding events in earth's geological layers in the time-gap between the first two verses of Genesis 1; or the Congregationalist, Pye Smith (d. 1851), derived from Reformed Puritans, so used natural law or reason for his old earth creationist local earth Gap School model; or the Baptist, Hugh Ross (b. 1945), derived from Arminian Puritans[10], so uses natural law or reason for old earth creationist matters.

Furthermore, more generally it is clear that the Reformed Protestant, Thomas Chalmers, used evidential apologetics as seen in *The Works of Thomas Chalmers* (1830). E.g., Part 1 of this is entitled, "Evidences of Christianity," and contains ten chapters[11].

---

[10] The originating General Baptist Puritans of the 17th century were Arminian Proper (as opposed to the originating Particular Baptist Puritans who were Reformed), but following Wesley's 18th century preaching and semi-Arminian theology, the General Baptists were reconstituted as semi-Arminians in harmony with Wesley's teachings, and Ross is such a Wesleyan-Arminian Baptist. The Wesleyan-Arminians are also found among the Methodists (who in Australia were one of the three church groups that formed the *Uniting Church of Australia* in 1977).

[11] *The Works of Thomas Chalmers*, Complete in One Volume, Minister of the Tron Church, Glasgow, Scotland, UK, Published by J. Towar & D.M. Hogan, & Hogan

And in e.g., chapter 1, he argues that in general, written documents are taken as having veracity in history, and there has been a systematic bias against the Biblical documents which have been more disbelieved than many other historical documents whose veracity is more readily accepted. He argues for their veracity on the basis that they represent the testimony of "honest men;" who suffered for "their testimony" "to such a degree, as to constitute a satisfying pledge of their integrity." That in the New Testament there is "more than one messenger," seen in the plurality of witnesses; and that the New Testament was accompanied with the "mark" of "the power of working miracles." New Testament writers frequently "were the eye and ear-witnesses of those facts which occurred at the commencement of the Christian religion, and upon which its credibility rests." E.g., in Luke-Acts, "Luke" "was the companion of" the "apostles. He was an eye witness to many of the events recorded by him," i.e., an eye-witness was there and so should be deemed as a good and credible witness if he is a man of integrity[12]. Without now pursing these matters further, the big point is that it is clear from this is that Thomas Chalmers is an example of being both Reformed, and also accepting the propriety of using evidential apologetics.

It should also be said that while all Reformed (or Calvinist) Christians look to Martin Luther (d. 1546) as the first man of the Reformation, and John Calvin (d. 1564) as the second man of the Reformation; only Reformed Anglicans look to Thomas Cranmer (Marian Martyr, m. 1556) as the third man of the Reformation, and thus qualify Calvin in some areas that other Reformed Protestants would not. Traditional Anglicans such as myself thus also tend to think more highly of Martin Luther than some Reformed, who tend to see him replaced by Calvin; so that while both Anglican Reformed and Puritan Reformed consider Luther was the first man of the Reformation, and Calvin the second man of the Reformation, the Anglican qualification that Cranmer was the third man of the Reformation means that whereas I, as a traditional Low Church Evangelical Anglican who upholds the 1662 prayer book and 39 Articles, would tend to put more of an emphasis on Luther and less on Calvin who is more qualified, by contrast, the Puritan Reformed would tend to put more of an emphasis on Calvin as a successor to Luther who is more qualified, and would not agree with me that Cranmer is the third man of the Reformation. Thus to the extent that the usage of Cranmer's 1552 prayer book through its various revisions to 1662 has been a defining quality of the traditional form of Anglicanism I support, and its usage is a manifestation of this Anglican principle that something which has been found to be useful and good and not contrary to God's Word may be used, we here see one of the points of internal diversity among the Reformed.

Against this backdrop, while I am, like the old earth creationist, Thomas Chalmers (d. 1847), or the young earth creationist, Louis Berkhof (d. 1957), a Protestant Christian of the holy Reformed faith; unlike Chalmers who wrote in a Presbyterian

---

& Co., Pittsburg, Philadelphia, USA, 1830; Nabu Reprint [undated, early 21st century], "Evidences of Christianity," pp. 1-65.

[12] *Ibid.*, Chapter 1, "On the Principles of Historical Evidence, and their Application to the Question of the Truth of Christianity," pp. 9-16, at pp. 10,13,14.

tradition, or Berkhof who wrote in a Dutch Reformed derived tradition, I write in an Anglican tradition. This becomes relevant in the following sections at the point of the usage of reason in the five classic arguments of: cosmology, teleology, ontology, conscience morality, and the universal belief in the supernatural of ethnology. For while Berkhof makes reference to these, he is clearly "dragging his feet with them," does not properly explain them, and is clearly uncomfortable with much of them. E.g., he deals with them in a section of his *Systematic Theology* entitled, "The So-called Proofs for the Existence of God," in which the words, "so-called," bespeak his more general skepticism of them and general uncomfortableness with them, even though he sometimes manages to say something positive about elements of them[13].

In broad terms I would describe Louis Berkhof as, "generally strong on theology; but weak on apologetics theology in general, and weak on scientific related apologetics in particular." With this overview in mind, we should not be surprised that he was a young earth creationist who looked with favour on the scientifically unsustainable *Flood Geology School* work of George McCready Price[14]. E.g., with respect to his treatment of what he calls, "The So-called Proofs for the Existence of God," on the down-side, I would say that Berkhof *protests too much* against them. For instance, I think his claim "they do not prove the existence of God beyond the possibility of doubt" to be factually incorrect; and nor am I impressed by his lack of suitable critical analysis of Kant (d. 1804) when he says, that, "No one did more to discredit them than Kant. Since his day many philosophers and theologians have discarded them as utterly worthless[15]."

Hence in criticizing "the cosmological argument," i.e., God as the First Cause and so Creator of the Universe, Berkhof says, "The cosmological argument … runs as follows: every existing thing in the world must have an adequate cause; and if this is so, the universe must also have an adequate cause, that is a cause which is indefinitely great … . Hume called the law of causation itself in question, and Kant pointed out that, if everything has an adequate cause, this also applies to God." However, Berkhof seems happier with the "different construction" by "B.P. Browne," that "the material universe appears as an interacting system, and therefore as a unit, consisting of several parts. Hence there must be a unitary Agent that mediates the interaction of the various parts or is the dynamic ground of their being[16]." While I would agree with Berkhof that Browne's argument is a valid one of design by a Designer; I do not agree with Berkhof that the argument of causation, i.e., God as First Cause, is invalidated by Kant's claim that it would require that God himself was created.

---

[13] Berkhof's *Systematic Theology*, pp. 26-28.

[14] *Ibid.*, pp. 159,161,164, favourably citing e.g., Price's *The Fundamentals of Geology* (1913).

[15] *Ibid.*, pp. 27-28.

[16] *Ibid.*, p. 26.

Specifically, as Berkhof himself notes, the cosmological argument is about "every existing thing in the world" i.e., this is to do with the temporal world. It is not an argument about how e.g., angels came into existence (even though on the basis of Divine revelation in the Bible, I do not doubt that they too were created in Gen. 1:1; cf. Job 38:7; Ezek. 28:15). Thus Kant actually shows what a buffoon he is to try and apply the cosmological argument about the temporal realm of the universe to the spiritual realm in general and God in particular. Yet Berkhof accepts Kant's claims uncritically even though Kant fails to properly distinguish between the law of causation as applying to the temporal creation of the universe; and the Creator of that Creation who is transcendent, and eternal without beginning or end, for in the words of Ps. 90:2, "God" is "from everlasting to everlasting."

Like Hugh Ross, I find Kant's arguments against the supernatural to involve circular reasoning in which he simply refused to allow for the supernatural even when it is the most reasonable and logical explanation; and like *an ostrich with his head in the sand* he refused to accept that the God of creation could or would communicate with man in a Divine revelation as found in the Holy Bible[17]. In this sense, Kant reminds me of another highly unreasonable, and indeed, even worse, God hater of contemporary times, Richard Dawkins. Indeed, Dawkins is so gross, that even John Polkinghorne whose universalism or near universalism leads him to claim that anyone in hell is not there due to "an angry God, but because … the gates of hell are locked on the inside[18];" appears to have despaired with Dawkins, saying of him, "Debating with Dawkins is hopeless, because … he doesn't give you an inch. He just says 'no' when you say 'yes'[19]." E.g., while Berkhof is right to say that Kant rejected the cosmological argument of God as a First Cause, since Kant claimed that the universe always existed[20], as demonstrated by Ross's usage of the cosmological argument through reference to Einstein's $E = mc^2$, science has now shown both a beginning, and the need for a transcendent Creator through

---

[17] Ross, H., *The Fingerprint of God* (1989), *op. cit.*, pp. 31-32. Ross discusses Kant's errors throughout chapter 4, pp. 27-38. Though the ostrich does not actually bury its head in the sand as sometimes said in overdevelopment of the metaphor, he does have an action of putting his head down on top of, or near the top of, the sand. Thus it remains possible to talk about *an ostrich with his head in the sand*, to which this metaphor then attributes certain qualities in its application to man not applicable to the ostrich.

[18] Polkinghorne, J., *The God of Hope & the End of the World*, *op. cit.*, p. 136; see the discussion of Polkinghorne in Part 1, Chapter 7, section c, subsection iii, subdivision C.

[19] Quoted in Matthew Reisz's "On the side of angels," *The Monash University Magazine* (http://www.timeshighereducation.co.uk/story.asp?storycode=405402) 19 Feb. 2009; cited in "John Polkinghorne," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/John_Polkinghorne#cite_note-Reisz-7).

[20] Ross, H., *The Fingerprint of God* (1989), *op. cit.*, p. 35.

reference to The Big Bang *c.* 14 billion years ago + / - 4 billion years (Part 2, Chapter 2, section a, subsection i, *infra*).

Teleology looks at *the end* purposes for which things have been designed, and sees in *the design*, a grand Designer, namely God. Concerning this, Berkhof says, "The teleological argument … may be stated" as, "The world everywhere reveals intelligence, order, harmony, and purpose, and thus implies the existence of an intelligent and purposeful Being adequate to the production of such a world. Kant … claims that it does not prove the existence of God, nor of a Creator, but only of a great architect who fashioned the world …[21]." In the first place, contrary to Kant, I would say that to prove "a great architect who fashioned the world" is to necessarily prove the existence of a Creator God; and I consider Berkhof's analysis here is faulty to once again accept Kant so uncritically. *The distinction made by Kant between what Berkhof calls "a great architect" and a "Creator" "God," is a distinction without merit.* The idea of a so called "great architect" who is not Almighty God is absurd. The teleological argument is considered in more detail at e.g., Part 2, Chapter 2, section b, largely though reference to the excellent work done by Hugh Ross. Suffice to say, the "watch" argument of both Voltaire (d. 1778) and Paley (d. 1805) is in my opinion more than an adequate refutation of Kant i.e., *a watch proves the existence of a watch-maker, and so likewise a universe proves the existence of a Creator God.*

Though both Berkhof and myself are religiously conservative Protestant Christians of the Reformed faith, we cannot agree on the overall value of the five classic arguments from godly reason for the reality of God and creation miracles; and their value in showing the associated accuracy of the words of Genesis 1:1, "In the beginning God created the heaven and the earth." Put simply, my assessment of their value is much more positive that is his. Nevertheless, I shall make some additional reference to Berkhof's work in this area when I further discuss some of these at Part 2, Chapter 7, "The soul linked to Teleology, Ontology, Conscience Morality, & Ethnology: the generally united creationist school, " *infra*.

Berkhof says that "in evaluating these rational arguments it should be pointed out … that believers do not need them. Their conviction respecting the existence of God does not depend on them, but on a believing acceptance of God's self-revelation in Scripture[22]." While I would agree with that in broad terms, I also consider that Scripture recognizes that through common grace which is not unto salvation, all people can discern that there is a Creator and so e.g., refrain from idolatry. For example, Psalm 97 says, "The Lord reigneth; let the earth rejoice; let the multitude of the isles be glad thereof." "The heavens declare his righteousness, and all the people see his glory. Confounded be all they that serve graven images, that boast themselves of idols, worship him, all ye gods" (Ps. 97:1,6,7). Furthermore, we have a Biblically sanctioned example of using godly reason to first point people to the God of Creation as a precursor to the fuller

---

[21] Berkhof's *Systematic Theology*, p. 26.

[22] *Ibid.*, pp. 27-28.

preaching of the Gospel in Acts 14:12,15,17 where "the apostles Barnabas and Paul" said to "the people" of "Lystra" involved in the idolatrous deification of man (Acts 14:8), "Sirs, why do ye these things? We also are men of like passions with you, and preach unto you that ye should turn from these vanities unto the living God, which made heaven, and earth, and the sea, and all things that are therein," "he left not himself without witness, in that he did good, and gave us rain from heaven, and fruitful season, filling our hearts with food and gladness." Hence from my perspective as an Evangelical Protestant, I think that these arguments from godly reason can be far more valuable than Berkhof does, and if so led by the Holy Spirit of God in a given context, on the authority of Acts 14:12,15,17, they are important preliminary elements for those who "preach (Greek, *euangelizo*)" the gospel (Acts 14:15) (even though the hostility to the apostles incited by "certain Jews from Antioch and Iconium" in Acts 14:19, meant that before they could further preach to these people they *had to beat a hasty tactical retreat*).

Beyond which, I also consider that they are of value for nurturing the faith of believers[23]. And once again I see a Biblical basis for this in e.g., the psalms believers are meant to sing or read, such as Psalms 19 & 97. But I also accept that if so led by the Holy Spirit of God in a given context, they may not form part of the preliminaries to the preaching of the gospel, as also seen by the fact that in the previous chapter of Acts 13:16-52, the Apostle Paul addressed "men of Israel" in a "synagogue" at "Antioch" (Acts 13:14,16), and no such evidential preliminaries from godly reason were used, but rather certain matters from the Old Testament were used as the lead in to preaching Christ. Thus the issue of whether or not such preliminaries from godly natural reason are part of what one will "preach" (Acts 14:15), or not part of what is "preached" (Acts 13:38,42), may vary from one context to the next, depending on their relevance to the people one is addressing. But certainly in our own day and age, when sad inroads have been made in people's minds by religious skepticism, agnosticism, atheism, and anti-supernaturalist secular ideology that insists that only natural processes such as those found in Darwinism can be used to account for the origins of various species of plants and animals, and indeed, man himself, I think there are evangelistic or apologetics contexts where these types of arguments from godly reason can and should be used as a Biblical apologetics tool; although in saying this I would also stress that when so used they should be seen as preliminaries in which one hopes to later preach the gospel of Christ to the listeners. But whether in a given situation they are, or are not, contextually appropriate to use as evangelistic preliminaries, in the final analysis the Evangelical Protestant Christian will proclaim the Gospel of God's grace and saving faith in the Son

---

[23] An example of this is seen in the following letter sent to Hugh Ross, in which a Christian says, "… my brother … gave me a cassette tape … retelling how you came to faith … . If I had not heard that testimony (and then read your books afterward), I may have very well walked away from Christianity (or at least my sanity) because of the unbearable (but illusionary) tension between what I knew to be true about the physical world and what I knew to be true about God. Thanks be to God for His using you and your staff to help those like me … " (Ross, H., "Equipping Message from Hugh," *Reason To Believe E[mail]-News*, Reasons To Believe, California, USA, 7 May 2013).

of God who died, and rose again, and through whom we can have the forgiveness of sins, and then leave the matter to the convicting power of the Holy Ghost. For Christ says, "If any man will do his will, he shall know of the doctrine, whether it be of God, or" not (John 7:17).

Moreover, notwithstanding Berkhof's evident discomfort at what he somewhat disparagingly calls "The So-called Proofs for the Existence of God," it should also be noted that on the upside, he is not entirely dismissive of them in that he finds some limited value, *albeit, a far more limited than I find*, in these five classic arguments. Thus he concedes "the fact that … so many find in them rather satisfying indications of the existence of God, would seem to indicate that they are not entirely devoid of value. They have some value for believers" as well. And in perhaps his most positive comment on the five classic arguments from godly reason for the reality of God and creation miracles, Berkhof says, "They are important as interpretations of God's general revelation and as exhibiting the reasonableness of belief in a Divine Being. Moreover, they can render some service in meeting the adversary[24]." While I would consider that they can render more service in the meeting the adversary than does Berkhof, in broad terms, Berkhof here clearly sees some value in them. These closing comments by Berkhof in his more generally negative treatment of cosmology, teleology, ontology, conscience morality, and the Ethnological universal belief in the supernatural, as arguments for the existence of God, are significant for placing Berkhof on this issue. It means that on the one hand, he is not a strong supporter or great advocate of them. But on the other hand, nor does he totally reject them as do the presuppositionalists; since he makes a closing concession of them "exhibiting the reasonableness of belief in" God, and says, "they can render some service in meeting the adversary." This means that on a gradient between the godly intellectual highs of evidentialists, and the intellectual lows of anti-evidentialist presuppositionalists, Berkhof is somewhat intermediate between scientific evidentialists and presuppositionalists. He does not quite "go over the line" into presuppositionalism, but he is at the more critical and negative end of those who are still prepared to use evidences in some qualified way.

By contrast, in this divide between presuppositionalists and evidentialists, Cornelius van Til (1895-1987) who studied under Louis Berkhof for one year at *Calvin Theological Seminary* in Grand Rapids, Michigan, USA, was a presuppositionalist. Presuppositionalism is a school of thought which has gained support among some of the Reformed, as seen by two men who at one time were both Ministers in the *Orthodox Presbyterian Church* of the USA, Cornelius van Til whose central tent was that the Christian must presuppose that the Bible is God's Divine revelation, and Gordon Clark (1902-1985) who presupposes that Scriptural truth is a self-evident truth which is not to be proven, but which is to be used for proof[25]. Following a controversy in 1948 between

---

[24] Berkhof's *Systematic Theology*, pp. 27-28 (emphasis mine).

[25] "Presuppositional Apologetics," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/Presuppositional_apologetics).

Gordon Clark and Cornelius van Til (with regard to God's incomprehensibility)[26], Clark left their common *Orthodox Presbyterian Church* and thereafter took out membership in a succession of different Presbyterian Churches[27].

But a more robust usage of natural law in an evidentialist manner inside of Reformed theology is clearly found with the old earth creationist, Thomas Chalmers (d. 1847), the First Moderator of the Presbyterian *Free Church of Scotland* (1843-1847), and Principal of the *Free Church of Scotland* College which later became *New College* at Edinburgh University (1846-1847). For instance, reference is made to Chalmers usage of such evidential natural law in Part 2, Chapters 3 & 7, *infra*[28]. In this broad context, Hugh Ross, who like Thomas Chalmers and myself is clearly an evidentialist, makes some reference to this divide among Christians in *Dinosaurs, Cavemen and the Fossil Record* (1990). He refers to "presuppositionalists" as opposed to "evidentialists." Ross's solution is to combine both approaches[29]. Broadly I would agree with him on this. However, on the one hand, I know of no Christian evidentialist who would be opposed to including the witness of Christian experience from various Christians as to the presence of Christ and his Spirit in their lives. But on the other hand, this type of thing will never satisfy the presuppositionalists. They are resolutely opposed to apologetic evidences, and it is not possible to philosophically or theologically unite what I regard as their narrow-minded anti-godly intellectualism with the broad-minded godly intellectualism of the classic Protestant Christian proofs of apologetics with its associated usage of various evidences.

An example of using the two approaches together is found with Bob Jones Sr. (d. 1968), the founder of Bob Jones University, USA. He was an old earth creationist who followed one form of the Gap School. In his *Word of Truth* audio-recordings series he says in one address: "You can know astronomy without knowing God. 'The heavens declare the glory of God: and the firmament sheweth his handywork' [Ps. 19:1]. You can say, '… There must have been a great [First] Cause somewhere, but you have no

---

[26] "Cornelius van Til," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/Cornelius_Van_Til).

[27] In 1948 he joined the United Presbyterian Church; then in 1957 he played a key role in a merger between this and another Presbyterian Church to form the Reformed Presbyterian Church; then in 1984 in opposition to the merger of this church with the Presbyterian Church in America, he left to join the Covenant Presbytery Church. "Gordon Clark," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/Gordon_Clark).

[28] Part 2, Chapter 3, "'God created … the earth' (Gen. 1:1): uniformitarianism & catastrophism:" section c, "Thomas Chalmers (old earth creationist) verses Charles Lyell's type of anti-supernaturalist uniformitarianism," & Chapter 7, section c, "Conscience Morality."

[29] Ross, H., *Dinosaurs, Cavemen and the Fossil Record*, 1990, Reasons to Believe, Pasadena, California, USA (cassette audio recording).

special reverence for that [First] Cause. You do not worship God. Man 'by wisdom knew not God' [I Cor. 1:21]. We come to know God by faith." He says that when he was a boy, "I'd go around to country churches, and they'd have what they called, 'Experience Meetings', and somebody would get up and say, 'Well I was a drunkard …, and was an awful sinner, was mean to my wife. And I blasphemed the name of God …, but one day, I trusted Jesus and he's fixed me up, and … he set me free' … ." Then Bob Jones Sr. gives his own personal testimony, "And I turned myself over to Jesus Christ and trusted him as my Saviour. And I know he's the Son of God. Nobody but the Son of God could do for me what Jesus Christ has done. And nobody but the Son of God can do for many thousands of people what I've seen Jesus Christ do for men and women all over the world." "Do you know God? Well, … I do. I met him when I was a little boy. He's been with me through the years. I call him, 'My Father,' and God's real to me. And I've met thousands of people to whom God's as real as [their] wife, or mother, father, brother, sister, child, friend. He can be real to you. … People say, 'I believe in a great First Cause.' Well that's alright, he was back there. But ya' need … God … somebody who's near ya' when the hearse backs up to the door … . I'm asking if you're ignorant … about God, and the will of God, and the purpose of God, and the redeeming grace of God … . You can know him. … He said, 'Come unto me all ye' 'ends of the earth,' 'and be ye saved' [Matt. 11:28 & Isa. 45:22[30]]. Why don't ya' come to him? Why don't ya' trust him?[31]."

Or in another address, Bob Jones Sr. once again shows himself to be a past master of this type of interlocking argument inside a Protestant theology when he says, "When Jesus came from heaven to earth he was 'God manifest in the flesh' [I Tim. 3:16] … . Do you know there are certain instincts that are universal? … There's an instinct that makes a man have a god [some elements of: man's soul giving him a god focus and capacity for religious belief in the supernatural, conscience morality, & ethnological universal belief in the supernatural]. You're god is the thing that's first in your life [some elements of: man's soul giving him a god focus and capacity for religious belief in the supernatural, & conscience morality]. What is your god? Civilization may change a man's idols, but unregenerated people always have an idol. What is your god? But do you want a God? Well why don't you take Jesus Christ? … . I know Jesus Christ is God, for nobody but God could do for me what Jesus Christ has done [Christian experience]. A man who doubts the Deity of Christ, has never been born again [Testimony of Christian experience]." So "what do you need? … . Instinct, alright, you wantta' pray don't you [man's soul giving him a god focus and capacity for religious belief in the supernatural, & conscience morality] … . But you wait till the hour of emergency comes. Everybody, sometime, somehow, somewhere, tries to pray, to call on some kind of a god [conscience morality with respect to a man's *instinctive intuition* to

---

[30] This Scripture quote is a combination of two verses, Matt. 11:28, "Come unto me, all ye that labour and are heavy laden, and I will give you rest;" & Isa. 45:22 "Look unto me, and be ye saved, all the ends of the earth."

[31] Bob Jones Sr., *Word of Truth* 333 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA, [undated] (emphasis mine).

turn to a higher spiritual reality when he is in fear]. Do you want a God? Do you want somebody to pray to? Jesus Christ opens to the door of prayer and says, … 'Whatsoever you' 'ask' 'in my name,' that 'will I do' [Matt. 21:22; John 14:14]. Did you know that in every language of the world there's some word for 'duty' or 'ought' or 'must'? You can't find a savage tribe but has in its dialect some word that means 'duty' [conscience morality] … . It takes Jesus Christ to satisfy the heart. What do you need? … Now some of you … need forgiveness for sin [Christian experience providing the adequate solution to man's spiritual needs]. … In every language and dialect of the world there's some word for 'duty' or 'must,' some word for sin,' in every language of the world and you know you've sinned against God. [conscience morality] 'All have sinned' [Rom. 3:23] … . If ya' need forgiveness for sin, go to Jesus; you don't need anybody else, just go to Jesus [Protestant's *solo Christo* or *Christ alone*; Acts 4:12; Philp. 3:8,9; I Tim. 2:5] … . Jesus Christ is all you need; 'my God shall supply all your needs according to' the 'riches in glory by Christ Jesus' [Philp. 4:19][32]." On other occasions, Bob Jones Sr. also used evidential apologetics with respect to the Bible, e.g., he said of the Jews rejection of Christ as Messiah in New Testament times, "They'd overlooked those prophecies like, 'he was wounded for our transgressions,' and 'bruised for our iniquities' [Isa. 53:5]. He bore 'our sins in his' 'body' [I Peter 2:24][33]."

Thus the *evidentialists verses presuppositionalists debate*, means that some of my fellow Reformed Protestants would not agree with other Reformed Christians such as myself, on the desirability of the evidential apologetics approach, which seeks to use various evidences for the existence of God and reliability of the Bible e.g., scientific evidences for the existence of God such as cosmology, teleology, ontology, conscience morality, and the universal belief in the supernatural of ethnology; in which I maintain that e.g., cosmology and teleology are in harmony with such Scriptures as Ps. 19:1 and Rom. 1:19,20; or Biblical apologetics which, for instances, looks to proofs from prophecy[34]. E.g., Jesus used this methodology with respect to prophecy when he said, "Now I tell you before it come, that, when it is come to pass, ye may believe that I am he" (John 13:18), "and now I have told you before it come to pass, that, when it is come to pass, ye might believe" (John 14:29). And he also used Christian experience (e.g.,

---

[32] Bob Jones Sr., *Word of Truth* 101 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA, [undated] (emphasis mine).

[33] Bob Jones Sr., *Word of Truth* 102 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA, [undated] (emphasis mine).

[34] See my sermons on "Biblical Apologetics" 1/4 (Thurs. 1 July 2010), 2/4 (Thurs. 8 July 2010), 3/4 (Thurs. 15 July 2010) "OT prophecies on cities and nations," & "Biblical Apologetics 4/4" (Thurs. 22 July 2010) "Biblical Archaeology," at Mangrove Mountain Union Church, NSW, Australia; written form in my Textual Commentaries Vol. 3 (Matt. 21-25) (2011; Printed by Parramatta Officeworks in Sydney, Australia), Appendix 8: "A Sermons Bonus;" oral recorded form presently available (http://www.sermonaudio.com/kingjamesbible); & Sermons 1/4 (Thurs. 29 May 2014) & 2/4 (Thurs. 5 June 2014) in the Appendix of this Volume 1.

Matt. 16:18). And since we are to "despise not prophesyings" (I Thess. 5:20); which since the completed Word of God with the Book of Revelation means for us prophesyings in the Bible (Luke 11:49-51; I Cor. 13:8; Eph. 2:20); it follows that the words of I Cor. 14:23-25 about "unbelievers" who "come in" to a "church" service and there hear a "prophesy," and the "one that believeth not" "is convinced of all," "and so falling down on his face he will worship God, and report that God is in you of a truth;" now applies to such unbelievers hearing prophesies from Scripture, and by these evidential apologetics coming to a belief in the true God.

But at the end of the day the debate between evidentialists and presuppositionalists continues. Evidentialists and presuppositionalists simply do not agree with each other on the proper inter-relationship between reason and Divine revelation. *Que sera sera*[35].

[35] "What will be, will be." Inside the Latin languages, Spanish or French or both? From the Latin language of Italian, *Che sara sara*.

"God" hath "left not himself without witness" (Acts 14:15,17). "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead ..." (Rom. 1:20).

The Sun & Earth[36].

"Almighty God, unto whom all hearts be open, all desires known, and from whom no secrets are hid: cleanse the thoughts of our hearts by the inspiration of thy Holy Spirit, that we may perfectly love thee, and worthily magnify thy holy name, through Christ our Lord. Amen." Collect (or Prayer) from the Anglican 1662 *Book of Common Prayer*.

(Chapter 1) General Theology of Scientific Evidences for the Creator & Bible:
b] Biblical creation model to be scientifically compared and contrasted with the Book of Nature.

Old earth creationists, Ross (b. 1945) & Rana (b. 1963) of *Reasons To Believe* in California, USA, have argued that there is value in putting forth "a testable framework" for a given "creation model" which thus gives it a predictive quality in terms of what one would expect to find in e.g., the fossil record, if the model were placed under scientific

[36] Picture from Rana's "What Inspires Your Belief in God?," *Today's New Reason To Believe* (*Reasons To Believe* Email Articles sent from tnrtb@reasons.org, RTB, California, USA), 13 Feb. 2014; with link to http://www.reasons.org/articles/what-inspires-your-belief-in-god.

scrutiny[37]. The value of this type of methodology has been seen historically, e.g., the catastrophism followed by new creations model of the Protestant old earth creationist and Frenchman, George Cuvier (1769-1832), has been so used. And while Cuvier's model broadly underpins the methodological expectations of a succession of old earth creationist Gap Schoolmen, of which I am one, there has been some revision and refinement of Cuvier's model, as further discussed in Part 2, Chapter 3, section e, *infra*.

Broadly speaking this creationist model looks to a series of special creations by God, and numerous catastrophes, so that one would expect to find a succession of different "worlds" (Heb. 1:2; 11:3) possibly in a time gap between when "God created the heaven" and God created "the earth" in Gen. 1:1, and certainly in a time-gap between Genesis 1:1 and Genesis 1:2. There is then a further catastrophe of a pre-Adamite flood (Gen. 1:2) followed by a creation of six 24 hour days (Gen. 1:2b-2:3). All of "These are the generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. 2:4). Thus there should be numerous catastrophes over geological time followed by new creations, thereby forming discernibly different geological ages or periods. While Cuvier and some earlier Gap Schoolmen thought of just an occasional species surviving from one world into the next, upon matured reflection and consideration, this was seen to be an overstatement since the destructive revolutions need only have been such as to end one world before God created another. Thus e.g., rather than a 100% or near 100% extinction, a Gap Schoolman such as myself would now say that the *Ordovician World* (505 to 438 million B.C.) ended with a great catastrophe with the loss of between 50% and 60% of all marine and land species; or the *Devonian World* (408 to 360 million B.C.) ended with the Divine catastrophic loss of about 70% of species. Hence the percentage of species brought over from one world to the next is generally a good deal higher than the "occasional species" of some earlier followers of Cuvier's model by Gap Schoolmen.

[37] Ross & Rana, *Who Was Adam?*, *op. cit.*, e.g., pp. 13-14, & 159.

Gavin in his Sydney front-yard in May 2014 with a Trilobite fossil from Morocco in North Africa of the *Ordovician World* (505 to 438 million B.C.), Late Ordovian (*c.* 450 million B.C.) in his right hand or the left side of the photo which ended with a great catastrophe; and in his left hand or right side of the photo, an Ammonite (Rough Ammonite from Madagascar) in the subclass of Ammonoidia, and the wider subclass of Ammonoidia went extinct at the end of the end of the *Cretaceous World* (144 to 66.4 million B.C.) which also ended with a great catastrophe, additionally wiping out the dinosaurs. Gavin bought these two fossils from the Natural History Museum at Oxford University, which is built up around the collection of old earth creationist Gap Schoolman, William Buckland (d. 1856), on his fourth trip to London (Oct. 2005-April 2006) when he visited Oxford in March 2006.

Thus in connection with these facts, and the matters discussed in Part 1 of this work, the Biblical creation model followed in this work has the following features which will be considered relative to the scientific data.

Biblical creation model to be scientifically
compared & contrasted with the Book of Nature.

The Twelve Guidelines
one for each of the Twelve Apostles
(Acts 1:13,26; 2:42; Rev. 21:14)

1] "The fear of the Lord is the beginning of knowledge" (Prov. 1:7) and "wisdom" (Ps. 111:10). Though by God's common grace which is not unto salvation, man may discern that there is a Creator of the universe (Job 12:7-10; Ps. 19:1; Rom. 1:18-32); a man must by God's grace, humbly put himself under the authority of God's infallible Word, the Holy Bible of religiously conservative Protestant Christianity (Ps. 119:105; II Tim. 3:16), if he is to properly understand creation (and other) issues. Wherefore "scoffers" (II Peter 3;3), such as they that be far gone in an antisupernatural secularist paradigm, are to be rejected who would have Christian men to be "salt" which "have lost his savour" (Matt. 5:13), and would privatize all relevant reference to the Divine revelation of Holy Scripture away from public discourse such as that on creation (and other matters), and claim that only the natural reason of man, unaided by the Divine revelation, should be used in the quest of any science (or knowledge), whether a social science, a political science, a biological science, or other science. For suchlike is a God dishonouring "science falsely so called" (I Tim. 6:21), to be abhorred of all good Christian men.

2] Creation *ex nihilo* of the universe (Gen. 1:1).

3] A succession of discernibly different "worlds" to emerge in the scientific record e.g., the geological layers of the earth (Heb. 1:2; 11:3) as the "generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. 2:4). These unknown numbers of multiple worlds must by definition be over a considerable period of time, and may be over a vast period of time since they are created by God "who inhabiteth eternity" (Isa. 57:15) i.e., no time limits.

4] There is a supernatural uniformity in the universe (Gen. 8:22; Pss. 104:19; 119:90,91; Jer. 31:35; 33:25). Nature's general uniformity is thus consistent with discernibly supernatural acts from time to time, which stand out as different to, but not incongruous with, this general supernatural uniformity.

5] As seen in the 6 creation days after the time-gap between Gen. 1:1 & 1:2, all Biblical examples of parent stocks created are within a 24 hour time frame (Gen. 1:9-31). Thus created parent stocks should appear suddenly in the geological record.

6] Biblical "kinds" are created in a genetically rich manner at the level of genus, species, or subspecies, and so this allows subspeciation or speciation from some parent stocks, as seen in creatures under domestication with Laban's selective breeding techniques (Gen. 30:25-31:16). Variety under nature is seen in the recognition of e.g., "the little owl" (Lev. 11:17), "the owl" (Lev. 11:16), "and the great owl" (Lev. 11:17). Therefore, creatures that appear in the fossil record may show some level of subspeciation or speciation through microevolution, whether Theistic microevolution or natural selection microevolution. But they will discernibly remain within the same genus, with no macroevolution to a different species which is fundamentally different at a genetic level in a different genus.

7] The pattern in Gen. 1 & 2 is of God first creating an ecological system for plant and animal life, and then for man. Therefore, when creatures appear in the fossil record, they should be clearly adapted to their environments, even if through microevolutionary subspeciation and speciation, there is thereafter some adaptation to a changed environment.

8] The pattern in Gen. 1 & 2 is of a universal creation by God (Gen. 1:1), and then a local cataclysm (Gen. 1:2) followed by a local creation of an Edenic world in south-west Asia near Africa (Gen. 2:8-14). Therefore cataclysms and new species creations might be either planetary wide, or localized to a portion of the globe.

9] Man was created in an area of south-west Asia near the Tigris & Euphrates Rivers which are to the north of Eden (Gen. 2:14), and connecting rivers to the south down to Havilah (Gen. 2:11) on the Arabian Peninsula also known as Arabia in what was later a Hamite-Semite shared border-regions western strip along Arabia (Gen. 10:6,7,22,29; 25:18; I Sam. 15:7); and also south down to Ethiopia (Gen. 2:13) which included both the later Hamite-Semite shared western border-regions strip along the Arabian Peninsula with Midian (Exod. 2:15,21; Num. 12:1; Hab. 3:7), as well as parts of continental north-east Africa (Gen. 10:6; Jer. 13:23). Therefore, a suitable place should be locatable in south-west Asia near Africa.

10] There are "a thousand generations" from the time of "Abraham," "Isaac," and "Jacob," of the "everlasting covenant" (Ps. 105:8-10), the "covenant" of "grace" (Gen. 6:8,18; Heb. 11:7; 13:20), back to Adam with whom God initially made this covenant (Gen. 2:17; 3:15,22; 4:2,4). Since Adam and Jacob are separated by *exactly 1,000 generations*, from Abraham in *c.* 2,200 B.C. back to Adam 998 generations earlier, on the basis of the ages of time when they begot in Gen. 5 & 11 this requires an Adamic date of *c.* 105,000 B.C. + / - 53,000 years.

11] The constitutional nature of man as a dichotomy of body and soul (Gen. 2:7; I Cor. 15:45) who is "in the image of God" (Gen. 1:27), gives him a capacity for spiritual expression (Gen. 4:2,4; 8:20; 12:8; 13:4) even if this is perverted to some form of idolatry in violation of the First & Second Commandments (Exod. 20:2-6), including lust idols in violation of the First, Second, and Tenth Commandments (Exod. 20:2-6,17; Eph. 5:5; Col. 3:5) which will always be found among Adamites including atheists (Pss. 14:1; 53:1); and "a reasonable soul" (*Athanasian Creed & Council of Chalcedon*, Job 9:14,21; Eccl. 7:25,27,28) manifested in the conscience morality (Rom. 2:14,15) of a moral code (Rom. 2:22; 7:7; 13:9). Therefore Adamites will be discernible in the fossil record by such evidence of them having souls. Creatures lacking such CLEAR and OBVIOUS evidence are necessarily NOT human beings.

12] Man was originally given a dominion mandate over the local "earth" (cf. Gen. 41:56; Matt. 12:42) under the local "heaven" (cf. Deut. 2:25; Col. 1:23) of the Edenic "world" (cf. Isa. 23:17; Luke 2:1; Rom. 1:8) (Gen. 1:26-28; 2:8-14). But following Noah's Flood which was therefore geographically local to the region of Eden and anthropologically universal, man's dominion mandate was generously expanded by Almighty God to include the formerly out-of-bounds regions of The King's Royal Parklands beyond Eden, thus giving him a dominion mandate over the global "earth" under the global "heaven" (cf. Pss. 134:3; 146:6) of the planetary "world" (cf. Ps. 89:11; Mark 16:15) (Gen. 9:1,11-17; 10:1-32). Therefore Adamites will be seen to spread out as an out-of-Eden group (i.e., the relevant areas of the post Noachic Flood settlements in the Persian Gulf are thus designated as Greater Eden,) to exercise dominion over the entire planet earth.

CHAPTER 2

"The Creation of the world" (Rom. 1:20):
the generally united old earth creationist school.

(Chapter 2) a]i] Cosmology (The First Cause): "In the beginning God created" (Gen. 1:1), the universe & how at the time of the Big Bang God made matter out of nothing at all!

Cosmology is the first of the five classic arguments from godly reason we shall consider for the reality of God and creation miracles, and associated accuracy of the words of Genesis 1:1, "In the beginning God created the heaven and the earth." With respect to the usage of godly reason in regard to both elements of cosmology and teleology, we are obeying the command of God with respect to what God says about the stars through the Old Testament prophet Isaiah, "To whom then will ye liken me, or shall I be equal? saith the Holy One. Lift up your eyes on high, and behold who hath created these things, that bringeth out their host by number: he calleth them all by names by the greatness of his might, for that he is strong in power; not one faileth" (Isa. 40:25,26; cf. "he calleth" "the stars" "all by their names" in Ps. 147:4). And we are recognizing the teaching about "God" in Romans 1, "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead …" (Rom. 1:19,20).

Amidst some diversity among old earth creationists e.g., the differences between those who in their understanding of Genesis 1 follow some form of *The Gap School* as opposed to some form of *The Day-Age School*, or *The Framework School*, there is still an overwhelming level of agreement as to the big picture that both the Book of Divine Revelation and the Book Nature requires creation, not macroevolution of species. Of course, at times differences emerge e.g., like myself, most old earth creationists consider all human beings come down from Adam and Eve who were created by God (monogeny), whereas some old earth creationists like Louis Agassiz (d. 1873) have argued for a larger group of originating racial parents for man (polygeny), a proposition no orthodox Protestant Christian could ever accept (e.g., Gen. 3:20; Rom. 5:12; 7:18; I Cor. 15:22,45,49; Article 9, Anglican 39 Articles). Hence for these purposes of intersecting agreement, it is sometimes possible to refer to a *generally united old earth creationist school*, e.g., with respect to the issues of cosmology and teleology referred to in this Part 2, chapter 2.

Our English word, "cosmology," comes via the Latin word, *cosmologia*, from the Greek word, *kosmos*, meaning "world;" and "logy" is derived from Greek *logia* referring to a "science" or "study." Thus "cosmology" refers to *the study of the world* of the universe with reference to God as First Cause. E.g., St. Matthew says of "things spake" by "Jesus" "in parable," that this was done "that is might be fulfilled which was spoken by the prophet, saying, I will open my mouth in parable; I will utter things which have

been kept secret from the foundation of the world (Greek, *kosmos*)." Or Christ says, "Go ye into all the world (Greek, *kosmos*), and preach the gospel to every creature" (Mark 16:15).

The date that I am using for The Big Bang in this work is *c.* 14 billion B.C. + / - 4 billion years. While some recent scientific research from the *Wilkinson Microwave Anisotropy Probe* indicates that the date may be narrowed to 13.75 billion B.C. + / - 0.11 billion years i.e., *c.* 14 billion B.C., until or unless a firm scientific consensus has been achieved on this issue, I shall generally use error bars of plus or minus (+ / -) 4 billion years[38]. I have formerly discussed the issue of the Deists and Theists in a journal article published in *The American Journal of Jurisprudence*, Vol. 40 (1995). Though my views have changed in a number of areas since that time, there has been continuity within change, and so I here fairly closely reproduce elements with which I remain in agreement on both Desists and Theists[39] and also the Anthropic Principle in Part 2, section b,

---

[38] I formerly used a Big Bang date of *c.* 15 billion years ago + / - 6 billion years. But on the data now available to me I have reduced this to *c.* 14 billion years ago + / - 4 billion years. At the lower end of dates for the Big Bang, the *Encyclopedia Britannica* considers the "big bang … occurred at least 10,000,000,000 years ago" ("Big Bang Model") and sometimes simply uses this figure of 10 billion years ago saying e.g., "in the big bang theory" "the universe was created" "about 10,000,000,000 years ago" ("Chemical elements: Origin of the elements: Regions of element synthesis: element production in the universe as a whole"), i.e., 10^{10} years ago (*Encyclopaedia Britannica CD99*, *op. cit.*,). At an upper end of dates for the Big Bang, in *Dinosaurs, Cavemen and the Fossil Record* (1990, Reasons to Believe, Pasadena, California, USA, cassette audio recording), Hugh Ross uses a date of *c.* 17 billion years ago +/- *c.* 1.5 billion years, therefore giving an upper date of *c.* 18 or 19 billion years ago. This gives us a spectrum approximating my usage of *c.* 14 billion years ago + / - 4 billion years. In favour of *c.* 14 billion years ago, as at 2012 Ross thinks the date of the universe can be now narrowed to 13.75 billion years + / - 0.11 billion years. This is based on *Wilkinson Microwave Anisotropy Probe* measurements of radiation left over from the Big Bang in cosmic microwave background form. But this requires that the universe does not depart more than 1%-2% from a geometry that is perfectly flat. Since work in 2011 from the Hubble Space Telescope undertaken by the Supernova Legacy team found this to be so, Ross now concludes that the universe was created "about 13.75 billion years ago" i.e., *c.* 14 billion B.C. ("A Flat Universe After All," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 4, No. 2, May 2012, p. 7; referring to *Astrophysical Journal Supplement* 180 of 2009, pp. 330-376; 192 of 2011, pp. 14,18; & *Astrophysical Journal* 737 of 2011, p. 102; & 746 of 2012, p. 85). This date of 13.75 billion years + / - 0.11 billion years may prove to be correct; but in view of the variations I have seen given on the exact date, I shall use *c.* 14 billion B.C. + / - 4 billion years, until or unless a firm scientific consensus has been achieved on this issue.

[39] From the next paragraph, "The deist believes that God created the universe" etc., to the paragraph starting, "Spinoza recognized that 'God ... is a being'," fairly closely reproduces my article in *The American Journal of Jurisprudence*, Vol. 40 (1995),

subsections i & ii. The deist believes that God created the universe and its natural laws, but thereafter he does not directly intervene in the operations of the universe. Consistent with this non-interventionist approach, the Deist says God does not engage in a personal relationship with his human creatures. Thus the deist believes in the God of Nature who can be discovered by reason. But he does not believe that God has ever given any supernatural or Divinely inspired revelation of himself to mankind.

A number of deists have concluded that nature teaches the existence of a Creator. For example, Voltaire (1694-1778) declared, "I shall always be convinced that a watch proves a watch-maker, and that a universe proves a God. I believe in God, not the God of the mystics and theologians, but the God of nature, the great geometrician, the architect of the universe, the prime mover, unalterable, transcendental, everlasting[40]."

Or empirical scientific observation found that hot and cold bodies which were placed together would eventually reach the same temperature. Extrapolating from this fact, Sir Isaac Newton (1643-1727), who discovered Newton's laws of physics, argued that this would mean that given enough time all objects in the universe would reach the same temperature. But since such a uniform state of temperature has not been reached, this means that the universe could not be of an eternal existence, but rather, it must have been created in time i.e., there was a First Cause. Newton then used this cosmological argument for the existence of God whom he said must have created the universe[41].

Newton's cosmological argument was reformulated as a consequence of the industrial revolution and connected demand for energy, which raised the question of how one form of energy might be converted to another. Empirical science showed that one could not convert all the energy of burning coal into mechanical work via any known engine. Hence both scientist and engineer came to recognize that a fundamental issue was not, *How much energy* was contained in a piece of coal? but *How much of this energy* was available to be converted into mechanical energy? This gave rise to the concept of entropy, which rather than measuring the availability of energy, instead measures the non-availability of energy. E.g., with regard to a steam engine, when looking at a suitable quantity of water at a uniform cool temperature, entropy is at its maximum since its non-availability of energy is at its highest in terms of water generating a steam-engine. By contrast, if this same body of water is at boiling point, its entropy level is at its lowest for the purposes of driving a steam-engine. It is said that entropy

---

the section on "(2) Natural Law," subsection "(a) Does nature itself teach us anything?," "(i) The Deists and Theists," at pp. 230-232.

[40] Quoted in: Chapman, C., *Christianity On Trial*, Lion Publishing London, UK, 1974, reprint: 1977, Vol. 2, p. 23; citing Voltaire, Letter 1741, in Brown, C., *Philosophy & the Christian Faith*, IVF, 1969, p. 85; and Voltaire, in Cragg, G.R., *The Church And The Age of Reason (1648-1789)*, Penguin, 1960, p. 237.

[41] Clark, R.E.D., *Darwin: Before and After* (1958), *op. cit.*, p. 146; referring Newton's letters to Bentley.

increases in every physical process, and this is known as *The Second Law of Thermodynamics*. As a flow on consequence of this, it is concluded that the entropy of the universe must also be increasing with time. On this basis, Newton's basic argument about hot and cold bodies has been reworked into a cosmological argument that says since entropy cannot be infinitely small, and since it cannot have increased infinitely slowly since its rate of increase will diminish as it rises, it therefore follows that since the entropy is still rising the universe could not have existed from eternity, and therefore it must have been created in time. I.e., God as a First Cause is required[42].

Albert Einstein (1879-1955)[43], was a Deist. On many occasions when examining the natural laws of science, he would reject a theory saying, "God doesn't do anything like that[44]." Einstein said that his "idea of God" was an "illimitable superior spirit," possessing "superior reasoning power" to man, who "reveals Himself" in "the incomprehensible universe[45]." His study of the natural laws of science, led him to the conclusion that *"God" never "plays dice" with the universe*. This view of his was expressed to his friends, Mr. and Mrs. Max Born. In reply letters both Mr. and Mrs. Born referred to this. For example, Mrs. Born told Einstein, "I too, am unable to believe in a 'dice-playing' God." In a further letter to the Borns, Einstein again made reference to "that ... 'non dice-playing God'[46]."

What is particularly interesting about Einstein's conclusion that the natural laws of physics necessitate a Creator God, is the way that he very begrudgingly reached this conclusion. In 1917 Einstein produced a theory for a "static model for the universe[47]." But in what Einstein later considered the greatest mistake in his life[48], he introduced what Hugh Ross calls a "fudge factor[49]" in order to conceal the Creator's hand. Einstein later

---

[42] *Ibid.*, pp. 147-8.

[43] Schilpp, P.A. (Ed.), *Albert Einstein: Philosopher-Scientist*, Harper, New York, USA, 1949,1951,1959, pp. 103,659-660.

[44] *Ibid.*; cf. pp. 144-145.

[45] Barnett, L., *The Universe and Dr. Einstein*, Victor Gollancz, London, UK, 1949, pp. 96-96.

[46] Born, I (transl.), *The Born-Einstein Letters*, Macmillan, London, 1971, pp. 148-149; 151-157; & 199. Einstein to Borns, 7 Sept. 1944; referred to by Mrs. Born in her letter to Einstein, 9 Oct. 1944, and by Mr. Born in his letter to Einstein, 10 Oct. 1944; and referred to again by Einstein in his letter to the Borns, 12 Oct. 1953.

[47] Ross, H., *The Fingerprint of God* (1989), *op. cit.*, pp. 53-59.

[48] *Ibid.*, p. 59; citing: Vilbert, D.A., "Forty Minutes With Einstein," *Journal of the Royal Astronomical Society of Canada*, Vol. 50, 1956, p. 100.

[49] *Ibid.*, p. 53.

"came clean," and begrudgingly accepted first "the necessity for a beginning[50];" and then "the presence of a superior reasoning power[51]."

These were natural corollaries to his equation, $E = mc^2$ (where E is energy; m is the mass at rest; and c is the speed of light at 299,792,458 metres per second or *c.* 983,571,053 1/3 feet per second). That is because the ramifications of this equation point to a creation date[52]. They point to expansion, coupled with deceleration, which in turn indicates that from a single point, the universe is exploding outwards. Through general relativity equations, this explosion can be traced back to a single point and time called "the *singularity*." Neither any scientific model nor application of the laws of physics, is able to describe anything before this point. In short, the universe was created by an external power[53]. *At the time of the Big Bang, God created the universe, and God made matter out of nothing at all i.e., creation ex nihilo!*

The ramifications of this are profound. Any philosophical attack on an intelligent First Cause, is stopped in its tracks[54]. This was the day that the world's best scientists recognized afresh the Creator's hand through the natural laws of science[55]. Einstein came to this recognition reluctantly. His begrudging spirit and clear philosophical hesitancy to accept a Creator God, helps to explain why he thereafter adopted a minimalist position by embracing Deism, rather than the more robust position of Theism. His begrudging spirit may also help account for the fact that he opted for a static oscillating universe model, even though his equation of $E = mc^2$ predicted an expanding universe; and even though Einstein realized that his equations of general relativity indicated a dynamic rather than a static universe[56]. Such theological factors (Einstein's preconceived notions such as his begrudging spirit in coming to recognize the need for a

---

[50] *Ibid.*, p. 59; citing: Vilbert, D.A., *op. cit.*, p. 100.

[51] *Ibid.*, p. 59; citing: Barnett, L., *op. cit.* .

[52] *Ibid.*, pp. 42-49.

[53] *Ibid.*, pp. 49-50.

[54] For instance, in the eighteenth century Kant alleged that the universe had no beginning in time (*Ibid.*, pp. 27-37).

[55] *Ibid.*, p. 50; cf., pp. 39-42.

[56] Zweerink, J., "Did Einstein believe in an expanding universe," 23 Jan. 2014, *Reasons To Believe*, California, USA (http://www.reasons.org/articles/did-einstein-believe-in-an-expanding-universe). Einstein thought gravity would make everything in the universe rush together, and so to overcome such gravitational effects resulting in the collapse of the universe in his static universe model, he introduced a so called "cosmological constant." But as Zweerink notes, "Hubble's observations falsified this belief, at which point Einstein adopted the oscillating universe model" (*Ibid.*).

Creator resulted in him taking a minimalist position of Deism rather than Theism,) and scientific factors (Einstein's preconceived notions meaning that he did not accept the natural ramifications of his equation $E = mc^2$ in terms of an expanding universe model), remind us that while Einstein was a great scientific discoverer of $E = mc^2$, who thus provided us with a new form of the argument for God as First Cause, he remained a fallible human being with certain faults, failings, and folly.

The Jewish Rabbi, Herbert Goldstein, was concerned to ascertain if Einstein, who had a Jewish background, was an agnostic or atheist. So he asked him, "Do you believe in God?" Einstein replied in the affirmative, "I believe in ... God," and made it clear that he was a Deist rather than a Theist[57]. Einstein declared, "I believe in ... [the] God [n.b. singular i.e., monotheism] who reveals Himself [n.b. personal pronoun i.e., a Being] in the orderly harmony of what exists." Goldstein then commented that if Einstein's theory was taken to its logical conclusion, it "would bring to mankind a scientific formula for monotheism[58]."

Einstein said, "I believe in Spinoza's God[59]." Spinoza (1632-1677) was a philosopher of Jewish Dutch parentage. He was guided by a medley of influences, including Cartesian philosophy[60]. Like Einstein, Spinoza was both of a Jewish background and also rejected the Jewish religion in favour of a so called rationalistic nature religion. The relevant aspect of Spinoza's philosophy in understanding Einstein's reference to him, seems to be found in the fact that Spinoza believed, "God ... is the first cause of all things, and ... makes himself known through himself[61]."

The fact that Spinoza recognized the cosmological argument that "God is the first cause," meant that he acted as a bridge by which Einstein linked his scientific and philosophical conclusions concerning the need for a First Cause. Thus Spinoza here connected Einstein to this classical proof for the existence of God, which has been argued by the Roman Catholic theologian, Thomas Aquinas (d. 1274), and the twelfth century Jewish philosopher, Maimonides[62]. Thus an important proof for God's existence, was recognized anew as the conclusion inexorably flowing from Einstein's scientifically advanced theory of relativity.

---

[57] Schilpp, P.A., *op. cit.*, p. 103.

[58] *Ibid.*, pp. 659-660; cf., Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 59.

[59] Schilpp, P.A., *op. cit.*, pp. 103,659.

[60] Spinoza prepared a "geometrical" version of Descartes' *Principles of Philosophy*, with an appendix of *Metaphysical Thoughts*, 1663.

[61] Spinoza, translated by Wolf, A., *Short Treatise on God, Man, and His Well-Being*, Vloten, 1862; Russell & Russell, New York, USA, 1910,1963, p. 20.

[62] Ross's *The Fingerprint of God* (1989), *op. cit.*, pp. 17-18.

Spinoza recognized that "God ... is a being[63]," and ascribed to him certain "Attributes[64]." But he also regarded "God" and "Nature" as near synonyms. Accordingly, he sometimes, though not always, used them interchangeably[65]. For Spinoza considered that the Supreme Being of Nature reveals himself "through himself[66]" i.e., *through* his handiwork of *nature*. Therefore Einstein also adopted this feature of "Spinoza's God," and applied it to his own Deistic understanding about the God of Nature[67].

Therefore, to the extent that both Deists and Theists recognize the Creator's hand in a First Cause and the natural laws of physics, Einstein's conclusions based on the natural laws of science which recognize a Creator, are quite significant. *At the time of the Big Bang, God created the universe, and God made matter out of nothing at all i.e., creation ex nihilo!*

The Big Bang model has been theologically challenged by e.g., both Christian Young Earth Creationists, and also heathen Hindus (Part 2, Chapter 2, section a, subsection ii, *infra*); and its theological implications of creation *ex nihilo* and hence a Creator God require a wilful shutting of the eyes by an atheistic "fool," who "hath said in his heart, There is no God" (Ps. 53:1). However, there has also been later follow through evidence relevant to the Big Bang[68]. E.g., in 2006 some North American astronomers from both Canada and the USA published their findings for evidence of *background cosmic radiation* left over from the Big Bang[69]. Moreover, evidence that the universe is

---

[63] Spinoza, *Short Treatise on God, Man, and His Well-Being*, *op. cit.*, p. 21.

[64] *Ibid.*, p. 30.

[65] See e.g., *Ibid.*, p. 157 "Nature or God."

[66] *Ibid.*, p. 20.

[67] See e.g., Schilpp, P.A., *op. cit.*, pp. 144-145 re: "the Creator" and "Kant's remarks that God could have chosen a different law of gravitation."

[68] See e.g., Hugh Ross's "Fossils of Primordial Galaxies Shed Light on Creation," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 4, No. 1, 2012, pp. 9-10; referring to Bovill, M.S. & Ricotti, M, "Where Are the Fossils of the First Galaxies? [Part] I. …," & "Where Are the Fossils of the First Galaxies? [Part] II. …," *Astrophysical Journal* 741 (1 Nov. 2011).

[69] Hugh Ross's "Most Detailed Map of Cosmic Background Radiation Confirms Biblical Creation Model," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 8, No. 3, 3rd Quarter, 2006, pp. 1-2; referring to Wanjek, C., "Ringside Seat to the Universe's First Split Second," Goddard Space Flight Centre Press release, 16 March, 2006 (http://www.nasa.gov/vision/universe/stargalaxies/wmap_pol.html); D.N. Spergel *et al*, "Wilkinson Microwave Anisotrophy Probe (WMAP) Three Year Results: Implication

expanding out from the Big Bang, rather than rotating around in a mixmaster fashion, has also be shown from *cosmic radiation*. In physics, torque refers to the tendency of a force to rotate a body that it is applied to. Since cosmic background radiation has been found to be slightly hotter when it is on one side of the sky compared to when it is on the other side[70], it follows that it is possible to measure any torque or twisting if the universe is moving around in a mixmaster fashion rather than expanding out from the Big Bang. But British and Polish scientific research published in 1985 (Barrow *et al*) found no such rates exist, and so the universe is not moving around in a mixmaster fashion but rather is expanding out from the Big Bang. So too, a Chinese scientific study on *cosmic radiation* published in 2009 (Su & Chu), found from satellite measurements of *background cosmic radiation*, that the universe was about 380,000 years old when the background cosmic radiation which had been detected was omitted, and it could not have been rotating in excess of one 360° (360 degree) turn every 6 billion years. This figure is so low that it safely acts to disprove any possibility of a universe twisting and turning in a mixmaster fashion, and most naturally means the universe is expanding out from the Big Bang[71].

Furthermore, the Big Bang model firstly predicts that when the universe was less than 380,000 years old, sound waves oscillating through the hot universe plasma of protons, photons, and electrons, would leave a unique signatory imprint on the cosmic microwave's background radiation temperature map i.e., this would be the remaining visible radiation from the Big Bang. And secondly the Big Bang model predicts that there would also be a signatory imprint left by the echo of the early cosmic sound waves on the universe's galaxy clusters and the distribution of galaxies. Notably then, the temperature of the cosmic background radiation was mapped out by the *Wilkinson Microwave Anisotropy Probe* (2009, Komatsu *et al*), and the distribution of nearby galaxies was mapped out by the *Sloan Digital Sky Survey* (2005 Daniel Einstein *et al* & 2009 Gaztañaga *et al*). The result was that scientific researchers were able to clearly

---

for Cosmology," *Astrophysical Journal Supplement* (2006); Olive. K.A. & Skillman, E.D., "A Realistic Determination of the Error on the Primordial Helium Abundance …," *Astrophysical Journal*, Vol. 617 (2004), pp. 29-49.

[70] In technical terms, this is a dipole structure, which results from the fact that Earth's galaxy, the Milky Way, is being pulled toward the Virgo Cluster of galaxies; and in turn these are being pulled towards a super cluster of galaxies which are known as the Great Attraction, and in turn these are being pulled towards a gigantic super cluster of galaxies know as the Monster Attractor.

[71] Hugh Ross's "Latest Research Beats Out the Mixmaster Model," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 1, No. 2, 2010, pp. 3-4; referring to J. D. Barrow *et al*, "Universal Rotation: How Large Can It Be?," *Monthly Notices of the Royal Astronomical Society*, Vol. 213 (1985), pp. 917-943; S.-C. Su & M.-C. Chu, "Is the Universe Rotating?," *Astrophysical Journal*, Vol. 703 (20 Sept. 2009), pp. 354-361; & S. Ram *et al*, "Bianchi Type-V Cosmological Models With Perfect Fluid & Heat Flow in Saez-Ballester Theory," *Pramana Journal of Physics*, Indian Academy of Sciences, Vol. 72 (Feb. 2009), pp. 415-427.

observe both signatory imprints[72]. The effect of this Big Bang confirmatory research is thus to show from the Book of Nature, that which we read in the Book of Divine Revelation, namely, that the universe has a beginning and there was an act of creation *ex nihilo*. Put simply, "In the beginning God created the heaven" (Gen. 1:1).

Scientists who were Theists include: Copernicus (1473-1543); Galileo (1564-1642); Kepler (1571-1630); Newton (1643-1727); Faraday (1791-1867); Mendel (1822-1884); and Maxwell (1831-1879).

The theist agrees with the deist that God created the universe and it natural laws. For example, the theist Rene Descartes (d. 1650) recognized that "mathematical truths, which you call 'eternal,' were established by God[73]." But the theist additionally believes that God thereafter intervened to reveal himself to man, and also has a personal relationship with believers. Thus the theist generally believes that some aspects of the God of Nature can be discovered by reason. But he additionally believes that God has given a supernatural or Divinely inspired revelation of himself to mankind. Christians such as myself, recognize that this revelation is found in the Protestant's Holy Bible of 39 canonical Old Testament books and 27 canonical New Testament books (e.g., Article 6 of the Anglican 39 Articles).

Therefore, the work on the origins of the universe by Albert Einstein is of clear significance to both deist and theist alike. The doctrine of creation *ex nihilo* (Latin, "out of nothing"), is found in Genesis 1:1, "In the beginning God created the heaven and the earth," together with other Old Testament passages (Pss. 33:6,9; 148:5). Then in the second or first century B.C. it is expressed in the terminology of creation *ex nihilo* in II Maccabees 7:28 (Apocrypha), which in the Latin Vulgate (4th / 5th centuries A.D.) is translated by St. Jerome (d. 420) from the Greek, "*ex* (out) *ouk onton* (*ouk*, 'no' + 'of things which actually exist,' neuter plural genitive participle, from nominative plural

---

[72] Hugh Ross's "New Tool Provides a Window to Creation," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 2, No. 4, 2010, pp. 17-18; referring to Komatsu, E., *et al*, "Five-Year Wilkinson Microwave Anisotropy Probe (WMAP) Observations: Cosmological Interpretations," *Astrophysical Journal Supplement*, Vol. 180 (Feb. 2009), pp. 330-376; & Einstein, D.J., *et al*, "Detection of the Baryon Acoustic Peak in the Large-Scale Correlation Function of SDSS Luminous Red Galaxies," *Astrophysical Journal*, Vol. 633 (10 Nov. 2005), pp. 560-574; & Gaztañaga, E., *et al*, "Clustering of Luminous Red Galaxies – IV. Baryon Acoustic Peak in the Line-of-Sight Direction & a Direct Measurement of H(z)," *Monthly Notices of the Royal Astronomical Society*, Vol. 399 (Nov. 2009), pp. 1663-1680.

[73] Descartes, R., *Philosophical Writings*, Nelson, Sydney, Australia, 1964; in Descartes to Mesenne, 15 April, 1630, pp. 259-260, at p. 259. In the theological realm, from the religiously conservative Protestant perspective, Descartes held some heretical views; and in the scientific realm, his Cartesian ideas of motion were in time replaced by Newtonian principles. But this does not invalidate his recognition that God created certain scientific laws which by God's grace man may later discover through reason.

form *onta*, of *eimi* = 'of no-things' = 'of nothing') *epoiesen* (he made) … *o* (-) *Theos* (God)," i.e., "God made … out of nothing …;" as Latin, "*ex* ('out of,' preposition with an ablative) *nihilo* ('nothing,' neuter singular ablative noun, from *nihilim*) *fecit* ('he made') *Deus* (God)" i.e., "God made … out of nothing … ." Thus the terminology of Latin "*ex* (out of) *nihilo* (nothing)," comes to us from the Vulgate's Apocrypha at II Macc. 7:28.

Therefore looking at the "Biblical creation model to be scientifically compared & contrasted with the Book of Nature" found in Part 2, Chapter 1, section b, *supra*; the evidence of the Big Bang is clearly consistent with what we would expect from *Guideline 2*, "Creation *ex nihilo* of the universe (Gen. 1:1)."

In ancient times, in the first century A.D. we read in a New Testament Divine Commentary on Gen. 1:1 that "the worlds were framed by the word of God, so that things which are seen were not made of things which do appear" (Heb. 11:3). Hence Louis Berkhof (d. 1957) refers to how "the doctrine of creation *ex nihilo* … as a *free* act of God … is found in" the ancient church Greek and Latin writers, "Justin Martyr [d. *c.* 165], Irenaeus [d. 2nd century], Tertullian [d. after 220 A.D.], Clement of Alexandria [d. before 215], Origen [d. 254], and others[74]." Or in historically modern times, the founder of Bob Jones University, USA, Bob Jones Sr. (d. 1968) said, "'God inhabits eternity' [Isa. 57:15]. There was a time when there wasn't anything. There wasn't a flower, there wasn't a star, there wasn't a dew drop, there wasn't a rose, there wasn't anything, except God; and he filled 'eternity' [Isa. 57:15]. And the God that made an atom so wonderful … made a universe that's never even been discovered by man; stars, that no telescope's ever found. How could you understand all about that kind of a God?[75]." And he also points men to the Creator who is the lawmaker of scientific and mathematical laws, first saying, "Jesus Christ was the incarnation of truth when he was in the world … he never said, 'I think,' or 'This may be so,' but just said, 'I say unto you'" (the argument for verification by the supernatural character of Christianity's founder[76]); and then saying, "God made the multiplication table, man discovered it." "He made twice 2's 4 [2 × 2 = 4] 3 3's 9 [3 × 3 = 9], God's the author of the multiplication table. He's the author of addition and subtraction, God's the author of that[77]."

---

[74] Berkhof's *Systematic Theology*, p. 126. In the case of Origen, this requires qualification, as he only thought *some* things were created by God. See Volume 2, Part 3, Chapter 6, section e.

[75] Bob Jones Sr., *Word of Truth* 347 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA.

[76] Ramm, B.L., *Protestant Christian Evidences*, Moody, Chicago, 1953; reprint 1978, chapter 6, "The Verification of Christianity by the Supernatural Character of Its Founder," pp. 163-183; McDowell, J., *Evidence That Demands A Verdict*, Here's Life Publishers, 1972, Revised Edition 1979, pp. 79-140.

[77] Bob Jones Sr., *Word of Truth* 108 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA.

Therefore, this ancient doctrine of creation *ex nihilo* meaning creation out of nothing, which underpins the usage of the cosmological argument with the need for a First Cause as a proof of God's existence, has been given a new scientific treatment through reference to Albert Einstein's $E = mc^2$. This is relevant in pointing to an expanding universe that can be traced back to a single point and time known as "the *singularity*;" and before which were no chemicals, no elements, absolutely nothing. Thus before the Big Bang about 14 billion years ago + / - 4 billion years, nothing existed, and so this requires an act of creation *ex nihilo* which points to a transcendent Creator. It is a gripping scientific proof for cosmology and the theological truth of creation *ex nihilo* as found in such Biblical passages as Gen. 1:1 and Heb. 11:3. From cosmology we are thus reminded at the point of the very first verse of the Bible, "In the beginning God created the heaven and the earth," of the maxim, *If the Bible says it, you can believe it; it's accurate; it's reliable; it's true!* For *God created the universe, and at the time of the Big Bang God made matter out of nothing at all*; in short, $E = mc^2$ = creation *ex nihilo!*

(Chapter 2) a]ii] Cosmology (The First Cause): The "creation" claims of the world's largest Infidel religion, Mohammedanism, as found in the Koran; and also the "creation" claims of the world's two largest heathen religions, Buddhism & Hinduism; are not scientific.

On the one hand, infidels correctly recognize that there is one God; but on the other hand, they incorrectly deny that there are three Persons in the one Supreme Being, i.e., they deny the doctrine of the Holy Trinity. The world's largest infidel religion is Islam or Mohammedanism, e.g., Mohammed says in the Koran's Sura 4:169, "and say not 'Three:' (there is a Trinity) … God is only one God! Far be it … that he should have a Son!" Certain "creation" claims of Mohammedanism, as found in the Koran, are clearly unscientific. In the Koran at Sura 21:30, an angel says, "the heavens and the earth were both a solid mass, and … we clave them asunder, and … by means of water we gave life to everything[78]." For our immediate purposes, the two significant things to note about this Koranic Sura are: firstly, the claim that "the heavens and the earth were both a solid mass," i.e., being joined together; and secondly, the claim that these were then separated "asunder" to form the heaven and earth. This is clearly contrary to what we know from cosmology and the Big Bang. The universe was an act of creation *ex nihilo*, all the chemicals and elements were brought into existence from nothing at the time of the Big Bang. Furthermore, far from "the heavens and the earth" being "a solid mass" that was then "clave … asunder," the heavens were originally gaseous and the universe heaven dates from the time of the Big Bang about 14 billion years ago + / - 4 billion years old, whereas the earth was not made till much later, and dates to *c.* 4.6 billion years ago. Thus these claims of the Koran are clearly unscientific and false.

---

[78] *The Koran*, translated by J.M. Rodwell, *op. cit.*, pp. 152-3 - Sura 21:30.

Given that these "creation" claims of Mohammed in the Koran are unscientific and false, the Book of Nature points us to the conclusion that Islam is a false religion. Yet this same Book of Nature points us to the conclusion that Christianity is the true religion, and the Christian's Bible is reliable. And the same type of conclusions also flow from scientific analysis of the "creation" claims of Buddhism and Hinduism

Looking at the world's false religions of heathenism, Buddhism and Hinduism are the two largest heathen religions in the world; and Buddhism is a spin-off religion derived from Hinduism, with the veneration of the Buddha and Buddha statue being forms of idolatry derived from the idolatrous Indian parent religion of Hinduism[79]. In this context, one should distinguish between the more subtle form of idolatrous worship of veneration which is found in Buddhism, in which the Buddha statue is idolatrously venerated as a religious focal point; and the more brazen form of idolatrous worship of prayer or devotions to an idol which is found in Hinduism. While Buddhists make offerings at a Buddha statue of e.g., flowers or incense, these act to indicate religious veneration for the Buddha statue as the focal point for their religious thinking, but Buddha himself is not consciously regarded by them as a god i.e., unlike a Hindu at a Hindu statue, the Buddhist at a Buddha statue does not think he is offering these things to a god represented by the statue, nor that there is a god behind the statue that is listening to, or watching him. Rather, these types of actions are meant to remind the Buddhist of Buddha's teachings e.g., the offering of incense reminds the Buddhist of moral purity, or the offering of flowers remind the Buddhist of life's impermanence. Hence Buddhists say that, "Prostrating before an image of the Buddha … expresses our deep veneration … . As we prostrate before the Buddha images, we recall the qualities of … Buddha and develop respect for … qualities such as … concentration and wisdom. Showing respect to the Buddha and his qualities inspires us to develop these … qualities ourselves[80]."

Thus Buddhism uses a Buddha statue in the more subtle form of idolatrous veneration of a religious object used as a focal point for their spiritual attention to remind them of Buddha's teachings; whereas Hinduism uses various Hindu statues in the more brazen form of idolatrous worship of a religious object that includes prayer to, and the belief that, the statue represents a heathen god. The Buddhists make a lust idol (Col. 3:5) out of the "philosophy" of Buddha (Col. 2:8), and by putting this in place of God, make this a false focus or idol. To the extent that the Buddha statue acts as a focal point for their religious thinking, it too is a false religious focus and thus an idol. The fact that seeing the Buddha idol is the fundamental cue for them to be "prostrating" themselves "before an image of the Buddha," which is then accompanied by religious ceremonies

---

[79] See e.g., Josh McDowell & Don Stewart's *Handbook of Today's Religions*, Campus Crusade for Christ, USA, 1983, Thomas Nelson Publishers, Nashville, Tennessee, USA, Part 3, chapter 1, Hinduism, pp. 283-295; & chapter 3, Buddhism, pp. 304-324, 528.

[80] "Buddhist Studies: Festivals & Ceremonies," "Devotional Practices & Objects," Buddha Darma Education Association & BuddhaNet, 2008 (emphasis mine) (http://www.buddhanet.net/e-learning/history/observances.htm).

such as the offering of incense or flowers, means that the statue of Buddha *goes beyond being a religious symbol* (like a cross on the Chancel Table in a Low Church Evangelical Anglican Church such as St. Matthew's Windsor in western Sydney), and in fact the Buddha statue *becomes a necessary focal point of their religious devotions and thus an idol*. Though it is a more subtle form of idolatry than the more brazen usage of idolatrous images that one finds in Hinduism, nevertheless, the statues of Buddha are the carry over of an idolatrous image into Buddhism from the originating idolatrous parent religion of Hinduism. Thus the statues of both Buddhism and Hinduism are idols, albeit, qualitatively different types of idols that facilitate different forms of idolatry. Thus both Hinduism and its spin-off religion of Buddhism set aside the First Commandment of the Holy Decalogue, "I am the Lord thy God, Thou shalt have no other gods before me;" and the Second Commandment of the Holy Decalogue, "Thou shalt not make, bow down to, nor serve, any graven image" (summary forms; fuller forms at Exod. 20:1-6).

The heathen Hindu religion is polytheistic and for religious knowledge looks to a number of spurious writings, e.g., the Hindu *Vedas*[81]. It teaches that there has been endless *cycles of creations and destructions of the universe*[82]. Hinduism claims that at the start of each universe oscillation, heathen gods create a new universe, in an endless cycle of universe creations and destructions. While Hindu polytheism is involved at all points of this universe oscillation cycle, the start of each universe oscillation is said to have a special connection with the heathen Hindu god, Brahma; its continuation with the heathen Hindu god, Vishnu; and its end with the heathen Hindu god, Shiva[83]. Hence the heathen Hindu *Institutes of Manu* say, "There are creations also and destructions of worlds innumerable; the supremely exalted Being performs all this with as much ease as if in sport, again and again, for the sake of conferring happiness[84]."

The Hindu spin-off religion of Buddhism has two rival myths about the creation of worlds (Abhidharma and Kalachakra). They both have the idea of "multiple world systems" of a very large number, so that any given world is "in a constant state of coming and passing away." However, the Tibetan Buddhist's Dalai Lama (who conducts Kalachakra ceremonies[85]), described "the idea that there is a single definite beginning" as

---

[81] Josh McDowell & Don Stewart's *Handbook of Today's Religions*, *op. cit.*, pp. 285-287.

[82] Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 97.

[83] "Hindu Cycle of the Universe," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/Hindu_cycle_of_the_universe).

[84] *Institutes of Hindu Law*, London, 1825, p. 13 (chapter 1, number 80); quoted in Wiseman, N. (Cardinal), *Twelve Lectures on the Connexion Between Scripture & Revealed Religion*, 5th edition, [Roman] Catholic Bookselling & Publishing Company and J. Mullany, Dublin, Ireland, UK, 1861, Fifth Lecture, pp. 247-307 and p. 283.

[85] *Encyclopaedia Britannica CD99* (1999), *op. cit.*, "Book of the Year (1998): Religion: Buddhism."

"highly problematic" for Buddhist teaching[86]. That is because Buddhism considers the creation of these many worlds occurs inside an eternal universe. For the Buddhist, there is no specific start or end to the universe, just an eternal cycle of multiple worlds being created and destroyed "every second." Thus e.g., one Buddhist said, "the beginning of this world and of life is inconceivable since they have neither beginning nor end. … Buddhism never claimed that the world, sun, moon, stars, … were created by a powerful god or by a Buddha. Buddhists believe that the world was not created once upon a time, but that the world has been created millions of times every second… . The efforts made by many religions to explain the beginning and the end of the universe are ill-conceived." He then quotes from the Buddhist writings of Sri Ramachandra, "'Infinite is the sky, infinite is the number of beings; infinite are the worlds in the vast universe; infinite in wisdom the Buddha teaches these; infinite are the virtues of him who teaches these[87]."

I would here note that in ascribing "infinite … wisdom" to "Buddha," this is ascribing a Divine Attribute to Buddha that rightly belongs only to God, so that in substance, though not in technical form, Buddha is here deified as a god by Buddhists, even though the Buddhists would in form deny that they so regard Buddha as a god. So too, in the follow on idea that "infinite are the virtues of him who teaches these" Buddhist ideas, we see a further deification of man as once again in substance, though not in form, the attribution of a Divine Attribute to man exhibits the Devil's old temptation, "ye shall be as gods" (Gen. 3:5). Moreover, while the Buddhist concept of an eternal universe that goes through "infinite … worlds" that come and go "every second;" is a different type of *internal* universe oscillation to the *external* oscillation concept of the universe itself coming and going that one finds in Hinduism, nevertheless it shares with the originating parent religion of Hinduism some form of oscillation concept that it seems to have derived from Hinduism, though Buddhism has also discernibly altered the originating

---

[86] Samples, K.R., "Contrasting Buddhist & Christian Cosmologies," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 3, No. 4, Nov. 2011, pp. 11-12; referring to Dalai Lama's *The Universe in a Single Atom*, Morgan Road Books, New York, USA, 2005, pp. 2-4, 71-93. Though Samples here confuses Hindu notions of multiple universes with Buddhist notions of one eternal universe within which there are multiple worlds, so that he wrongly explains Buddhist "multiple world systems" (Buddhism) to mean "universes" (Hinduism), his article nevertheless contains some useful and valuable information in it.

[87] "Venerable" K. Sri Dhammanandu Maha Thera's "What Buddhists Believe," "Part Six – This world and other worlds," Chapter 16, "Realms of Existence," section "The Origin of the World" (http://www.budsas.org/ebud/whatbudbeliev/297.htm). This Buddhist writer tries to deal with the conflict between science and Buddhism by making a secularist type distinction between science and religion as two distinctive and unrelated spheres. But in the first place, this is an artificial philosophical distinction created by secularist philosophical ideology, that it then artificially imposes upon the reality of a God created world. And in the second place, this Buddhist "solution" is nothing but "a dodge" by which he seeks to avoid dealing with the fundamental fact that Buddhist claims of an eternal universe are in conflict with scientific findings of The Big Bang.

Hindu concept[88]. The heathen Buddhist theory of a never ending universe which has "neither beginning nor end," at least in its traditional form, also shares some notable similarity with elements of Kant's scientific theory of an eternal universe[89]; and like Kant's scientific theory, this Buddhist notion is clearly shown to be false by the beginning of the universe with the Big Bang.

The heathen Hindu oscillating theory of the universe has also been sometimes conjectured as a scientific theory[90]. On the one hand, the American astronomer, George Greenstein, recognized the need for a Supreme Being, saying with respect to the evidence for Design of the universe (see Part 2, Chapter 2, section b, *infra*), "As we survey … the evidence, the thought insistently arises that some supernatural … Agency – must be involved. Is it possible that … we have … scientific proof of the existence of a Supreme Being? Was it God who stepped in and so Providentially crafted the cosmos for our benefit?" But on the other hand, Greenstein then goes in the Hindu direction[91]. But whether in its heathen Hindu form, or its form as a scientific theory, the theory of an oscillating universe must be ruled out in favour of the one universe model as a consequence of the cosmological argument's evidence for the Big Bang[92].

It is thus of note, that on the one hand, we find that the scientific evidence for the Big Bang, shows the implausibility of the claims of the world's two largest heathen religions of Hinduism and Buddhism, whether the eternal universe or Buddhism or the

---

[88] Paradoxically, this may have been a case of going "back to the future," with the Buddhist corruption in fact going back to something closer to what the originating Hindu idea was before it was corrupted from the idea of multiple worlds inside of this universe per Gen. 2:4, to its later Hindu form of an oscillating universe. Cf. Sermon 1/4 of 29 May 2014 in this Volume 1's Appendix.

[89] See Ross's *The Fingerprint of God* (1989), *op. cit.*, pp. 33-35.

[90] *Ibid.*, pp. 11-12,97-101,104-108,128.

[91] Ross's *Evidence of Design* (1990), *op. cit.*, & *The Fingerprint of God* (1989), *op. cit.*, p. 120; referring to George Greenstein's *The Symbiotic Universe: Life and Mind in the Cosmos*, William Morrow, New York, USA, 1988, pp. 26-27.

[92] Hugh Ross itemizes a number of scientific problems with the scientific theory of those who look to an oscillating universe (e.g., Robert Dicke). 1) If it were so, there would be an ever-increasing radius of the universe traceable back to the first cycle, and no such evidence exists. 2) The observed universe's density is only about 40% of what would be needed in order to force such collapse. 3) The density that is implied from the expanding model would not force such a collapse. 4) There is no physical mechanism that could reasonably reverse such a universe collapse in the laws of science. 5) Isotropic compression would be violent and unstable near the end of a universe collapse phase. 6) The entropy of the universe means that if it did collapse, it would not be able to "bounce back" into another one. Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 105.

oscillating universe of Hinduism; but on the other hand, it simultaneously shows the complete accuracy of Christianity's Biblical teaching in Genesis 1:1 of creation *ex nihilo* (Latin, "out of nothing"). For while the Buddhists "set up the wood of their graven image" of Buddha who "cannot save" (Isa. 45:20), we religiously conservative Protestant Christians look to "the Lord that created the heavens; God himself that formed the earth;" whose might means that those who trust in him "shall be saved in the Lord with an everlasting salvation" (Isa. 45:17,18,20). In the Biblical words of the Psalter, "The idols of the heathen" such as those in Hinduism, "are silver and gold, the work of men's hands. They have mouths, but they speak not: eyes have they, but they see not: they have ears, but they hear not; neither is there any breath in their mouths. They that make them are like unto them: so is every one that trusteth in them" (Ps. 135:15-18). But "in the Lord put I my trust" (Ps. 11:1); "the Lord … which made heaven, and earth" (Ps. 146:5,6).

Thus on the one hand, the Book of Nature points us to the conclusion that that world's largest infidel religion, Mohammedanism, is a false religion, and the writer of the Koran, Mohammed, was a false prophet; and likewise the Book of Nature points us to the conclusion that the world's two largest heathen religion, Buddhism and Hindus, are also false religions. But on the other hand, the Book of Nature simultaneously points us to the conclusion that the Genesis account of creation in the Protestant Christian's Bible is absolutely reliable and correct. The natural conclusion to draw from this is that Nature's God, the Creator, Divinely revealed himself in the Protestant Christian's Bible, and thus religiously conservative Protestant Christianity is the true religion of the Divinely revealed Creator God.

The founder of Bob Jones University, USA, Bob Jones Sr. (1883-1968) said on one occasion, that the "most intelligent people I've ever met are Christians" because "the wise man makes preparation for the inevitable." "Have you made preparation for the inevitable? Are you prepared to die?" "I said to a man one time, 'Do you believe there's a God?' "Why' he said, 'certainly I do … . Everybody knows there must have been a God that made this universe, [there] had to be a First Cause, a Creator' … . 'Well,' I said, 'won't you accept Christ?' … Jesus Christ told a parable about a prosperous farmer, that sat down on his porch and told his 'soul' to 'take' its 'ease;' and Jesus Christ said he's a 'fool, this night thy soul shall be required of thee' [Luke 12:19,20] [93]."

[93] Bob Jones Sr., *Word of Truth* 345 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA.

(Chapter 2) b) Teleology (Design):
i] "God created the heaven and the earth" (Gen. 1:1) & the Anthropic Principle.
ii] "In the beginning God" (Gen. 1:1): The Anthropic Principle subject to the Theocentric Principle (Isa. 46:9,10).
iii] "God created … the earth" (Gen. 1:1): Earth's Solar System.
iv] "God created … the earth" (Gen. 1:1): Earth-Sun-Moon system.
v] "God created … the earth" (Gen. 1:1) – but how "old" is the "old … earth" (Ps. 102:25)?

(Chapter 2) b) Teleology (Design):
i] "God created the heaven and the earth" (Gen. 1:1) & the Anthropic Principle.

Teleology is the second of the five classic arguments from godly reason we shall consider for the reality of God and creation miracles, and associated accuracy of the words of Genesis 1:1, "In the beginning God created the heaven and the earth." Bearing in mind the injunction of the Apostle Paul, "Be ye followers of me, even as I also am of Christ" (I Cor. 11:1), with respect to the usage of godly reason for Biblical Apologetics in regard to showing that "In the beginning God created the heaven and the earth" (Gen. 1:1), when looking at relevant elements of teleology we are clearly following in the footsteps of the holy apostles. That is because as previously noted at Part 2, Chapter 1, "General Theology of Scientific Evidences for the Creator & Bible," section a, "'God' hath 'left not himself without witness' (Acts 14:15,17)," *supra*, in Acts 14:8-18, in what was clearly an evangelistic and Christian apologetics context, in response to idolatrous claims by pagan Romans, "the apostles Barnabas and Paul" replied, "Sirs, why do ye these things? We also are men of like passions with you, and preach unto you that ye should turn from these vanities unto the living God, which made heaven, and earth, and the sea, and all things that are therein," "he left not himself without witness, in that he did good, and gave us rain from heaven, and fruitful seasons, filling our hearts with food and gladness" (Acts 14:15,17, emphasis mine). Here we see that the holy apostles St. Paul and St. Barnabas used godly reasons in pointing to the need for a Creator God, and used arguments of teleology requiring that there is a Creator; as well as arguments of God's ongoing miraculous acts of doing "good" to people, and the sustaining of his creation by his common grace which is not unto salvation. Thus they taught that by usage of godly reason men may see that *creation witnesses* to God (Acts 14:17; cf. Rom. 1:20). For example, through such common grace God "did good" and impressed men's minds with his Divine provision, "filling" their "hearts with food and gladness" (Acts 14:17). Hence in using godly reason or natural law, *we are treading where the saints have trod.*

Our English word, "teleology," comes via the Latin word, *teleologia*, from the Greek word, *telos*, meaning "an end" that is attained; and "logy" is derived from Greek *logia* referring to a "science" or "study." Thus "teleology" refers to *the study of ends*

i.e., design, with reference to God as Creator. E.g., in a different context, the Greek word *telos* is found in Jesus' Olivet Discourse when he says, "and ye shall hear of wars and rumours of wars: see that ye be not troubled: for all these things must come to pass, but the end (Greek, *telos*) is not yet." "And this gospel of the kingdom shall be preached in all the world for a witness unto all nations; and then shall the end (Greek, *telos*) come" (Matt. 24:6,14).

The teleological argument for the existence of God looks to the study of final causes i.e., it considers *the end* purposes for which things have been designed, and sees in *the design*, a grand Designer, namely God. It has especially come to be associated with the name of the *Church of England* clergyman, William Paley. He was made a Canon of St. Paul's Cathedral in London in 1795, then a subdean of Lincoln Cathedral in 1795; and he died at Lincoln in Lincolnshire, England in 1805. Paley liked to use the same argument of a watch that we have already considered in Part 2, Chapter 2, section a, subsection i, in connection with Voltaire's statement, "I shall always be convinced that a watch proves a watch-maker, and that a universe proves a God," *supra* i.e., this is an argument of design since both a watch and the world point to the existence of a designer.

In this context, the Anthropic Principle is an example of the teleological argument for the existence of God. In analysis of the creation of the universe after the time of an intelligent First Cause e.g., the astronomer Hugh Ross has highlighted some intriguing discoveries[94]. Specifically, the link between the universe and the creation of a creature which is in the image of God, to wit, man, is bridged through what is known as the *anthropic principle*[95]. That is to say, it is not possible to imagine a universe which contained life, if any of the fundamental constants of physics, or any of the fundamental parameters of the universe are altered in more than a very minimal manner. This gives rise to the *anthropic principle* as a teleological argument for the existence of God. This principle holds that all the features of the universe point towards facilitating a situation where it becomes possible to sustain life-forms on a planet such as the earth in general, and in particular, a creature such as man, who is in the image of God, can use intelligent reason in understanding God and his creation, and has a soul and so can worship God[96].

---

[94] This work of the Anthropic Principle is an expanded form of what I wrote in my article in *The American Journal of Jurisprudence*, Vol. 40 (1995), the section on "(2) Natural Law," subsection "(a) Does nature itself teach us anything?," at "(ii) The Anthropic Principle (Deists and Theists)," at pp. 233-235. E.g., I have here made further reference to both Ross's *The Fingerprint of God* (1989), *op. cit.*, pp. 119-128, and also Ross's *Evidence of Design* (1990), *op. cit.* . I have sometimes supplemented this with the addition of some general scientific information by way of helpful explanation for the reader's better understanding.

[95] See e.g., Neidhardt, W.J., "The Anthropic Principle: A Religious Response," *Journal of the American Scientific Affiliation*, Vol. 36, No. 4, Dec. 1984, pp. 210-207.

[96] See Ross's *The Fingerprint of God* (1989), *op. cit.*, pp. 119-128. As discussed in Part 1, the attributes of the soul or spirit are interchangeable in the orthodox definition of man as a dichotomy of body + soul, whereas Ross uses an unorthodox

In defence of this proposition, Hugh Ross refers to some early work on the *anthropic principle* done by Carl Sagon and Josef (Iosef) Shklovsky in their book, *Intelligent Life in the Universe* (1966) which only looked at a small number of broad general matters with regard to the universe. Building on British physicist Paul Dirac's 1937 observations on the baryon count in the universe; in 1961 the American physicist, Robert Dickey argued that for the baryon count in the universe to be at the right level for stars to be able to form that could sustain a life-support planet such as earth, acts to limit to a later narrower time-period the time life could occur on a planet like the earth[97].

From this precedent of using modern scientific data to form a teleological argument with the *anthropic principle*, as to some extent earlier done by, for instance, Paul Dirac (1937), Robert Dickey (1961), and John Wheeler (1986)[98]; Hugh Ross (1989 & later) then uses this as his starting point to more comprehensively develop the teleological argument of Divine Design. He thus itemizes a number salient universe factors likewise using modern scientific data. These universe factors include a number of pertinent natural laws of physics.

Universe Factor 1]: The force of gravity. If this was slightly greater then larger stars would be formed and they would be at least 1.4 times larger than Earth's sun; and if this was slightly weaker then stars would be less than 0.8 times the mass of Earth's sun. If due to a slightly greater gravitational force the stars were thus larger, they would burn too quickly and inconsistently for a life-support planet such as the Earth. But if due to a slightly weaker gravitational force the stars were thus smaller, then the heavy elements

---

trichotomy of body + soul + spirit. But for our immediate purposes the spiritual qualities he attributes to the "spirit" as a distinct element of man, are what the orthodox would attribute to the "spirit" / "soul" as a distinct element of man; and so Ross's basic work is still broadly usable on these matters.

[97] Baryons are members of hadrons (which further subdivide into two more classes), being particles built from quarks (a group of subatomic particles). They are heavy subatomic particles made from three quarks. Though not the only baryons, most baryons are either protons or neutrons. A proton is a stable sub-atomic particle with a unit-positive charge and mass of $1.6726231 \times 10^{-27}$; and this is 1836 times the mass of an electron. A neutron is one of the constituent particles of an atomic nucleus, other than in the case of hydrogen; it does not have an electric charge at its mass is *c.* 1840 times greater than an electron. Protons and neutrons constitute over 99.9% of the mass of an atom. Ross says, Dirac observed that the number of baryons in the universe is 10^{80}, which "is almost equal to the inverse square of the gravitational constant" which is 10^{40}, "and to the square of the age of the universe." Ross's *Evidence of Design* (1990), *op. cit.*, & *The Fingerprint of God* (1989), *op. cit.*, pp. 120-121.

[98] Ross's *Evidence of Design* (1990), *op. cit.*, & *The Fingerprint of God* (1989), *op. cit.*, p. 120; referring to Wheeler's "Foreword," in John D. Barrow & Frank J. Tipler's *The Anthropic Cosmological Principle*, Clarendon Press, Oxford, England, UK, 1986.

necessary for sustaining life would not be produced. *Thus the force of gravity is just right.* Thus this points to Divine Design.

At this point I am in broad agreement with Ross, and so I think his broad general point on the force of gravity is a valuable contribution. However, Ross further argues that if due to a slightly weaker gravitational force the stars were thus smaller, then "there would be no heavy elements for building … planets," and he is particularly focused on "rocky" planets such as the earth[99]. But at this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[100]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used heavy elements for such planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1) (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[101]

---

[99] Ross's *Evidence of Design* (1990), *op. cit.*, citing John Wheeler; & *The Fingerprint of God* (1989), *op. cit.*, pp. 121-2 (the gravitational coupling constant).

[100] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

[101] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes*.

Universe Factor 2]: The weak nuclear coupling constant (weak nuclear force). The radioactive disintegration process known as beta decay consists of a free neutron[102] breaking down into a proton, an electron[103], and an antineutrino[104]. Radioactivity is governed by the weak nuclear force, with the decay of nuclei into other nuclei[105], and atoms into other atoms; and helium is generated by radioactive decay. In the first several minutes following the Big Bang, the number of neutrons present as the universe cools to temperatures in which nuclear fusion can occur acts to determine the amount of helium that is produced. In the universe, hydrogen is the most common element, and constitutes *c.* 75% of the mass of all matter in the universe; whereas the second most common element is helium which constitutes *c.* 23% of the mass of all matter in the universe. If the weak nuclear force were altered up or down, life would not be possible. If changed in one direction the neutrons would more quickly decay and so be less available. The consequence of this would be that little to no helium would be produced. Without this helium the heavy elements produced by nuclear processes in stars could not be made. But if changed in the other direction most or all of the hydrogen would be burnt into helium by the Big Bang, and with almost 100% or 100% hydrogen this would result in too many heavy elements being made by stars, and not enough light elements necessary for life[106]. Thus this points to Divine Design.

Universe Factor 3]: The strong nuclear coupling constant (strong nuclear force). This is what holds together in an atom's nucleus, the atom's constituent parts made up of particles of protons and neutrons. If this were slightly stronger, then more frequently the

---

[102] A free neutron is one that is not incorporated in a nucleus (a nucleus is the core of an atom).

[103] Electrons are one example of leptons. Fermions are sub-atomic particles which have an odd angular momentum which is half-of-the-whole (a spin of ½ or 1½). Fermions include particles in a number of sub-classes, one of which are leptons e.g., electrons, neutrinos, and photons. Leptons do not participate in strong reactions but only in weak interactions (as well as electromagnetic and gravitational forces). Though they do not take part in strong nuclear reactions, leptons do take part in weak interactions of which the most common is radioactivity, especially, the radioactive disintegration process here being considered known as beta decay.

[104] An antineutrino is the antimatter counterpart of a neutrino, which is a particle that has no charge and little to no mass.

[105] "Nuclei (Latin, masculine plural nominative noun, from *nucleus*)," is the plural of nucleus. The nucleus is the central part of an atom whose constituent parts are protons and neutrons.

[106] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 122-123.

nuclear particles would bond with each other, and with all the protons and neutrons bonding together the presence of hydrogen would be rare. But in order to have life one requires proteins, and in turn proteins require hydrogen. Moreover, elements that are heavier than iron and essential for life would be too low. But if it were slightly weaker, then there would not be enough strong nuclear force for the protons and neutrons (or multi-proton nuclei) to hold together, with the result that the only element in the universe would be hydrogen[107]. In either instance, it would not be possible for the universe to sustain life[108]. (See Universe Factor 3] … & Universe Factor 4] …," *infra*.) Thus this points to Divine Design.

Universe Factor 4]: The electromagnetic coupling constant. This is what binds electrons and protons together in an atom. If this were slightly changed, one could still have some atoms, but atoms would not be able to bond together to form molecules. Life requires proteins, and this requires molecules. Looking at an atom, in the nucleus of the atom are the protons and neutrons, with the electrons orbiting around the nucleus. There is a force of attraction between the electrons and protons. If this force were slightly greater, the atoms would bond so strongly with their electrons, that these electrons would not be able to be shared with other atoms, i.e., they would not be able to share an electron orbit with any other atoms; and therefore the atoms would not be able to join together to form molecules. However, if this force were slightly weaker, the electrons would not stay in their orbits around the atoms, and since there would not be enough electrons held together in their orbits around nuclei, it would once again not be possible to form molecules. Thus either way the molecules necessary for life would not be able to exist[109].

Universe Factor 3]: The strong nuclear coupling constant (strong nuclear force) & Universe Factor 4]: The electromagnetic coupling constant.

In "Fundamental Forces Show Greater Fine-Tuning" (2000), Hugh Ross reported on an interesting development with respect to Universe Factors 3 & 4. In 1998 an atheist physicist, Victor Stenger, asserted that, "not much fine-tuning at all" would be necessary in order to make long-lived stars, and he regarded Ross's Universe Factors 3 & 4 cosmological argument as invalid. Though Stenger thought by these assertions to undo Ross's cosmological argument, as Ross himself quite rightly pointed out, in the first place, his cosmological argument "for Divine design never rested on just one or two features of the cosmos" anyway. But in the second place, Ross's Universe Factors 3 & 4 argument was then vindicated from a more diligent source. A team of European

---

[107] Each hydrogen atom has a nucleus of only one proton.

[108] Ross's *Evidence of Design* (1990), *op. cit.*, citing John Wheeler; & *The Fingerprint of God* (1989), *op. cit.*, p. 122.

[109] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 123.

astrophysicists from Germany, Austria, and Hungary, focused their research on both *the strong nuclear force* (Universe Factor 3, *supra*) and *electromagnetic coupling constant* (Universe Factor 3, *supra*). They constructed mathematical models of some red giant stars, and they slightly altered the values for both of these forces. They found that even the smallest alterations in these constants created problems. Such changes would result in red giant stars which either did not produce enough oxygen or not produce enough carbon, or did not produce enough of both oxygen and carbon for physical life to be possible in the universe. They found that *the strong nuclear force* (Universe Factor 3, *supra*) could not be altered up or down by 0.5% (½ a percent) or more; and the *electromagnetic coupling constant* (Universe Factor 3, *supra*) could not be altered up or down by 4% (four per cent) or more. This means that Hugh Ross's basic cosmological argument for Universe Factors 3 & 4 has been confirmed by this later scientific research[110]. And this points to Divine Design.

What then are we to make of the atheistic claims of Stenger against Universe Factors 3 & 4? Simply this, "The fool hath said in his heart, There is no God" (Ps. 14:1; 53:1). "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse … . Professing themselves to be wise, they became fools" (Rom. 1:20,22).

Universe Factor 5]: The fine structure constants. There are four fine structure constants relating to the four fundamental forces: gravity (cf. Universe Factor 1, *supra*), the weak nuclear force (cf. Universe Factor 2, *supra*), the strong nuclear force (cf. Universe Factor 3, *supra*), and electromagnetism (cf. Universe Factor 4, *supra*). Compared to the coupling constants, *supra*, the fine structure constants typically yield finer design constraints on the universe. E.g., the fine structure constant for electromagnetism. This affects the degree to which material from stars allows radiant energy to go though it i.e., the extent to which energy in the form of light can pass from the core of a star to its surface[111]. In the process of star formation, on the one hand, the force of gravity pulls stellar material together; but on the other hand, thermal motions have a tendency to pull matter apart. Any increase in the degree to which material from stars allows radiant energy to go though it will in turn affect these thermal motions; and so smaller lumps of stellar material will be able to overcome the resistance encountered from the thermal motions. If the fine structure constant for electromagnetism were

---

[110] Hugh Ross's "Fundamental Forces Show Greater Fine-Tuning," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 2, No. 4, 4th Quarter, 2000, p. 1; referring to Oberhummer, H., Csótó, A., & Schlatti, H., "Stellar Production Rates of Carbon and Its Abundance in the Universe," *Science*, Vol. 289 (2000), pp. 88-90; & Stenger, V.J., "The Functional Equivalent of God: Looking at the Cosmos and Seeing God," *Skeptic* 6, no. 3 (1998), p. 91.

[111] This is known in technical terms as "the opacity of stellar material" i.e., the question of, How opaque would the star's atmosphere be compared to the energy in the star's core?

slightly less, then all the stars in the universe would be more than 1.8 times the sun's mass (i.e., 1.8 or $1^{8}/_{10^{th}}$ solar masses). But if the fine structure constant for electromagnetism were slightly greater, then all the stars in the universe would be less than 0.7 times the sun's mass (i.e., 0.7 or $^{7}/_{10^{ths}}$ of a solar mass).

As observed at Universe Factor 1, "The force of gravity," *supra*, if gravity were slightly greater then larger stars would be formed and they would be at least 1.4 times solar masses; whereas if this was slightly weaker then stars would be less than 0.8 solar masses. Thus by using this fine structure constant for electromagnetism, one can produce a much finer balance with these figures of 1.8 solar masses and 0.8 solar masses. (This same type of refinement is also true for the other three fine structure constants.)[112]. Thus this once again points to Divine Design.

Universe Factor 6]: The ratio of electron to proton mass. This factor also affects the orbit of an electron around a nucleus in an atom. A proton has 1,836 times more mass that does an electron. If one first has the right electromagnetic force necessary for molecules and thus life as discussed at Universe Factor 4, *supra*; and one were then to allow the ratio of the proton mass to vary with respect to the electron mass, then if this electron to proton mass ratio were altered up or down, this would disturb the orbits of electrons around the protons. This conclusion results from Newton's laws of physics as discovered by Sir Isaac Newton (1643-1727). The salient point from Newtonian laws for our immediate purposes being that the orbit of one body around the other is affected by the mass of one of the bodies relative to the other. And if the orbits of electrons around the protons are thus altered by a change in the electron to proton mass ratio, once again one would only have atoms and not molecules made from atoms bonding together, and so life would not be possible[113]. Thus this points to Divine Design.

Universe Factor 7]: The expansion rate of the universe. In the universe which since the time of the Big Bang is about 14 billion years old, this issue of expansion rate is relevant to which type of stars, if any, are formed. If the expansion rate was slightly greater, then the material from the Big Bang would be moving out so quickly that gravity would not be able to act to operate to form condensation, and so no galaxies, and hence no stars would be condensed from the general expansion of the universe. Without stars the earth would not have a sun, and so life could not exist. But if the expansion rate were slightly lower, then the galaxies would still form, but because the universe is not expanding quickly enough, there would be mutual gravitational attraction amongst the galaxies which would halt the ongoing expansion of the universe, and then cause a collapse of the universe. And if, as would occur, the universe were to collapse in under about 10 billion years, then life within the universe would not be possible. Such a lower expansion rate would mean that the entire universe would collapse before there was time

---

[112] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 126.

[113] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 123.

for solar-type stars to have reached a stable burning phase. According to one calculation done on this, for the expansion rate to be just right requires that it must be fine-tuned to within an accuracy range of one part in 10^{55}. Thus either way, life would not be possible if the expansion rate of the universe were changed[114]. Thus this points to Divine Design.

I broadly agree with Ross's Universe Factor 7, and so I think his broad general point on the expansion rate of the universe is a valuable contribution. However, Ross further argues that without stars there would then be no planets, and so life could not exist i.e., he links a model of planet formation to this same process of condensation that produces galaxies and stars. But at this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[115]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used heavy elements for such planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1) (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[116]

---

[114] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 124; citing Guth, A.H., "Inflationary Universe: A Possible Solution to the Horizon & Flatness Problems," in *Physics Reviews D*, 23 (1981), p. 348.

[115] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

[116] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System*

Universe Factor 8]: The entropy level of the universe. The concept of entropy which rather than measuring the availability of energy, instead measures the non-availability of energy, and its application to the universe under *The Second Law of Thermodynamics*, has been discussed with regard to a revised form of Newton's cosmological argument for God's existence at Part 2, Chapter 2, section a, i, *supra*. Let us now consider the entropy level of the universe with respect to the teleological argument for God's existence in connection with the Anthropic Principle.

The entropy level of the universe affects the extent to which very large systems such as stars and galaxies condense. This considers the extent to which *The Second Law of Thermodynamics* is operating in the universe. It looks at how quickly heat will transfer from hot bodies to cold bodies, and how quickly energy is then dissipated into forms that are non-available for use. By comparing the ratio of hot photons[117] to cold baryons[118], one can make a measure of the entropy of the universe. The ratio is approximately 1 billion to 1. I.e., the entropy of the universe is very high, so that it is an efficient radiator and relatively poor engine. If the entropy of the universe were slightly less, then when galactic systems formed they would trap radiation and inhibit the process of fragmentation into stars. Since there would be no stars, life would not be possible. But if the entropy of the universe were slightly greater, this would increase the tendency to disorder, i.e., this would increase the levels of energy that are not available for work in the universe, and since the universe would fairly quickly fragment into large pieces, galaxies would not be able to form, and so once again since there would be no stars, and life would not be possible. Hence for a life supporting universe one needs to get both stars and galaxies, and this requires a particular entropy level in the universe, which in our universe is just right for these processes[119]. Thus this points to Divine Design.

Universe Factor 9]: The mass (or density) of the universe. This is relevant to the level of how much nuclear burning occurs as the universe cools down from the heat of the Big Bang *c.* 14 billion years ago + / - 4 billion years ago. The mass of the universe is a catalyst, the more mass it has the denser it is, and the more efficiently fusion takes place in the several minutes following the Big Bang. If the mass of the universe were slightly less, then during the cooling-off period following the Big Bang, there would be no helium

---

Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes.

[117] Photons are minute energy packets of electromagnetic energy, also known as "light quantum," and they travel at the speed of light.

[118] As discussed at Paul Dirac, *supra*, most baryons are either protons or neutrons.

[119] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 124.

generated. The universe would just be hydrogen, and helium is needed for stars to produce heavy elements that are necessary for life. But if the mass of the universe were slightly greater, then during the cooling-off period following the Big Bang, there would be too much deuterium formed in these first several minutes[120]. Since deuterium is a strong catalyst for the subsequent nuclear burning that occurs in stars, it follows that this greater level of deuterium would result in the deuterium mixing with the hydrogen and helium and acting as a catalyst to generate heavy elements; and so when stars finally form they would burn too quickly to sustain life on any planet. But as it is, they burn with a stable flame for a few billion years, though as a consequence of the extra deuterium this would not occur if the mass of the universe were slightly greater. Stars are needed as without an appropriate star, the earth would not have a sun. Hence Ross says that given that over time there are about 100 billion trillion stars, to get one just right for the earth "shows … some care and concern" by God[121]. Thus once again, this points to Divine Design.

In broad terms I find much in Ross's point here is valuable. But he also sees a link to the manufacturing of heavy elements and planet formation since he argues that helium is needed for stars to produce rocky planets (such as the earth). At this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[122]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used helium to produce heavy elements for such planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb.

---

[120] Deuterium (symbol, "D") also called Heavy Hydrogen (symbol, ^{2}H), consists of hydrogen atoms with a nucleus that contains one proton and one neutron. (It has twice the mass of the nucleus as ordinary hydrogen; and is an isotope of hydrogen with an atomic weight of *c.* 2.) It was only discovered in 1931 by the American chemist, Harold Urey *et al.*

[121] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 124-125.

[122] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1). (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[123]

Universe Factor 10]: The uniformity of the universe. This factor refers to how evenly the matter and energy is distributed throughout the universe. The uniformity of the universe determines its stellar components, and the universe is regarded as having a high level of uniformity, which most probably arose from a short period of inflationary expansion that occurred near the time following the Big Bang. If on the one hand, the universe had been more greatly smoothed, then there would not have been the necessary condensation to form stars, or star clusters, or galaxies, since this requires a certain clustering together of lumps of matter. Thus the universe would ultimately not have been capable of supporting life. But if on the other hand, this inflation (or another mechanism) had not so smoothed the universe, and the universe was less smooth, i.e., it had more clustering together of lumps of matter, then the matter in the universe would form into a large number black holes that would be separated by what would virtually be empty space. Since life cannot exist in or near black holes, the universe would therefore not have been capable of supporting life[124]. Thus this points to Divine Design.

Universe Factor 11]: The stability of the decay rate of the proton. Because the proton decays, the material universe which is presently *c.* 10^{10} years old (i.e., about 10,000,000,000 or 10 billion years old), will under normal processes finally decay when it is *c.* 10^{32} years old (i.e., about 100,000,000,000,000,000,000,000,000,000,000 years).

This factor affects the amount of matter present in the universe and the level of radiation in a range that would affect any forms of higher life. Protons and neutrons are particles which together form the constituent parts of an atom. Quarks are subatomic particles thought to be among the fundamental constituents of matter, i.e., just like

---

[123] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity; Universe Factor 7, The expansion rate of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes*.

[124] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 125.

protons and neutrons make up an atom, quarks are thought to be the matter that makes up these protons and neutrons. Quarks decay (into antiquarks, pions, and positive electrons); and this process of quark decay happens on average at the rate of once per proton per 10^{32} years. If this quark decay rate were slightly less so that the proton were more stable i.e., less easily formed in the first place and thereafter less likely to decay, then in the first few seconds following the Big Bang less matter would have emerged into the universe. That is because a small amount of proton decay is necessary for life in the universe. With proton decay, in the universe's early history there were about ten billion and one real particles to every 10 billion anti-particles. The 10 billion anti-particles obliterated the 10 billion particles, and the one remaining particle is the universe we now observe. By contrast, without this proton decay, then in the first few seconds following the Big Bang, we know from particle physics that there would have been a perfect balance between matter and anti-matter. The consequence of this would be that the matter and anti-matter would combine to produce a blast of energy, and hence there would be no matter formed. And therefore there would thus be insufficient matter to form e.g., stars, planets, and man, and so the universe would not support life.

At this point I would put a caveat in Ross's argument. My reference here to Ross's work on planets with respect to the earth, and also to man, is qualified by the fact that I think the evidence indicates that God used *some* pre-existing matter that he had earlier made in "the generations of the heavens" in his creation of the earth (Gen. 1:1; 2:4); and so too he used "the dust of the ground" for man (Gen. 2:7; 6:7). Nevertheless, both were distinctive creations; and in fairness to Ross, he also makes this same qualification as myself with respect to man. (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[125]

But if this quark decay rate were slightly greater, then the associated proton decay rate would produce what would be lethal levels of radiation to larger animals and man, so that life would not be possible for such creatures in general, and man in particular. There is about one proton decay in a human body about every 70 years, and the human body can just deal with this. But if there was a greater proton decay than this, then man's body would not be able to deal with this and so he would live for a much shorter period of time. Hence if there are to be life-forms that can live for more than just minutes or months, then there cannot be too quick a proton decay[126]. Hence the stability of the proton decay rate is just right for life. Thus this points to Divine Design.

---

[125] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity; Universe Factor 7, Universe Factor 9, The mass … of the universe; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes*.

[126] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 125.

Universe Factor 12]: The velocity of light. As at 1983, the speed of light has been measured to 299,792,458 metres per second (or *c.* 983,571,053$^{1}/_{3}$ feet per second). Any increase or decrease in this velocity of light would in turn alter the fine structure constants of physics (see Universe Factor 5, *supra*); and if these are altered even slightly, the universe would be unable to sustain life. Hence the speed of light is just right. Thus this points to Divine Design.

This factor takes on an added significance when it is remembered that in purportedly "critiquing" old earth creationists, certain *Young Earth School* advocates have sought to bolster their erroneous young earth claims by alleging that the velocity of light has changed. Hence they first observe that in the laws of science many physics quantities are dependant on the velocity of light, and then they allege that the velocity of light has exponentially decayed from when the universe was first created, so that the universe is not, as it appears, 14 billion years old + / - 4 billion years, but rather, is 6,000-10,000 years old. While accurate scientific measurements of light are only available from *c.* 1900 A.D. onwards; it is clear that this claim is false. That is because in astronomy there are spectral lines whose frequency is dependant on the velocity of light, in particular, the radio-astronomy *21-centremetre line* (or *about 8$^{1}/_{4}$ inch line* which is a spectral line emitted by neutral hydrogen atoms). So if the velocity of light was altering, then the *21-centremetre line* would move to different frequencies; and so astronomers could look at different galaxies in the universe, and if the light in those galaxies traveled at different speeds from there to Earth, then the *21-centremetre line* would not be 21 centremetres in all instances, rather, it would show dramatic shifts as one observed more and more distant galaxies. However, when galaxies are observed out to a distance of *c.* 14 million light years, the velocity of light is exactly the same as one finds today in measurements made here on Earth. Therefore one can establish from these astronomical measurements that the velocity of light has been constant for the last *c.* 14 million light years. This thus scientifically rules out the claims of *Young Earth School* advocates[127].

Universe Factor 13]: The Beryllium 8 (^{8}Be), Carbon 12 (^{12}C), and Oxygen 16 (^{16}O) nuclear energy levels. These three nuclear energy level factors affect both the manufacture, and also the abundance of, elements which are essential to life in the universe. Atomic nuclei exist is a variety of discrete energy levels, and a transition from one energy level to another energy level transpires via the emission or capture of a photon which has exactly the energy difference between the two energy levels.

The first of these three nuclear energy level factors is the Beryllium 8 (^{8}Be) which decays in 10 to the minus 15 seconds. Since it is so unstable, Beryllium 8 acts to slow down the fusion process. But if Beryllium 8 were more stable, then the fusion of heavier elements would be so rapid that the result would be catastrophic stellar explosions which would in turn prevent the formation of heavy elements which are necessary for life. But

---

[127] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 126.

if the Beryllium 8 were even less stable than it presently is, element production beyond Beryllium 8 would then not be able to occur. Thus this points to Divine Design.

The second of these three nuclear energy level factors is the fact that Carbon 12 (^{12}C) has a nuclear energy level that is only slightly higher than the sum of the energy levels of Beryllium 8 (^{8}Be) and Helium 4 (^{4}He). If Carbon 12 did not have this exact nuclear energy level, then there would be insufficient carbon in the universe for it to have life. Thus this points to Divine Design.

The third of these three nuclear energy level factors is the fact that Oxygen 16 (^{16}O) has the right level of nuclear energy to facilitate a sufficient production level of Oxygen 16 to sustain life in the universe, and simultaneously has the right level of nuclear energy to stop all of the carbon from converting into oxygen. Thus this points to Divine Design.

Thus Sir Fred Hoyle found that the Carbon 12 to Oxygen 16 nuclear energy level ratio are very close together, and that if this ratio is changed even very minimally life is not possible. Hence if the ratio is made minimally smaller, the universe will have far less carbon than what it needs to support life (the second nuclear energy level, *supra*); but if the ratio is made minimally larger, the universe will have very little oxygen and not be able to support life (the third nuclear energy level, *supra*). Sir Fred described this fine balance of the nuclear energy levels of Carbon 12 to Oxygen 16 as an incredible "fix" since this ratio ensures that the right amount of both carbon and oxygen are found in the universe. And since life requires proteins which are made up from both oxygen and carbon, this Carbon 12 to Oxygen 16 balance is necessary for a life-support universe. Thus this points to Divine Design.

These three nuclear energy level factors were all discovered by the British astrophysicist, Sir Fred Hoyle (1915-2001), whose scientific work involved working out precisely how elements are synthesized inside of stars. Sir Fred was instrumental in founding, and thereafter served as the Director (1967-1973), of the *Institute of Theoretical Astronomy* at Cambridge University, in the United Kingdom of Great Britain & Northern Ireland. Sir Fred concluded from his associated work, that "a superintellect" had been involved in designing the "physics, as well as … [the] chemistry and biology[128]."

Universe Factor 14]: The distance between stars. This factor affects the existence of planets, their orbits, and thus the capacity for a planet such as the Earth to support life. On average, the stars in Earth's galaxy of the Milky Way are *c.* 30 trillion miles or *c.* 48 trillion kilometres apart. In terms of a scale model of these distances, this would be something like two golf balls placed about 4,000 miles or about 6,400 kilometres apart. If this distance was slightly less, then the gravitational interaction

---

[128] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 126-127; citing Sir Fred Hoyle's comments in Hoyle, F., "The Universe: Past & Present Reflections," in *Annual Review of Astronomy & Astrophysics*, 20 (1982), p. 16.

between the stars would destabilize the planetary orbits around a star, resulting in the planets having extreme temperature variations on them. Thus with reference to the application of this to the planet earth, this thus points to Divine Design.

At this point of an application to the planet earth, I concur with Ross. But he additionally argues that if this distance was slightly greater, then the heavy element ash debris jettisoned from supernovae would be much more thinly distributed, with the consequence that rocky planets such as the Earth could not be formed[129]. But at this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[130]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used heavy elements ash debris jettisoned from supernovae to form rocky planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1). (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[131]

---

[129] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, p. 127.

[130] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

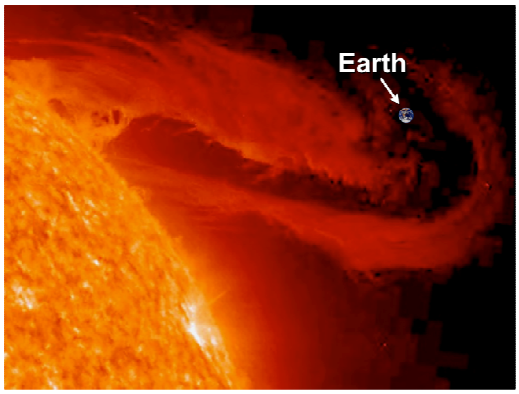
[131] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity*; *Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton;* & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar*

Universe Factor 15]: The rate of luminosity increase for stars in general and solar luminosity in particular. This factor affects what the temperature is on those planets in a star's orbit, and thus temperatures on the Earth as it orbits the sun. Such a star goes through an unstable burning phase for about a billion years, but then settles down into a relatively stable burning phase. Thus after the hydrogen fusion process ignites inside the star's core, a small star like the sun then goes into such a stable burning phase after *c.* 1 billion years; and then during this stable burning phase over the next 9 or 10 billion years, a star gradually increases in its luminosity, as it slowly and gradually gets brighter and brighter, so that the temperature of a planet in it orbits then correspondingly increases bit by bit. This is relevant to the capacity for the sun to heat the Earth as a life-support planet. If this rate of luminosity increase for a star were slightly less, the seas of the earth would freeze up and the cold conditions would make long-term life impossible. But if this rate of luminosity increase for a star were slightly greater, then a green house effect would heat up the earth to a point that would once again make long-term life impossible[132]. Thus this points to Divine Design.

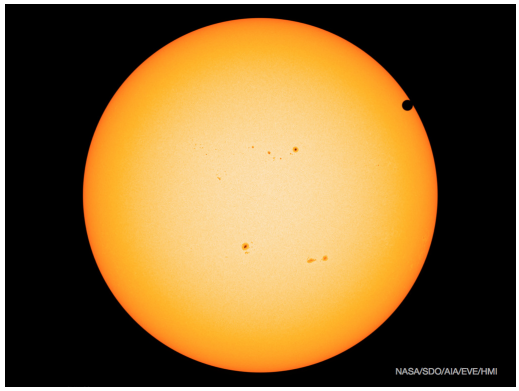
Furthermore, sunspots or starspots on a sun or star, are related to a star's flare activity and thus its luminosity. They are a whirling mass of gas forming a vacuum at its centre i.e., a vortex of gas, that is associated with strong localized magnetic activity; and the level of this magnetic activity in a particular sunspot or starspot is what determines the level of energy in, and thus the brightness of, a particular solar flare.

System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes.

[132] Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 127-128.



Above NASA photo (from STEREO Project). A Typical Giant Solar Flare; in which the Earth and Sun are to scale[133].



Above NASA photo. Sunspots near Solar maximum of Earth's Sun. Darker spots near middle of picture are sunspots; & dark upper disc is Venus. Though the orbit of Venus dims the sun's luminosity more than the sunspots, the overall effect is negligible. On Earth's sun, over an 11 year cycle, sunspots are either negligible or non-existent.

But sunspots or starspots are not the only factor affecting a star's luminosity. Astronomers give a star a spectral colour classification depending on its hydrogen fusion level which is proportional to its mass. This is a mechanism which allows astronomers to rate the mass of a star[134]. E.g., the lowest mass stars are red, the highest mass stars are blue, and the Earth's Sun which is intermediate, is yellow. On the one hand, 89% of the stars in our Milky Way Galaxy have a lower mass than Earth's Sun. These red and orange lower mass stars exhibit substantially greater flare activity than does the sun; and so they would not be able to be the sun of a planet with advanced life. But on the other hand, stars with a greater mass than Earth's yellow sun also exhibit less dramatic, but still greater, flare activity than does the sun. These green, white, and blue stars, also burn out much quicker than the lower mass stars, and their fast burn results in them having much greater average luminosity changes than does Earth's yellow sun. Hence they too would not be able to be the sun of a planet with advanced life. But a star's flaring activity is related not only to the mass of the star, but also to its age. Thus stars with the same mass as the Earth's sun, but which are younger than Earth's sun, also frequently emit super-flares. And the luminosity of these younger stars also fluctuates substantially from star to star e.g., by a luminosity difference factor of 100 times. Contrast and comparison of Earth's sun with other stars in the Milky Way Galaxy has now led astronomers to

---

[133] Ross's "No Bad Flare Days For Sun," *Today's New Reason To Believe* (*Reasons To Believe* Email Articles sent from tnrtb@reasons.org, RTB, California, USA), 6 Feb. 2014; with link to http://www.reasons.org/articles/no-bad-flare-days-for-the-sun.

[134] This is technically known as the colour of the star's "main sequence."

conclude that firstly, Earth's sun has an unusually low level of sunspot or starspot activity; and for sustaining advanced life as found in man: secondly, it is at the best possible mass; and thirdly, it is at the best possible age;. Once again, all this points toward Divine Design by an Almighty God. "The Lord reigneth; let the earth rejoice." "The heavens declare his righteousness, and all the people see his glory" (Ps. 97:1,6)[135].

Since his very valuable cosmological and teleological work in *The Fingerprint of God* (1989) and *Evidence of Design* (1990), seen in the above 15 universe factors (to which I have also added some of his later work on these first 15 universe factors,) Hugh Ross has also noted some other relevant universe factors[136]. Therefore let us now consider some further universe factors.

---

[135] Hugh Ross's "Why Our Sun is Spot On," *Today's New Reason To Believe* (*Reasons To Believe* Email Articles sent from tnrtb@reasons.org, RTB, California, USA), 19 Aug. 2013, with above NASA sunspots photo; citing LeDrew, G., "The Real Starry Sky," *Journal of the Royal Astronomical Society of Canada*, Vol. 95, 2001, pp. 32-33; Davenport, J.R.A. *et al*, "Multi-Wavelength Characteristics of Stellar Flares on Low-Mass Stars …," *The Astrophysical Journal*, Vol. 748, 20 March 2012, p. 58; Hilton, E.J. *et al*, "The Galactic [Spectral Class] M Dwarf Flare Rate," in Johns-Krull, C.M. *et al* (Editors), *Proceedings of Cool Stars 16 Workshop*, Astronomical Society of the Pacific, San Francisco, USA, 2012, p. 197; Tofflemire, B.M. *et al*, "The Implications of M Dwarf Flares …," *The Astronomical Journal*, Vol. 143, Jan. 2012, p. 12; Kowalski, A.F. *et al*, "M Dwarfs in the Sloan Digital Sky …," *The Astronomical Journal*, Vol. 138, Aug. 2009, pp. 633-648; Akopian, A.A., "Frequency Distribution of X-Ray Flares for Low-Mass Young Stellar Objects in the Orion Nebula," *Astrophysics*, Vol. 55, Dec. 2012, pp. 505-514; Schaefer, B.E., *et al*, "Superflares on Ordinary Solar-Type Stars," *The Astrophysical Journal*, Vol. 529, 1 Feb. 2000, pp. 1026-1030; Thomas Henning, Kevin Flaherty, *et al*, "Young Stellar Objects …," *The Astrophysical Journal Supplement*, Vol. 207, July 2013, p. 5; & Yuta Notsu *et al* (a Japanese research group), "Superflares on Solar-Type Stars Observed with Kepler II …," *The Astrophysical Journal*, Vol. 771, 10 July 2013, p. 127; & "Sunspots near Solar maximum" (picture of sun used above), USA *National Aeronautics & Space Administration* (NASA) [undated].

[136] I shall make some reference in this and later sections to *Reasons To Believe* (RTB) Magazines (usually, though not always, divided into four quarters per annum). The RTB Magazine, *Facts & Faith*, went through a volume a year from 1987 (Vol. 1) to 1998 (Vol. 12). It was then replaced by *Connections* which also had a volume a year from 1999 (Vol. 1) to 2008 (Vol. 10), although during this time some further information was sometimes sent out with it on a four page yellow sheeted magazine entitled "Staying Connected." *Connections* was then replaced from 2009 (Vol. 1) with *New Reasons To Believe*; and (as at 2014) this last magazine is available, generously free of charge, on an email list via the RTB website (http://www.reasons.org); with back-issues at http://www.reasons.org/nrtb. (Although in more recent times it regrettably went through a new format which is not as generally user friendly to download, as it cannot now be downloaded and opened by people with older computer programmes.)

Universe Factor 16]: The Cold Galactic Gas Clouds. Earth is in the Milky Way Galaxy. Certain molecules necessary for the formation of both planets and life are produced inside of frigid gas clouds whose deep freeze temperature sits at minus 263 degrees Centigrade (-263° C)[137] or minus 441 degrees Fahrenheit (-441° F). But because such deep freeze temperatures dramatically slow down chemical reactions, there needs to be a very powerful and abundant chemical catalyst to get molecules to form under these conditions. Only one catalyst meets these requirements, namely, Hydrogen Three Plus (H_{3+})[138]. E.g., some H_{3+} was detected in Earth's solar system at Jupiter in 1989[139]. But more importantly, H_{3+} has been found in cold galactic gas clouds, and in sufficient quantities to fuel the chemistry of star formation processes. The process entails the action of a cosmic ray of just the right intensity, not to weak and not too strong, striking into the deep freeze of the cold galactic gas clouds[140]. Furthermore, about 99% (99 per cent) of the universe's cosmic radiation results from supernova explosions[141]. The combination of these factors mean that in order for molecules to be formed that are necessary for life, and to also form planets, the location, the number, and the timing of supernova explosions must fall with a limited narrow range. This precision requirement points to a Designer who is able to fine-tune the universe, and thus the hand of a mighty God, and a snapshot of one of the fingerprints of God are once again recorded in the Book of Nature[142].

---

[137] The Centigrade Temperature Scale is also known as the Celsius Temperature Scale.

[138] H_{3+} has three protons orbited by two electrons; and astrochemists first isolated this as the necessary candidate in 1961. But it took about another 20 years to first measure the H_{3+} radiation spectrum, which they then used to search for it in outer-space.

[139] Earth based observations have located H_{3+} infra-red emission lines at both Jupiter's North and South Poles.

[140] Scientific research on how H_{3+} is formed is ongoing. But given the deep freeze conditions of -263° C or -441° F, it looks like a cosmic ray strikes a molecule of Hydrogen Two (H_2), and thus ionizes it so as to form a molecular ion, H_{2+} which then reacts with another molecule of H_2 to form H_{3+} and atomic hydrogen, H.

[141] About another 1% comes from quasars. Quasars are a group of rare cosmic objects which have both a strong radio emission which is detectable at very great distances, and also a high luminosity.

[142] Hugh Ross's "Sparks in the Deep Freeze," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 11, No. 1, 1st Quarter, 1997, pp. 5-6; referring to Geballe, T.R. & Oka, T., "Detection of H_{3+} in Interstellar Space," *Nature*, Vol. 384 (1996), pp. 334-335.

Universe Factor 17]: Einstein's Cosmological Constant. In the closing years of the 20th century, *The Supernova Cosmology Project* (SCP) produced a positive identification for Einstein's Cosmological Constant. This represents an anti-gravity factor which predicts that quite independently of any matter that may be associated with it, space has a stretching property, and that the more it stretches out the quicker it will then continue to stretch out. The SCP researchers focused on 42 of a few special types of supernovae[143]. In measuring the universe's lumpiness they were able to empirically verify that Einstein's Cosmological Constant exists. This constant acts to speed up the universe's expansion while simultaneously the universe's mass slows down the universe's expansion due to the effect of gravity. When the universe had expanded out less and so was smaller because it was younger, matter and thus the effect on it of gravity, was a dominate factor in the universe's dynamics. But as the universe expanded to become bigger, the Cosmological Constant which is an energy factor, has come to supersede the effect of gravity in the universe's dynamics. The SCP researchers found that this transition from a gravity dominated decelerating mode to an energy dominated accelerating mode occurred *c.* 6 billion B.C. . If there were any fundamental change to either the breaking effect of gravity due to the universe having a different mass density, or energy's stretching effect due to the universe having a different cosmological constant, then the universe would be so radically different that life would not be possible. For life to be possible in the universe requires that the universe's mass density be fined tuned to 1 part within 10^{60}; and the cosmological constant must be correspondingly fined tuned to 1 part within 10^{120}. This therefore points to a Creator's engineering of the universe[144].

Universe Factor 18]: The constancy of the scientific laws of physics[145]. There are various laws of physics e.g., *Newton's laws of motions* which are constant inside a Newtonian inertial frame[146]. *Newton's First Law of Motion* is inertia[147]. *Newton's*

---

[143] A supernova (singular) or supernovas / supernovae (plural), refers to violently exploding stars whose luminosity after their eruption quickly increases by millions or millions of times its normal brightness. SCP looked at Type Ia supernovae.

[144] Hugh Ross's "Einstein Exonerated in Breakthrough Discovery," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 1, No. 3, 3rd Quarter, 1999, pp. 2-3; referring to Perlmutter, S., *et al*, "Measurements of Ω [Omega] and L from 42 High-Redshift Supernovae," *Astrophysical Journal*, Vol. 517 (1999), pp. 565-586; Perlmutter, S., *et al*, "Discovery of a Supernova Explosion at Half the Age of the Universe," *Nature*, Vol. 391 (1998), pp. 51-54; & Krauss, L.M., "The End of the Age Problem & the Case for a Cosmological Constant Revisited," *Astrophysical Journal*, Vol. 501 (1998), p. 461.

[145] See some reference to this principle of the constancy of the scientific laws of physics in Hugh Ross's "Latest Test of Physical Constants Affirms Biblical Claim," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 2, No. 3, 2010, pp. 16-17. But this basic idea is more developed here than it is by Ross.

[146] A Newtonian inertial frame is a reference frame (or coordinate system) that is attached to the universe's fixed stars.

Second Law of Motion quantitatively describes the changes that a force can produce on a body's motion[148]. And *Newton's Third Law of Motion* is that the actions of two bodies on each other are always equal and directly opposite i.e., a reaction is always equal and opposition to an action[149]. Or wavelength (the Greek letter lambda, λ or "l") equals the velocity (or speed) of a wave (v) divided by its frequency (f), i.e., λ = v / f. These and others scientific laws of physics must be generally constant for the universe to be stable since if e.g., the laws of gravity operating on the Earth kept changing, then advanced life would not be possible. Sometimes these laws also reveal to us something further about the Creator. For instance, waves are a common conceptual design phenomena used by the Creator in various medium; e.g., the Designer has used them for light waves, sound waves, radio waves, radiation waves, seismic waves, electromagnetic waves, and plasma waves.

But more generally, these scientific laws of physics also point to a Creator whose character is that of a *lawgiver*, for it was the God who first declared e.g., $E = mc^{2;}$ who later thundered from Mount Sinai the Ten Commandments of Exodus 20:1-17. Thus we here find a transition into the spiritual and moral realms, since because natures itself teaches us that there is a Creator, it also teaches certain moral principles such as it would be wrong to engage in idolatry and worship a creature rather that the Creator (cf. Rom. 1:19-24). Thus properly understood, cosmology links us ultimately to moral laws. Thus the old earth creationist, Adam Sedgwick (1785-1873), a Professor of Geology at Cambridge University (1818-1873), England, UK, said, "There is a moral or metaphysical part of nature as well as a physical. A man who denies this is deep in the mire of folly. 'Tis the crown and glory of organic sciences that it *does*, through *final causes*, link material to moral; and yet *does not* allow us to mingle them in our first conception of laws, and our classification of such laws, whether we consider one side of nature or the other[150]."

These revelations from the Book of Nature provide us with valuable scientific data to better understand the issue of the gap in "the generations of the heavens" (Gen.

---

[147] If a body is either at rest or moving in a straight line at a constant speed, it will either remain at rest or continue to move in a straight line respectively, unless it is acted on by a force.

[148] The time rate of change of the velocity (or directed speed), or acceleration, symbolized by "α" (the Greek letter, alpha or "a"), is directly proportional to the Force, "F," and inversely proportional to the mass, "m," of a body i.e., α = F / m, or F = mα. Hence the larger the mass, the smaller the acceleration (i.e., the rate of change of velocity); and the larger the force, the larger the acceleration.

[149] Newton's Third Law might be a general law rather than an absolute law, as it may not hold for electromagnetic forces on bodies that are quite distantly separated.

[150] Clark, J.W. & Hughes T.M., *The Life and Letters of the Reverend Adam Sedgwick*, Cambridge University, UK, 1890, in two volumes, Vol. 2, pp. 357-9.

2:4) that existed between "the heaven" and "the earth" of Gen. 1:1. For when in Part 1 we considered the three heavens (II Cor. 12:2,4) of the atmosphere around the earth (Gen. 1:8), outer-space (Gen. 1:14,15), and Paradise (II Cor. 12:4), it became clear that there was a gap between "the heaven" and "the earth" of Gen. 1:1 for the third heaven since among other things, the angels were created here (Job 1:6; 38:7; Gen. 3:1-7; Isa. 14:12-15; Ezek. 28:12-17; Rev. 12:4,9) (See Part 1, Chapter 2, section a). By contrast, no such resolution from Scripture was made with respect to the time that the second heaven was made. But such a resolution can now be made on the basis of the evidence from the Book of Nature. As Berkhof notes in his *Systematic Theology*, in ancient times "Augustine [d. 430 A.D.] … strongly defended the doctrine of creation *ex nihilo*, but distinguished two moments of creation: the production of matter and spirits out of nothing, and the organization of the material universe[151]." And with what is now known about the Big Bang *c.* 14 billion B.C. + / - 4 billion years, we can now say that "in the beginning God created the heaven" tells us of the doctrine of creation *ex nihilo* as in broad terms taught by the church father and doctor, St. Augustine. For while the production of matter in the second heaven was a process emanating from the Big Bang, and the creation of angels in the third heaven also clearly preceded the creation of the earth (Job 38:4-7), the earth itself was not made till about 9 billion years later in *c.* 4.6 billion B.C. . And I think the evidence indicates that God used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7) in his creation of the earth, although I do not thereby mean that the earth was created by a naturalistic process, but rather, it was specifically created by God (Gen. 1:1), for "I believe in <u>God</u> the Father Almighty, <u>Maker of</u> heaven and <u>earth</u> …" (*Apostles' Creed*).

Universe Factors 2 to 5, *supra*, deal with atoms. In *Evidence of Design* (1990) Hugh Ross specifically critiques some of Kant's claims through reference to this teleological work on the atom. Ross refers to "Kant … [in effect] saying, 'Give me enough atoms and enough time, and I can make German philosophers.' Well, what was discovered in exploring the … measurements of the universe, is that it's not that easy to get the atoms in the first place … . Kant assumed that there'd be no problem with the universe having atoms. But if ya' haven't even got the basic building blocks for life, then things look rather dismal … in terms of natural process explaining why we are here[152]."

More generally, we see from all of the Universe Factors 1 to 18, (although universe factor 18 is more largely my own work,) that Ross's diligent scientific work which draws on some of the earlier work of e.g., Carl Sargon, Josef Shklovsky, and Paul Dirac, but which also develops and advances this earlier work into a better and clearer teleological argument, acts to constitute a powerful rebuttal of Kant's or anyone else's criticisms of the teleological argument. Through reference to these 18 universe factors, the teleological argument for the existence of God which looks to final causes i.e., it considers *the end* purposes for which things have been designed, and sees in *the design*, a

---

[151] Berkhof's *Systematic Theology*, pp. 126-127.

[152] Ross's *Evidence of Design* (1990), *op. cit.* .

grand Designer, namely God, clearly stands on firm scientific grounds. In short, "The heavens declare the glory of God; and the firmament sheweth his handywork" (Ps. 19:1).

Therefore the combination of the above eighteen universe factors is significant. If any of these laws are changed even minimally, the creation of life becomes impossible. Thus again and again this points to Divine Design. E.g., looking just at the electron to proton ratio (cf. Universe Factors 4 & 6, *supra*), unless there are an equivalent number of protons to electrons to the accuracy of at least 1 in 10^{37} (i.e., a "1" followed by 37 zeroes), then the electromagnetic forces of the universe would so dominate over the gravitational forces, that it would not have been possible to form stars and galaxies[153]. Hence the discoverer of the three nuclear energy levels at Universe Factor 13, *supra*, astrophysicist, Sir Fred Hoyle (d. 2001), concluded that the carbon atom pointed to a Designer. Sir Fred said, "Would you not say to yourself, 'Some super-calculating intellect must have designed the properties of the carbon atom, otherwise the chance of my finding such an atom through the blind forces of nature would be utterly minuscule.' Of course you would. … A common sense interpretation of the facts suggests … a superintellect … [in the] physics, … chemistry and biology, and that there are no blind forces worth speaking about in nature …[154]."

If this is so for just the carbon atom relevant to Universe Factor 13, *supra*; and if has been shown this is true for any and every one of these 18 universe factors individually; then the combination of all 18 universe factors together provides a most clear, powerful, and compelling teleological argument via the *anthropic principle* that the universe was designed by a Designer, God, for life in general; and in particular, for a creature like man who is in the image of God, can use intelligent reason in understanding God and his creation, and has a soul and so can worship God. I thus think that with the benefit of this type of excellent work on teleology by the astro-physicist, Hugh Ross, in isolating these 18 universe factors, the teleological argument for the existence of God has been convincingly made out. Through reference to these 18 scientific universe factors, teleology has shown that science reads in the Book of Nature that which we read in the first verse of the Divine Revelation in Genesis 1:1. Thus from teleology we are reminded of the very first verse of the Bible, "In the beginning God created the heaven and the earth" (Gen. 1:1), and so once again we are in turn reminded of the maxim, *If the Bible says it, you can believe it; it's accurate; it's reliable; it's true!*

---

[153] Hugh Ross's "A 'just right' Universe," *Facts & Faith*, The Quarterly Newsletter of Reasons to Believe, California, USA, Vol. 7, No. 2, Summer 1993, pp. 1-2 at p. 2.

[154] Fred Hoyle, "The Universe: Past and Present Reflections," *Engineering and Science*, November, 1981, pp. 8-12; cited in "Fred Hoyle," *Wikipedia* (2012) (http://en.wikipedia.org/wiki/Fred_Hoyle#cite_note-4). These comments were made by him in the context of the triple-alpha process which generates carbon, and which requires the carbon nucleus to have a very specific resonance energy, otherwise it will not work. Cf. Hoyle's quote in Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 127.

Moreover, in commenting on Universe Factor 8, *the mass (or density) of the universe*, *supra*, Hugh Ross aptly perceives one of "the invisible things of" "God" "from the creation of the world" which "are clearly seen, being understood by the things that are made," with respect to "his eternal power and Godhead" (Rom. 1:19,20). In his *Evidence of Design* (1990), he poignantly comments on a Divine Attribute of God, in the form of a Communicable Attribute that is one of God's Moral Attributes, namely, the Goodness of God as seen in the love of God[155]. Hugh Ross finds that this is discernable from his reading of the Book of Nature on this issue of *the mass of the universe*. He says, "Well does God really care for us? Does he really love us? The universe contains about a trillion galaxies, and each galaxy has a hundred billion stars. That's a hundred billion trillion stars. Here's the Creator wanting to … produce this planet on which human life can exist. Now given the way he has set up the universe, the way he's structured the laws of physics, in order for us to have a place to live he needs to construct a hundred billion trillion stars, not more, not less. That tells me something about the care of our Creator. He loved us so much, he didn't mind building a hundred billion trillion stars so we could have a planet on which we could have … life … . That shows me some care and concern on his part."

Therefore looking at the "Biblical creation model to be scientifically compared & contrasted with the Book of Nature" found in Part 2, Chapter 1, section b, *supra*; the evidence of teleology and the Anthropic Principle is clearly consistent with what we would expect from *Guideline 2*, "Creation *ex nihilo* of the universe (Gen. 1:1)." And *Guideline 3*, "A succession of discernibly different 'worlds' to emerge in the scientific record … (Heb. 1:2; 11:3) as the 'generations of the heavens … when they were created, in the day that the Lord God made … the heavens" (Gen. 2:4). These unknown numbers of multiple worlds must by definition be over a considerable period of time, and may be over a vast period of time since they are created by God 'who inhabiteth eternity' (Isa. 57:15) i.e., no time limits." And *Guideline 4*, "There is a supernatural uniformity in the universe (Gen. 8:22; Pss. 104:19; 119:90,91; Jer. 31:35; 33:25). Nature's general uniformity is thus consistent with discernibly supernatural acts from time to time, which stand out as different to, but not incongruous with, this general supernatural uniformity."

(Chapter 2) b) Teleology (Design):
ii] "In the beginning God" (Gen. 1:1): The Anthropic Principle subject to the Theocentric Principle (Isa. 46:9,10).

The anthropic principle I follow holds that all the features of the universe point towards facilitating a situation where it becomes possible to sustain life-forms on a planet such as the earth in general, and a creature such as man who is made in the image of God, in particular. But I would not want it to ultimately be man-centred i.e., I subject the

---

[155] See Berkhof's *Systematic Theology*, p. 71, "The Communicable Attributes" of God, section "C. Moral Attributes," subsection "1, The Goodness of God," at "b. The love of God."

anthropic principle to an over-riding Theocentric Principle. I.e., in all of creation, God did whatever was his pleasure, and he did not have to create man in his universe if he did not want to; even though as a byproduct of his creation of the universe he chose to graciously create man in his image so that we can e.g., have aesthetic appreciation of the world and universe in a way that an animal cannot, and unlike animals we have souls and can recognize and worship the Creator. Thus the ultimate fruition of the Anthropic Principle should be man's recognition of the Theocentric Principle. Thus the Anthropic Principle should always be understood in a manner subordinate to the Theocentric Principle, and thus e.g., knowing afore of Adam's Fall, God mercifully "predestinated us unto the adoption of children by Jesus Christ to himself, according to the good pleasure of his will" (Eph. 1:5). *Soli Deo Gloria*, which is, being interpreted from the Latin, *Glory to God alone* (Rom. 4:2,20; 11:36).

Hence one must be careful that the Anthropic Principle is not abused and misused so as to glorify man in harmony with the devil's deception, "ye shall be as gods" (Gen. 3:5). Rather, it should be understood to manifest the fact that "God created man in his own image, in the image of God created he him; male and female created he them" (Gen. 1:27). Thus because man is in "the image of God" or in the Latin, "*imago Dei*," the Anthropic Principles should lead us to recognize its subordination to the Theocentric Principle. "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead" (Rom. 1:20). For "the heavens declare the glory of God; and the firmament sheweth his handywork" (Ps. 19:1). *All Glory to God!*

(Chapter 2) b) Teleology (Design): iii] "God created … the earth" (Gen. 1:1): Earth's Solar System.

The universe is a big place. Except for the Magellanic Clouds which are companions of *The Milky Way Galaxy*, the nearest galaxy to us is the *Andromeda Galaxy*. Earth's solar system is inside our home galaxy of *The Milky Way*. When we come to the issue of the design of planet earth pointing to a Designer, there are 20 Earth's Solar System Factors listed by Hugh Ross for the specific design of the earth; all of which more closely relate to the immediate sun-earth-moon system of the Earth[156]. Ross builds on, but improves upon, some earlier teleological work on the Earth by Frank Drake, Joseph Shklovsky and Carl Sagan. Thus the issues we shall consider in this section are more

---

[156] These are taken from Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 128-131. Earth's Solar System Factor 4 is found only in Ross's *Evidence of Design* (1990) (cassette 1, side 2). I have sometimes supplemented this work with the addition of some general scientific information by way of helpful explanation for the reader's better understanding; and I have also supplemented Ross's scientific work on the Mormon's unscientific "Kolob" claims, with material of the Mormon Church (also known as The Church of Jesus Christ of Latter-day Saints,) with regard to where this unscientific Mormon belief comes from.

specially focused on the teleological argument with respect to the Biblical teaching that "God created … the earth" (Gen. 1:1).

Earth's Solar System Factor 1]: The number of stars in Earth's solar system. About half the stars in Earth's galaxy have partner stars, whereas the Earth' sun is a bachelor star. If there was less than one star i.e., no sun, then there would not be enough heat and light for life. But if there was more than one star i.e., the sun, then planetary orbits would be disrupted by tidal interactions. Hence one sun is just right. Thus this points to Divine Design.

Earth's Solar System Factor 2]: The age of the sun. The sun is *c.* 4.6 billion years old and thus was made at about the same time as the earth and moon, both of which are also *c.* 4.6 billion years old[157]. (The sun is thus about midway through the phase of stable core hydrogen fusion.) The Earth' sun is thus middle-aged. If the sun was a less recent star, the solar system would not yet contain enough heavy elements for life. This point is qualified as I would understand it, in terms of the creation of the earth (Gen. 1:1) and man (Gen. 2:7), in that God sometimes used pre-existing materials he made by one or more processes in "the generations of the heavens" (Gen. 2:4 cf. Gen. 2:7; 6:7). But if it was a more recent star, it would still not be in a stable burning phase necessary for life. Thus this points to Divine Design.

Earth's Solar System Factor 3]: The age of the Sun. If the sun were younger, its luminosity would be changing too quickly for life; whereas if it were older, its luminosity would also be changing too quickly for life. Thus this points to Divine Design.

Earth's Solar System Factor 4]: The Earth is in a spiral galaxy. There are three types of galaxies so named due to their shape: elliptical galaxies, spiral galaxies, and a relatively small percentage of irregular galaxies. About half of the galaxies are elliptical galaxies, i.e., the stars are broadly in the shape of an ellipsis; and about half of the galaxies are spiral galaxies, i.e., the stars are broadly in the shape of a spiral. To get spiral galaxies it is necessary to have ongoing star formation; so that examination of elliptical galaxies shows that star formation in them has essentially stopped. Since only in a spiral galaxy is there ongoing star formation, and since stars need to be forming more recently than, for instance, 5 billion years ago or 10 billion years ago, per Earth's Solar System Factors 2 & 3, *supra*, it therefore follows that life is only going to potentially occur in a spiral galaxy. Thus this points to Divine Design.

Earth's Solar System Factor 5]: The distance of the Sun from the centre of the galaxy. If this were closer, then the stars are too closely crowded together, and the radiation and stellar density would be too great for life. Thus the Earth's position is just right. Thus this points to Divine Design.

---

[157] *Encyclopaedia Britannica CD99*, *op. cit.*, "The Cosmos: Components of the Universe: Planetary Systems: The Sun," gives a date for the Sun of *c.* 4.6×10^9 years; and "The Earth: Its Properties, Composition, and Structure" gives a date for both the Earth and moon of *c.* 4.6×10^9 years.

At this point I think Ross makes a valuable point. However, he then additionally argues that if the Earth were further away from the centre of the galaxy than what it is, then there would not be enough ashes from dead stars produced and thus not enough heavy elements made for a rocky planet such as the Earth to be formed. But at this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[158]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used heavy element ash debris jettisoned from supernovae to form rocky planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1). (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[159]

By way of contrast and comparison, Ross's basic point that I agree with in this earth's solar system factor 5, is also important for critiquing the "scientific" claims of one

---

[158] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

[159] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity*; *Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes.*

of the four major cults, the Mormon Church[160], that "Kolob" is the master planet from which physical life came, and it exists at the galaxy's centre[161]. Their claim about "Kolob" derives from the writings of the Mormon cult's founder and "prophet," Joseph Smith (d. 1844), in *Doctrine & Covenants* and *Pearl of Great Price*[162]. E.g., in *Pearl of Great Price*, in "The Book of Abraham," there is a diagram in what are purportedly Egyptian hieroglyphs, and an "Explanation" says e.g., "Kolob, signifying the first creation, nearest to the celestial, or the residence …. . One day in Kolob is equal to a thousand years … of this earth … ." And Joseph Smith says e.g., "I saw stars … and that one of them was nearest unto the throne of God; and there were many great ones which were near unto it … . These are the governing ones, and the name of the great one is Kolob, because it is near …. God … . Kolob … according to its … revolutions … one revolution was a day … being one thousand years … . And … the …. planet …. Kolob is set nigh unto the throne of God, to govern all … planets …" (Abraham 3:2-4,9, *Pearl of Great Price*; emphasis mine). Then in Abraham 4, Joseph Smith says "the gods" i.e., this is polytheism, left "Kolob" (Abraham 3:16) and "organized and formed the heavens and the earth." The account of Abraham 4 & 5 is similar to Gen. 1:1-2:3, except that it is polytheistic with reference to what "the gods" did; and since they are coming from a pre-existing universe with "stars" and a "planet" in "Kolob" (Abraham 3:2,9), this corrupted form of Gen. 1:1-2:3 is understood by Mormons to be a later local creation of the galaxy rather than the universe in Gen. 1:1, and then the creation of a global earth rather than a local earth of Eden in Gen. 1:2-2:3. In *Doctrine & Covenants* 88 Joseph Smith says, "light proceedeth forth from the presence of God to fill the immensity of space …, even the power of God, who sitteth upon his throne, … who is in the midst of all things" (88:12,13; emphasis mine); and the passage has an anthropocentric focus on "man," and "the light which shineth" on "you" on "the earth" from this "presence of God" (88:10,11,12,15); i.e., this is understood by Mormons to be "the midst of all things" in the earth's galaxy. Thus Joseph Smith says the "throne" "of God" "is in the midst of all things;" and also says, "the …. planet …. Kolob is set nigh unto the throne of God;" and Mormons have generally concluded that "Kolob" is at the centre of the galaxy.

---

[160] See Anthony Hoekema's *The Four Major Cults*, Eerdmans, Michigan, USA, 1963.

[161] Compare the critique of "scientific" claims connected with the Seventh-day Adventist cult's "prophetess," Ellen White, with respect to "Orion" in Part 1, Chapter 7, section c, subsection iii, subdivision B, at heading "George McCready Price's belief in new revelations of the Spirit from SDA prophetess Ellen White."

[162] Citations are drawn from the three-in-one combined "Deseret" edition of, *The Book of Mormon, The Doctrine & Covenants of the Church of Jesus Christ of Latter-day Saints, The Pearl of Great Price*, Published by The Church of Jesus Christ of Latter-day Saints, Salt Lake City, Utah, USA, 1977. *Doctrine & Covenants* 1-133 was written by Joseph Smith, and *Doctrine & Covenants* 134-136 was written by some later Presidents of the Mormon Church. *The Pearl of Great Price* is a book drawn from the writings of both the Mormon Church's founder and "prophet," Joseph Smith, and also the Sixth President of the Mormon Church, Joseph F. Smith.

However, quite apart from the fact that astronomy knows of no such "central sun" at the centre of the galaxy, let alone a planet circling around it with a 1,000 year long day; this *Earth's Solar System Factor 5* shows that in scientific terms it would be impossible for a life-support planet to exist at the centre of the galaxy. That is because if the sun were closer to the centre of the galaxy then the stars would be too closely crowded together, and the radiation and stellar density would be too great for life. Thus the Mormon cult's claims about "Kolob" are not scientifically sustainable. There are also other scientific problems with the Mormon Church's theoretical "Kolob," namely, that it is too large, and it is rotating too slowly for a life-support planet. (Cf. comments on Mormon's "Kolob" at Earth's Solar System Factor 11, *infra*.)

Earth's Solar System Factor 6]: The mass of the Sun. There is a corresponding diminution in the distance from the star in which life can be supported on a planet. If the sun's mass were less, in order to put the Earth at about the temperature of liquid water which is what is needed to support life, the earth would have to be moved closer to this smaller sun. But if that was done the tidal interaction between the sun and Earth would increase[163]. Therefore the tidal interaction would be so strong that it would put a brake on the rotational period of the Earth, so that it would slow it down from its present 24 hour rotation, to at least rotations measured in weeks, and probably rotations measured in months. E.g., in our solar system Venus and Mercury are slightly closer to the Sun than is the Earth; and as a result of this tidal interaction with the Sun, Venus rotates on its axis about once every 8 months (in precise terms every 243 days), and Mercury rotates on its axis once every 2 months (in precise terms every 59 days).

The effect of the brake on the earth by the tidal interaction of the sun and moon is only microseconds per annum, though from this one can calculate that over the Earth's *c.* 4.6 billion year history the planet's rotation has slowed down from a few hours down to twenty-four hours. On these projections, if, in theory, one does not look at the issue of Divine Intervention, then in *c.* 40 billion years the earth would be slowed down to 40 days, and on these projections in *c.* 80 billion years the moon will collide with the earth. *However, one must of course subject this to the fact that God will perform whatever miracles are necessary to protect the redeemed on the new earth following the Second Advent* (see Part 2, Chapter 20, section b). But the rotation period is just right for life from about 2 billion to about 6 billion years after the Earth was formed i.e., for the Earth from *c.* 2.6 billion B.C. to *c.* 1.4 billion A.D.[164]. Thus this points to Divine Design.

However, the smaller a star is the more stable it is when it burns, and if the sun's mass were greater, it would be burning too rapidly and too erratically for life, with its

---

[163] This tidal interaction goes up with the inverse 4th power of the separation.

[164] Cf. Hugh Ross's "Earth Design: Earth's Cycles Favor Life," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 3, No. 3, 2011, pp. 9-10; referring to Dave Waltham's "Testing Anthropic Selection: A Climate Change Example," *Astrobiology* 11, (March 2010,) pp. 105-114.

luminosity would changing too quickly. (This was of one the factors Ross notes was brought out by Sagan & Shklovsky in the 1960s[165].) Thus this points to Divine Design.

Earth's Solar System Factor 7]: The Sun's colour. If it were bluer, then there would be too little photosynthesis on earth; whereas it if were redder, then there would also be too little photosynthesis on earth. Thus this points to Divine Design.

Earth's Solar System Factor 8]: The Earth's surface gravity. This is *c.* 9.8 metres per second or *c.* 32 feet per second. If less, then the Earth would lose too much water; but if stronger, then the Earth's atmosphere would retain in it too much methane and ammonia. Thus this points to Divine Design.

Earth's Solar System Factor 9]: Distance of Earth from Sun. The Earth is *c.* 93 million miles or *c.* 150 million kilometres from the sun. If the sun were *c.* ½ a million miles or *c.* 0.8 million kilometres closer to the Earth, it would be too hot for a stable water cycle, resulting in a runaway greenhouse effect. However, if the sun were *c.* ½ a million miles or *c.* 0.8 million kilometres further away to the Earth, it would be too cold for a stable water cycle, and the Earth would be like a freezer. Indeed, this was one of the factors Ross notes was brought out by Sagan & Shklovsky (1966)[166]. Thus this points to Divine Design.

Earth's Solar System Factor 10]: Thickness of Earth's Crust. If this were thinner, it would magnify the tectonic and volcanic activity which would therefore be too great for advanced life; whereas if this were thicker, then there would be too much oxygen that would go into the crust from the atmosphere. Thus this points to Divine Design.

Earth's Solar System Factor 11]: The rotation period of the Earth. If this were shorter, then the wind velocities in the atmosphere would be too great. With a 24 hour time rotation, the Earth occasionally experiences hurricanes. By contrast, in our solar system the planet Jupiter has a 9 hour time rotation, and on a quiet day on Jupiter, the wind velocity is *c.* 1,000 miles or *c.* 1,600 kilometres per hour. By contrast, if the rotation period of the Earth were longer, then the temperature differences during the daytime would be too great. Thus this points to Divine Design.

By way of contrast and comparison, this factor is also important for critiquing the claims of one of the four major cults, to wit, the Mormon cult, referred to at Earth's Solar System Factor 5, *supra*. This cult claims that that their master planet, "Kolob" has a rotation period of 1,000 years. However, this would be too long, resulting in massive

---

[165] Sagan & Shklovsky's *Intelligent Life in the Universe*, Holden-Day, San Francisco, California, USA, 1966, pp. 343-350; cited in Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 128.

[166] Sagan & Shklovsky (1966), *op. cit.*, pp. 343-350; cited in Ross's *The Fingerprint of God* (1989), *op. cit.*, p. 128.

temperature differences between day and night. Thus it is clear that the Mormon's "Kolob" which derives from the writings of their false prophet, Joseph Smith, belongs in the realm of science fiction rather than science fact.

Earth's Solar System Factor 12]: The tilt of Earth's axis. The tilt of the Earth's axis is *c.* 23 or 23.5 degrees (23° / 23.5°). If this were less, then the temperature differences on the surface of the planet would be too great; whereas if this were greater, then once again the temperature differences on the surface of the planet would be too great. Thus this points to Divine Design. (See Earth's Solar System Factor 13, *infra*.)

Earth's Solar System Factor 13]: The Earth's gravitational interaction with the Moon & maintenance of the tilt of Earth's axis. In our solar system, Jupiter has at least 16 moons, four of which were discovered in 1610 by Galileo (1564-1642)[167]; Neptune has 8 known moons; Uranus has 5 major moons, and multiple minor moons; Mars has 2 moons; Pluto has 1 moon; and some of the larger particles in the rings of Saturn could be called "moons." E.g., the largest moon of Saturn is Titan, and in 2005 a space probe supplied by the *European Space Agency* (ESA), the Huygens Probe, landed on Titan. This space-craft was named after Christian (Christiaan) Huygens (1629-1695), a Dutch astronomer who is buried at Great Saint James Church (Dutch, "Grote Sint-Jacobskerk"). Great St. James' is a Dutch Reformed Church in the Hague which is a landmark symbol of Protestant Christianity in Holland, e.g., this church has been used to baptize a number of members in the House of Orange[168]. Or one of the four moons discovered by Galileo in 1610 is called, Io. In March 1979, the USA *National Aeronautics & Space Administration* (NASA) Voyager 1 spacecraft flew past Jupiter's moon known as Io, and observed 9 active volcanoes ejecting material several hundred kilometres into space (mainly ionized particles of sodium, sulphur, and oxygen, with some small amounts of potassium and hydrogen). Then when in July 1979 the Voyager 2 spacecraft flew past Io, one of these volcanoes had stopped erupting, but another new one had started to erupt.

However, in our solar system, the moons of all planets other than Earth are relatively small compared to the planet they orbit. By contrast, the Earth is the only planet in our solar system to have a single relatively large moon as its satellite, for which reason astronomers refer to the earth-moon system not as a planet and satellite system, but as "a double planet" system. As a consequence of this relatively large size of the Moon in relation to the size of the Earth, there are large tidal forces operating between the Earth and Moon; of a much greater magnitude than the tidal forces operating between the Earth and the Sun. The effect of these Earth-Moon gravitational tidal forces, is that they stabilize the Earth's orbital angle of *c.* 23 or 23.5 degrees (23° / 23.5°) over long

---

[167] See comments on Galileo in Sermon 2/4 of 5 June 2014 in this Volume 1's Appendix.

[168] E.g., the heir apparent to the throne of the Netherlands, William-Alexander (Willem-Alexander), Prince of Orange (b. 1967).

periods of time[169]. This measurement is commonly known as the Earth's axial tilt. Thus this points to Divine Design. (See Earth's Solar System Factor 12, *supra*.)

With respect to both Earth's Solar System Factors 12 (Earth's axial tilt) & 13 (the maintenance of Earth's axial tilt by the gravitational interaction between the Earth and the Moon), if this axial tilt is decreased or increased from it present angle of *c.* 23.5°, then this acts to magnify Earth's temperature differences. At present, because of the Earth's axial tilt of *c.* 23.5°, there are seasons bringing about a balance between hotter and cooler weather; whereas if there was no axial tilt (i.e., a 0° axial tilt), then there would be no seasonal temperature changes, and thus it would be always cold in the more northern and southern regions, and always hot in the tropical and temperate region. However, the Earth's axial tilt of *c.* 23.5° makes it possible to have life over large regions of the Earth. Thus if the earth's gravitational interaction with the Moon were less, then Earth's orbital angle would vary so much that its climates would be unstable.

However, if Earth's axial tilt were greater, then only one side of the planet would be always pointing towards the Sun. In our solar system, we see this problem on the planet Neptune where the axial tilt is *c.* 29°. If the Earth had such a greater axial tilt, then this would make the Earth's rotational period too severe, and there would be extreme tidal effects on the oceans and atmosphere. Therefore the Earth's axial tilt of *c.* 23.5° is just right. Thus this points to Divine Design.

Earth's Solar System Factor 14]: Earth's magnetic field. The magnetic field stops the soft cosmic rays that leave the Sun from getting through to the Earth's surface. Without this protection, this soft X-Ray radiation would come through, and this in turn would disturb the complex proteins on earth. Thus if the magnetic field were less there would be an inadequate protection from the hard radiation coming from the stars in general, and the sun in particular. However, if the magnetic field were greater, then there would be extreme electromagnetic storms. E.g., in our solar system, we see this occurring on one of Jupiter's moons, known as Io, *supra*. An electrical current of about 5 million amps (5×10^6 amperes) flows through the magnetic flux tube that links Jupiter and its moon, Io. Thus old earth creationist, Hugh Ross, rightly says, we should be "grateful … in expressing appreciation to God for Earth's magnetic field …, where molten iron glides between the solid core and outer crust" of the "Earth," "Without this invisible shield[170] …, deadly charged particles streaming toward us from the Sun – at a

---

[169] When the plane of the revolutionary orbit of the Earth around the Sun, and the plane of the Earth's rotation, are measured and compared; then there is a tilt in the plane of the Earth's rotation relative to the plane of the revolutionary orbit of the Earth around the Sun, and this tilt in the Earth's orbital angle is *c.* 23.5°. This is technically known as the Earth's orbital obliquity.

[170] Technically known as the "magnetosphere."

million miles per hour – would spell doom for life on Earth![171]" Thus this points to Divine Design.

Earth's Solar System Factor 15]: The fraction of light that is reflected by the Earth back into outer-space[172]. Looking at the solar system, the Earth is a fairly bright planet. On the one hand, it is not as bright as Venus, which has much more light reflected back into space than does the Earth; but on the other hand, it is a lot brighter than the Moon, which has very little light reflected back into space compared to the Earth.

If this were less, and the earth reflected away less light, then more radiation would be retained. Thus at first the planet would become a lit bit warmer, this in turn would generate more water vapour in Earth's atmosphere, which in turn would trap more amounts of infra red radiation, which in turn would produce more water vapour in the atmosphere, which in turn would trap more infra red radiation etc. . The consequence of this cyclical effect of more and more heating would be an excessive green house effect, which would not be suitable for life.

However, if this fraction of light that is reflected by the Earth into outer-space were greater and the earth reflected away more light, then this would lower the temperature of the Earth, and there would be more snow and ice. In turn, because snow and ice is highly reflective, even more radiation would then be reflected into outer-space, and so in turn there would be more snow and ice, etc. . The consequence of this cyclical effect of more and more cooling would be that an ice age would come upon the planet Earth, which would not be suitable for life. Thus this points to Divine Design.

Earth's Solar System Factor 16]: The oxygen to nitrogen ratio in Earth's atmosphere. This ratio affects the degree to which life-functions take place i.e., how much energy is burnt with respect to time. If an advanced life form e.g., a man, were to expend too much energy too quickly, then his body would not last very long. The present oxygen-nitrogen ratio in Earth's atmosphere and on the surface of the Earth, means that an advanced life form e.g., a man, can be fairly active on the planet for appropriately long periods of time.

If this oxygen-nitrogen ratio were greater, then advanced life functions would move forward too quickly and the body of an advanced life form e.g., a man, would not last long enough. However, if this oxygen-nitrogen ratio were less, then advanced life functions would not move forward quickly enough, and an advanced life form e.g., a man, would be too sluggish to do enough things. Thus this points to Divine Design.

---

[171] Ross, H., "How will it end?," *Reason To Believe E[mail]-News*, Reasons To Believe, California, USA, 19 Nov. 2013. Ross's about "a million miles per hour" equates about "1.6 million kilometres per hour."

[172] Technically known as the "albedo."

Earth's Solar System Factor 17]: The carbon dioxide & water vapour levels in Earth's atmosphere. If this were less, then there would be an insufficient greenhouse effect; whereas if this were greater, the temperatures on the earth's surface would not be high enough. Thus this points to Divine Design.

Earth's Solar System Factor 18]: The ozone level in Earth's atmosphere. The ozone layer protects advanced life from harmful ultra violet radiation, and it also affects Earth's surface temperature. If the ozone level were less, then the ultra violet radiation levels at the planet's surface would be too great, and the temperatures at the surface of the planet would be too high for advanced life such as man; whereas if this were greater, then the temperatures at the surface of the planet would be too low for advanced life. Thus this points to Divine Design.

Earth's Solar System Factor 19]: The Earth's seismic activity. There needs to be the right number of earthquakes. On the one hand, wind and water erode nutrients from the Continents toward the oceans, and if this continues over a long enough period of time, then there are not enough nutrients on the Continents, and so the Continents could not sustain advanced life-forms such as man. But the nutrients are recycled back into the Continents by earthquakes. Hence it the seismic activity were less, then due to river runoff, the nutrients on the ocean floors would not via tectonic uplift be recycled to the earth's continents. However, if the seismic activity were greater, then this would not be favourable to advanced life such as man, as it would result in the destruction of too many of earth's life-forms too often. Thus this points to Divine Design.

Earth's Solar System Factor 20]: The Earth's atmospheric electric discharge rate. Benjamin Franklin (d. 1790) of North America is remembered for his famous experiment in which he flew a kite in a thunderstorm, which he used as a lightning rod to transmit lightning to the ground and thus prove that lightning was electricity. On the Earth, lightning storms are desirable as by them nitrogen that it in the atmosphere gets fixed into the soil. If this were less and there were not enough lightning storms, then the soil would not have enough nitrogen fixing. However, if this were greater and there were too many lightning storms, then the earth would experience too much destruction by forest and grass fires. Thus this points to Divine Design.

Looking beyond our solar system to the entire universe, in overview at Earth's Solar System Factors 1-3 & 5-20[173], astrophysicist, Dr. Hugh Ross calculates that on the one hand, there would be less than *a trillionth of a trillionth of one per cent of stars* in the universe that could theoretically have a planet around them that could sustain life. But on the other hand, since *the universe only contains about one trillion galaxies*, and *each*

---

[173] Earth's Solar System Factors 1-20 are taken from Ross's *Evidence of Design* (1990), *op. cit.*; & *The Fingerprint of God* (1989), *op. cit.*, pp. 128-131; but Earth's Solar System Factor 4 is found only in Ross's *Evidence of Design* (1990), and so his mathematical calculation in *Fingerprint of God* (1989) is based on only 19 factors. But if this later 20th factor were added in, this would make the probabilities for life by natural processes even more remote.

of these only has about 100 billion stars, then *by natural processes one would not expect even one planet to have the necessary life-support conditions* referred to above. Therefore, it is clear from these twenty Earth's Solar System Factors 1-3 & 5-20 that the planet earth has been designed by a Divine Designer[174]. Drawing on an established analogy, Ross says it would be like "the possibility of a Boeing 747 aircraft all coming together as a result of a tornado striking a junk yard[175]." Hence Ross rightly concludes that "the evidence is" that "God Divinely intervened to create" "a life-support planet" "here on earth," and so "the earth is a miracle of God," because "by natural process we wouldn't even have one planet earth in the entire universe[176]." (See my comments on this statement by Ross at Part 2, Chapter 2, section b, subsection iv, *infra*.)

In short, making use of this scientific data, the teleological argument points us inexorably and unmistakably to one and only one logical conclusion, namely, "God created the heaven and the earth" (Gen. 1:1). Thus we are once again reminded of the maxim, *If the Bible says it, you can believe it; it's accurate; it's reliable; it's true!*

Moreover, since his excellent cosmological and teleological work in *The Fingerprint of God* (1989) and *Evidence of Design* (1990), Hugh Ross has also noted some other relevant matters of interest to Earth's Solar System.

Earth's Solar System Factor 21]: Jupiter's size relative to Earth. For instance. in "Rarity of Jupiter-sized planets confirmed" (1995), Ross refers to how the planet Jupiter is just the right size to benefit the earth. If it were larger, its gravity would pull the Earth's orbit into a zone that would not support advanced life; whereas if it were smaller, it would be an inadequate size to shield the Earth from numerous asteroid and comet collisions. Moreover, the size of Jupiter is a rarity because the hydrogen gas necessary to form such a large planet is blown out of a new star fairly quickly, in less than 10 million years[177]. While as at 1996 astronomers had found nine other bodies which might be such large planets, eight of these orbit close to their stars – five of them more closely than does Mercury in our solar system, and the others at various distances out to just beyond where Mars is in our solar system; with the one remaining planet at about the same distance as Jupiter in our solar system, but unlike Jupiter in our solar system it orbits a pair of star. The eight planets close to their stars must have drifted

---

[174] Ross's *The Fingerprint of God* (1989), *op. cit.*, pp. 131-132.

[175] Ross's "A 'just right' Universe," *Facts & Faith*, The Quarterly Newsletter of Reasons to Believe, California, USA, Vol. 7, No. 2, Summer 1993, pp. 1-2 at p. 2.

[176] Ross's *Evidence of Design* (1990), *op. cit.* .

[177] Hugh Ross's "Rarity of Jupiter-sized planets confirmed," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 9, No. 2, 2nd Quarter, 1995, p. 3; referring to Zuckerman, B., *et al*, "Inhibition of Giant-Planet Formation by Rapid Gas Depletion Around Young Stars," *Nature*, Vol. 373 (1995), pp. 494-496.

inward thereby destroying any possibility of life on a planet in that orbital system[178]. Thus the planet Jupiter is yet another factor pointing to our solar system's Divine Design for Earth supporting life[179].

Furthermore, the unmanned *Galileo Spacecraft* launched from Earth by NASA in 1989, arrived at Jupiter in December 1995 where it continued to collect data for about 8 years till it was deorbited in September 2003. This space probe found that Jupiter's atmosphere contained high levels of the gases: argon, krypton, and xenon[180]. But since heat drives away such gases during planetary formation, it follows that Jupiter must have been formed in a region with temperatures lower than minus 243° Centigrade (-243° C)[181] or minus 406 degrees Fahrenheit (-406° F), which would therefore place its formation in an orbit beyond that of Pluto. Hence Jupiter must have been formed *c.* 750 million kilometres or *c.* 465 million miles away from the Sun. Jupiter then migrated towards the sun till it came to exactly the right place in terms of the distance of its orbit from the sun, in order to be just right for protecting the Earth so that it can support advanced life, *supra*. If Jupiter had stayed further out, the Earth would be more frequently hit by asteroids and comets; whereas if Jupiter had migrated further in, the Earth's orbit would have been destabilized by Jupiter's gravity. Furthermore, when large gas planets like Jupiter migrate inwards, they generally move to less circular orbits as a consequence of gravitational disturbances with other planets, but in Jupiter's case, it retained a nearly circular orbit. If Jupiter had a less circular orbit, this would create a sufficient level of disturbance on the Earth to make it unable to support advanced life, *supra*; but as it is, Jupiter has an almost circular orbit that is closely aligned with the diameter of the Sun. Thus this points to Divine Design, since Almighty God's hand was evidently present with Jupiter's formation and movement to its present orbit. And therefore the *Galileo Spacecraft* detected yet more evidence for *the fingerprints of God's mighty hand* as in this instance left behind on the planet Jupiter[182].

---

[178] Hugh Ross's "Drifting Giants Highlight Jupiter's Uniqueness," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 4, 4th Quarter, 1996, p. 4; referring to "Life Beyond Mars," *Nature*, Vol. 382 (1996), p. 577; Hoersten, P., "Unlikely Planet Found," *USA Today*, 24 Oct. 1996, pp. A1 & A3; Sawyer, K., "Orbit Path of New Planet Egg-Shaped," *Denver Post*, 24 Oct. 1996, p. 6A; & Burrows, A. *et unum*, "Astronomical Questions of Origin & Survival," *Nature*, Vol. 378 (1995), p. 333.

[179] Ross's "Rarity of Jupiter-sized planets confirmed" (1995), *op. cit.* .

[180] Argon (chemical element Ar), is an inert gas of Group 0 (the noble gases) and is the most terrestrially abundant gas. Krypton (chemical element Kr), is a rare gas of Group 0, about three times heavier than air. Xenon (chemical element Xe), is an extremely rare gas of Group 0, and is more than 4.5 times heavier than air.

[181] The Centigrade Temperature Scale is also known as the Celsius Temperature Scale.

[182] Hugh Ross's "Jupiter's Migration Miracle," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 4, No. 1, 1st Quarter, 2002, pp. 1 & 5; referring to e.g.,

Earth's Solar System Factor 22]: The Sun's carbon count & timing of a supernova explosion. Elements heavier than hydrogen and helium are necessary for the universe to support life. But several generations of large stars must first form, burn up all of their nuclear fuel, and jettison their ashes into space e.g., via a supernova explosion. Only then are there from these ashes, enough of the heavy elements to form the type of stars needed for a solar system like Earth's solar system. The longer this process goes on in a galaxy, such as our galaxy, the greater the amount of heavy elements in that galaxy. Therefore, astronomers expect to find greater amounts of heavy elements in, and in the vicinity of, more recently formed stars. But strange to say, when looking at Earth's sun which is *c.* 4.6 billion years old, astronomers have found that the Sun contains, for instance, *c.* 60% (sixty per cent) more carbon than other considerably younger stars in our *Milky Way Galaxy*. But how can this be? The simplest solution is to argue that Earth's solar system was formed in close space and close time proximity to a supernova explosion, for which there is some supporting evidence in the solar system's carbon measurements[183]. Thus this strategic positioning of Earth's solar system in close space and time proximity to a supernova explosion, again points to the hand of a careful Designer who knew exactly what he was doing[184].

At this point I find Ross's argument valuable. However, he additionally argues that these large stars which must first form and burn up all of their nuclear fuel, and jettison their ashes into space e.g., via a supernova explosion, act also to produce rocky planets like the Earth. But at this point I would put a caveat in Ross's argument. That is because quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[185]. But even if this model is correct for some,

---

Stevenson, D.J., "The Subtle Taste of Jupiter," *Nature*, Vol. 379 (1996), pp. 495-496; Kerr, R.A., "Galileo Hits a Strange Spot on Jupiter," *Science*. Vol. 271 (1996), pp. 593-594; T. Owen *et al*, "A Low-Temperature Origin for the Planetismals That Formed Jupiter," *Nature*, Vol. 402 (1999), pp. 269-270; Burrows, A. & Lunine, J., "Astronomical Questions of Origin & Survival," *Nature*, Vol. 378 (1995), p. 333; & Glanz, J., "Planets Remind Astronomers of Home," *Science*, Vol. 271 (1996), p. 450.

[183] This is seen in the ^{12}Carbon (^{12}C) to ^{13}Carbon (^{13}C) ratio, since a supernovae produces a much higher ^{12}C to ^{13}C ratio than other stellar furnaces do. In Earth's solar system, this ^{12}C to ^{13}C ratio is so high that Snow & Witt (see next footnote,) concluded that all of the solar system's carbon would have had to come from a supernova explosion, and little, if any, from any other source.

[184] Hugh Ross's "Our Solar System, The Heavyweight Champion," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 2, 2nd Quarter, 1996, p. 6; referring to Snow, T.P. & Witt, A.N., "The Interstellar Carbon Budget & Role of Carbon Dust and Large Molecules," *Science*, Vol. 270 (1995), pp. 1455-1460.

[185] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

or even all planets other than the earth, with e.g., God having used heavy element ash debris jettisoned from supernovae to form rocky planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1). (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[186]

Earth's Solar System Factor 23]: The sulphur in Earth's core & its magnetic field. Comparison of our solar system's planets Mars and Earth has produced an interesting and informative result. A Mars Global Surveyor found that the magnetic field of Mars is, at the most, 40,000 times weaker than is Earth's magnetic field. The result is that the surface of Mars has almost no protection from the deadly effects of X-ray radiation coming from the sun[187]. These findings make best sense on the theory that Mars' core contains only a relatively small percentage of sulphur. If the core of a planet has a mass of more than 15% sulphur, then it is not possible for a solid inner core to form in the planet. Rather, the sulphur will expand so quickly that it will engulf and freeze out the liquid layers that are between it and the planet's mantle and crust. The circulation of a magnetic fluid between a planet's core and mantle is necessary to develop a strong

---

[186] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity*; *Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes*.

[187] Solar X-rays are radiation at X-ray wavelength. X-ray wavelengths vary from *c.* 0.5 angstrom up to 100s of angstrom (1 angstrom = 10^{-8} centremetres).

magnetic field, and if this magnetic field is absent the planet lacks a protective shield from solar X-ray radiation necessary for a life-support planet. The ramifications of this are profound. It means that life can only exist on the planet Earth because it has the right amount of sulphur in is core to produce a strong and stable magnetic field. The comparison of Earth and Mars thus points us once again to the hand of a Mighty Designer and Creator of the Earth[188].

Earth's Solar System Factor 24]: Earth's Sea-Salt Aerosols. Sea-salt aerosols are particles uniformly distributed in a finely divided state through the air. The results of a study of sea-salt aerosols above the oceans of Earth's Southern Hemisphere was published in 1998. The study focus was on aerosols of intermediate size[189]. In the first place, such intermediate size aerosols act as very small "seeds: around which first water drops, then clouds are formed, and finally rain drops form, all of which is part of the Earth's water cycle[190]. Moreover, with respect to the water cycle, as John Millam *et al* observed, the Earth's oceans cover over 70% of the Earth, and the "mere presence of liquid water (oceans, lakes, and rivers) plays a critical role in supporting life. Given the rarity of even trace amounts of *liquid* water in our galaxy, its abundance on Earth reflects amazing fine-tuning of our planet and solar system[191]."

And in the second place, such intermediate size aerosols are the most efficient size for scattering solar radiation, and hence they help to balance the temperatures on the Earth's surface. The Study found that over 90% (90 per cent) of the aerosols found in the southern oceans that were of this intermediate size were grains of sea-salt. Thus these sea-salt aerosols are part of a *just right* balance that exists between the velocity over the surface of the southern oceans, and ocean salinity. This means that for the Earth to have a water cycle, surface temperature, and climate, that are appropriate for advanced life, the following five features of *fine tuning* are required. 1) The Earth's rotation rate which affects the wind velocities must be within an appropriate range; 2) Earth's

---

[188] Hugh Ross's "Earth Design Update: Sulfur [/ Sulphur] in the Core," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 12, No. 2, 2nd Quarter, 1998, pp. 4-5; referring to Acuna, M.H., *et al*, "Magnetic Field & Plasma Observations at Mars: Initial Results of the Mars Global Surveyor Mission," *Science*, Vol. 279 (1998), pp. 1676-1680.

[189] I.e., those of 0.08 to 1.0 micrometres, in which 1 micrometre = 10^{-4} centremetres.

[190] Hugh Ross's "Earth Design Update: Sea-Salt Aerosols," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 12, No. 2, 2nd Quarter, 1998, pp. 5-6; referring to Murphy, D.M., "Influence of Sea-Salt on Aerosol Radiative Properties in the Southern Ocean Marine Boundary Layer," *Nature*. Vol. 392 (1998), pp. 62-65.

[191] John Millam, Ken Klos, & Iain D. Sommerville, "Water: Designed for Life, Part 2 (of 7)," *Reason To Believe E[mail]-News*, Reasons To Believe, California, USA, 16 May 2013.

continents have to be distributed so as to allow for both strong and steady winds to blow over large portions of the planet e.g., *the roaring 40s*; 3) the salinity of the oceans must be within an appropriate range; 4) the circulation of the salt from the oceans to the continents and then back to the oceans i.e., the salt cycle, must operate at an appropriate rate; & 5) the composition of the atmosphere must be at the correct level to hold the aerosols for the right period so that water drops can form around them. The correlation of these five factors thus points to a Divine Designer[192].

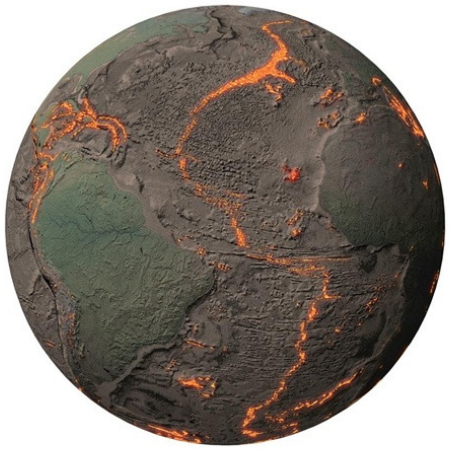
Earth's Solar System Factor 25]: The carbonate-silicate cycle. The relevant carbonates for this cycle are those chemical compounds derived from carbon-dioxide. Silicates are the most important class of minerals, constituting *c.* 25% of all minerals, and *c.* 40% of the most common minerals. More than 90% of the Earth's crust is made up of silicates. The Carbonate-Silicate Cycle compensates for the continual gradual increase in solar luminosity (see Part 2, Chapter 2, section b, section i, at Universe Factor 15, "The rate of … solar luminosity …," *supra*). As the sun gets brighter and brighter, the gases which trap heat in the Earth's atmosphere, namely, carbon dioxide and water vapour, are transferred via organisms to the Earth's crust. Thus the increased solar luminosity is counter-balanced by the decrease in the efficiency of heat trapping in the atmosphere. This coagency in which two different mechanisms act in relationship to ensure that the temperature on the Earth's surface remains appropriate for life-support, also requires some fine-tuning with respect to plate-tectonic movement, volcanic activity, erosion rates, and the type of life God has in a given world he has made on the planet at a given point in time. But recent scientific research has also found that the rate at which the Earth's crust plates, most especially the crust plates on the ocean-floors, move beneath the plates they collide with, is very delicately balanced[193]. Hydration refers to the binding of water with something else in a chemical combination; and this movement and collision of the ocean floor plates is governed by the rate at which various minerals in the relevant zone of the ocean floor are removing water from the ocean by the process of hydration. Thus there is a fine-tuning of the chemistry of the rocks in these ocean floor plates with the volume of ocean water. Moreover, dehydration refers to the loss of water from a body, and scientific research has found that in the downward moving ocean floor plates there is a dehydration process operating that produces talc, which is a common silicate mineral which may be distinguished from most other minerals by its extreme softness. This soft talc layer acts to both lower and stabilize the sliding friction of the two ocean plates as one slides over the other; and this soft-cushioning effect in turn

---

[192] Hugh Ross's "Earth Design Update: Sea-Salt Aerosols," *op. cit.*, 1998, pp. 5-6.

[193] The technical terminology for this is "subduction," in which such action is referred to as a movement to "subduct," or a movement that is said to have "subducted," or a movement that is described as "subduction."

lowers the earthquake risk to more advanced life on the Earth. Thus in multiple ways, the amazing carbonate-silicate cycle points to the hand of a Divine Designer[194].



The Earth's plate tectonics[195]
(Earth Solar System Factor 26).

Earth's Solar System Factor 26]: Earth's relative mass, surface water, & tectonic plate activity. Work by Richard O'Connell *et unum* of Harvard University, USA, published in 2007, has helped to explain that Earth's plate tectonics are affected by the Earth's large amount of surface water, since without this the Earth's crust would not crack and move. Certain crustal minerals are weakened by the water e.g., water halves the resistance to crumbling of olivine[196]. It would be first necessary for the Earth's mass to be twice what it presently is for there to be strong plate tectonics on a dry rocky planet. However, if the Earth were of such a great mass, it would then not be suitable for life because of atmospherics. The more massive a planet is, then during its formation the

---

[194] Hugh Ross's "Earth's Carefully Crafted Crust," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 2, No. 1, 1st Quarter, 2000, pp. 2-3; referring to Kirby, S.H., "Taking the Temperature of Slabs," *Nature*, Vol. 403 (2000), pp. 31-34.

[195] Hugh Ross's "Did Life Grease the Wheels on Plate Tectonics?" *Today's New Reason To Believe* (*Reasons To Believe* Email Articles sent from tnrtb@reasons.org, RTB, California, USA), 2 June 2014; with link to http://www.reasons.org/articles/Did-Life-Grease-the-Wheels-on-Plate-Tectonics.

[196] This resistance to crumbling is technically known as the "yield strength." Olivine is any member of a group of common magnesium iron silicate minerals. It is found in many igneous rocks (i.e., glassy or crystalline rocks formed when molten material from magma inside the earth cools down), and it is a primary constituent of the Earth's crust.

thicker the atmosphere it exponentially develops. E.g., in our solar system, the planet Venus has a mass seven times greater than the planet Mars, and Venus also has an atmosphere that is more than six hundred times thicker than Mars. Indeed, the planet Earth as it is would have an atmosphere which would be too thick to breath, were it not for the fact that it experienced a low-velocity collision with an object about the size of Mars in its early history, and this collision acted to blow away most of the thickness. Put simply, a planet must have a mass very close to that of the Earth for it to have plate tectonic activity appropriate for advanced life; and it must also have something very close to the amount of water found on the Earth. These requirements thus point to the Earth as exhibiting the characteristics of Design, wrought by the hand of a Mighty God[197].

Earth's Solar System Factor 27]: Earth's relative mass, majorite, & tectonic plate activity, in an aqueduct system that produces an oxygen reservoir. The Earth's tectonic plates act as aqueducts which transport material along the Earth's mantle which contains iron oxide i.e., oxygen chemically bound to iron. As these tectonic plate aqueducts go deeper into the planet, three significant things occur. Firstly, the iron oxide is melted by the mantle material causing the oxygen to become more reactive; and secondly, the increased temperatures and pressures act to produce the mineral majorite. Then thirdly, the oxygen's increased reactivity results in it chemically combining with the majorite. The majorite's capacity to store oxygen increases with pressure as it moves deeper and deeper into the Earth. Convection refers to the process by which heat is transferred by the movement of some heated fluid e.g., water or air. And as the majorite storing oxygen goes deeper into the Earth, a point comes when by convection processes which act to cycle material through the Earth's interior, that the majorite is brought back up near the Earth's surface at which point its oxygen is released. Thus this oxygen is then available for many chemical reactions essential to sustain life in which a substance is combined with oxygen i.e., oxidation. For instance, with reference to water which every school boy knows is the chemical H_2O, in this process of oxygen release from the majorite, the oxygen (O) chemically combines with hydrogen (H) at the proportions of one oxygen atom to every two Hydrogen atoms to produce water (H_2O), in an action to replenish water in the oceans and atmosphere. In order for this intricately designed aqueduct system to work, it is necessary to have a sufficient level of majorite; and a planet with the right mass that has the right level of tectonic plate movement to interact with the majorite Iron oxide is commonly called, "rust," and so these tectonic plate aqueducts which transport iron oxide might be called, "a rusty old system." But if so, to this must be made the qualification that "they have been going strong" for *c.* 4 billion

---

[197] Hugh Ross's "Designed To Shake," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 2, 2nd Quarter, 2008, pp. 2-3; referring to *Icarus*, Vol. 168 (April 204), pp. 433-456 & *Annual Review of Astronomy & Astrophysics*, Vol. 42, Annual Reviews, Palo Alto, California, USA, 2004, pp. 441-475; *Nature*, Vol. 450 (20 Dec. 2007), pp. 1206-1209; *Earth & Planetary Science Letters*, Vol. 262 (30 Oct. 2007), pp. 438-449; Richard O'Connell *et unum*, "Inevitability of Plate Tectonics on Super-Earths," *Astrophysical Journal Letters*, Vol. 670 (20 Nov. 2007): L45-L48; & T. Kleine *et al*., "Dating the Giant Moon-Forming Impact & the End of Earth's Accretion," *American Geophysical Union Meeting* 2005, abstract #P41E-04 (Dec. 2005).

years, and show every indication of "going strong" well into the future. They might be "rusty," but that's how God made them to be, and so they are performing flawlessly in obeying God's commands, and thus giving glory to him, as by their remarkable actions they point to a Designer, who knows how to make things that last! Glory be to God![198]

Earth's Solar System Factor 28]: The timing of the solar system's formation with regard to uranium, thorium, and Earth's tectonic plates. About two parts per million of the Earth's crust is uranium; and about six parts per million of the Earth's crust is thorium[199] (by way of contrast, about twelve parts per million of the Earth's crust is lead). Earth's Solar System was formed during the time at which uranium and thorium were at the peak of their abundance in the universe. Subsequently, the source for uranium and thorium which is supernova explosions, has not kept on parity with their radioactive decay, with the consequence that their potential availability to be incorporated into newly forming planets has diminished. However, both uranium and thorium are necessary to drive the plate tectonics of planet Earth which are necessary for: the recycling of nutrients onto Continents (Earth's Solar System Factor 19, *supra*), the carbonate-silicate cycle (Earth's Solar System Factor 25, *supra*), Earth's relative mass, surface water, and tectonic plate activity (Earth's Solar System Factor 26, *supra*), and Earth's aqueduct system that produces an oxygen reservoir (Earth's Solar System Factor 27, *supra*). These factors thus once again act to point to a grand Designer[200]. Thus given that God appears to have created the earth over time, rather than in a brief moment of time (at least as we poor, frail, men think of time), he appears to have timed when he would take the pre-existing matter of uranium and thorium that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7) for this element of the earth which he created i.e., the earth did not form by some naturalistic process, rather, it was specifically created by God (see Part 2, Chapter 2, section b, subsection iv, *infra*).

Earth's Solar System Factor 29]: The timing and location of the solar system with regard to the amount of aluminum metal isotopes. The Earth's solar system has an extremely unusual and very unexpectedly high aluminum-26 to aluminum-27 ratio, to the point that research scientists have said this ratio is "difficult to produce in models of star

---

[198] Hugh Ross's "Earth's Deep, Life-Sustaining Oxygen Reservoir," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 3, 3rd Quarter, 2008, p. 5; referring to A. Rohrbach *et al*, "Metal Saturation in the Upper Mantle," *Nature*, Vol. 449 (27 Sept., 2007), pp. 456-458.

[199] In technical terms, both uranium (chemical element U) and thorium (chemical element Th) are radioactive chemical elements in the actinide series, found in Group IIIb in the Periodic Table. Uranium is at atomic number 92, and is an important nuclear fuel; and thorium is at atomic number 90, and is a useful nuclear-reactor fuel.

[200] Hugh Ross's "Elemental Evidence of Earth's Divine Design," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 2, No. 2, 2010, pp. 6-8 at pp. 6 & 7.

formation" (Gilmour & Middleton). Hence the just right aluminum-26 to aluminum-27 ratio once again points to the hand of a mighty Designer God

But at this point I would put a caveat in Ross's argument. That is because in seeking to create a naturalistic model to explain this, Ross says that without such an extraordinarily high aluminum-26 to aluminum-27 ratio there could not have been any thermal processing of bodies condensing from a gaseous matter to coalesce and form planets[201]. Research scientists seeking to determine how these high aluminium-26 came about, theorized that an earlier generation of giant stars must have formed in sufficient proximity to the massive molecular cloud from which the solar system's Sun and planets later came from, so as to shower it via what is known as the "Wolf-Rayet winds," with a number of isotopes including aluminium-26. There would then be no heat pulse present to push off what for advanced life would be the dangerously high level of volatile gases such as e.g., water, nitrogen oxides, carbon dioxide, or carbon monoxide (a known killer also found in the exhaust gases of cars, and used by certain cowardly persons on a connecting pipe into their car, by which means they wickedly commit self-murder and so manifest the fact that they are damned to hell as murderers, Gal. 5:21; I John 3:15; Rev. 21:8[202]). Thus without this heat pulse derivatively connected to the aluminum-26 to aluminum-27 ratio, there would be both too much carbon in the atmosphere for it to be breathable, and also too much water on the planet for the seven continents to deal with[203].

On the one hand, I certainly concur with Ross that the unexpectedly high aluminum-26 to aluminum-27 ratio points to a Divine Designer. But I have some concerns about the highly speculative model here used for how planets are thought to form with particular reference to the Earth. Quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[204]. But even if this

---

[201] In technical terms "thermal processing of planetesimals" (Gilmour & Middleton). A planetesimal is a theoretical body which it is speculated coalesced to become a planet after it had first condensed from gaseous matter.

[202] Wherefore *The Order for the Burial of the Dead* in the Anglican 1662 *Book of Common Prayer* says, "the Office ensuing is not to be used for any that … have laid violent hands upon themselves;" since no person who commits suicide is a true Christian.

[203] Ross's "Elemental Evidence of Earth's Divine Design" (2010), *op. cit.*, pp. 6-8 at pp. 6-7; referring to Gilmour, J.D. & Middleton, C.A., "Anthropic Selection of a Solar System with a High $^{26}Al/^{27}$ Al [Aluminum-26 to Aluminum 27] Ratio: Implications of a Possible Mechanism," *Icarus* 201 (June 2009), pp. 821-823; & Gaidos, E., *et al*, ^{26}Al [Aluminum-26] and the Formation of the Solar System from a Molecular Cloud Contaminated by Wolf-Rayet Winds," *Astrophysical Journal* 696 (10 May 2009), pp. 1854-1863.

[204] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

model is correct for some, or even all planets other than the earth, with e.g., God having used heavy elements for such planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1) (See Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon system," *infra*.)[205]

Earth's Solar System Factor 30]: The Eccentricity of Earth's Orbit Around the Sun. In the science of astronomy, the shape of a planet's orbit around a star such as the Earth's Sun is referred to as the planet's eccentricity. Thus the degree of variance from a circular orbit is given a number between 0 and 1, in which "0" would be given for a perfectly circular orbit and 0.9 would be given for a very stretched ellipse[206]; 1 is given for a parabola[207], and a number greater than 1.0 is given for a hyperbola[208]. Considering

---

[205] See also this same basic caveat in Part 2, Chapter 2, section b, section i, at headings: *Universe Factor 1, The force of gravity; Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; Universe Factor 14, The distance between stars*; & section iii at headings: *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; & *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion*.

[206] In technical terms, an ellipse is a closed curve e.g., O or 0. It is the intersection of a right circular cone and a plane which is parallel to neither the base, axis, or an element of the cone.

[207] In technical terms, a parabola is an open curve. It is a conic section that is produced by the intersection of a right circular cone and a plane parallel to an element of the cone.

this issue, research scientists determined that if a planet's orbit is highly eccentric, it would result in freezing conditions on the planet, and also a higher exposure to radiation from the star it was orbiting. This would make it difficult for warm-blooded animals to survive on such a planet, and greatly reduce the amount of vegetation that could grow on it. However, finding any other planets with an Earth-like nearly circular and stable orbit has proven elusive, and the implication on the present date is that the Earth's eccentricity is at best extremely rare, and possibly even unique. Thus the Eccentricity of Earth's Orbit Around the Sun once again points to the hand of a Grand Designer[209].

Thus looking at Earth's Solar System Factors 1-30, this scientific data means that the teleological argument clearly and convincingly demonstrates one and only one logical conclusion, namely, "God created … the earth" (Gen. 1:1). Hence we are once again reminded, *If the Bible says it, you can believe it; it's accurate; it's reliable; it's true!*

---

[208] In technical terms, a hyperbola is a two-branched open curve. It is a conic section that is produced by the intersection of a circular cone and a plane which cuts the cone's two nappes.

[209] Hugh Ross's "Solar System Design: Pervasive Eccentricity," *New Reasons To Believe*, Magazine, Reasons To Believe, California, USA, Vol. 3, No. 1, 2011, pp. 13-14; referring to Kita, R., *et al*, "Pervasive Orbital Eccentricities Dictate the Habitability of Extrasolar Earths," *Astrobiology*, Vol. 10, no. 7, (Sept. 2010,) pp. 733-741.

This also means that looking for life elsewhere in the universe is absurd[210]. However, in *Evidence of Design* (1990) Hugh Ross makes the qualification that he thinks life might be found on Mars or other planets in the solar system, and says he is not the only one who has adopted this theory. But this would not be due to naturalistic reasons of macroevolution. Rather, Ross *et al* have a theory that life from Earth may well have made it to Mars, Venus, and Jupiter by one of two ways. Firstly, certain very hardy seeds, zygotes, and spores, may have wafted up into the atmosphere and stratosphere, and then been taken by the solar wind to another solar system planet i.e., the light radiation from the Sun may then have pushed this through the solar system to such planets as Mars and Jupiter, as well as asteroids. On this theory Ross *et al* think there might be up to 1100 types of such hardy seeds, zygotes, and spores that could be so carried by solar winds to planets of Earth's solar system. Secondly, an asteroid or meteorite collision with the Earth could throw rocks from the Earth up into outer-space, and once again, some of those rocks might make it to other planets in the solar system.

Hence these processes could also take some Earth life-forms to these other planets in the solar system. However, Hugh Ross takes the view that any such life-forms reaching these planets from Earth would die very quickly e.g., on Mars, a liquid drop of water evaporates in one second, and so life would not be viable for long. Hence he thinks that what may be found on Mars is life from an Earth source which existed for an extremely short time after its arrival there from Earth. Ross thinks that a good test for those looking for life on Mars that NASA should factor in, would be for their equipment to look for DNA signatures. (Deoxyribonucleic Acid is the chemical inside a cell's nucleus that contains the genetic instructions to make a living organism.) If so, if

---

[210] Ross gives some further detail for this in *Evidence of Design* (1990), where he says e.g., spiral galaxy (Earth's Solar System Factor 4) means than only one in two galaxies are possible; or distance of the Sun from the centre of the galaxy (Earth's Solar System Factor 5), and only 2 out of 10 stars in a spiral galaxy will be at the correct distance; therefore on these two factors, $0.5 \times 2 \times 10 = 1$, and so only 1 out of 10 stars would be a life-support candidate for a planet like Earth. It must be a bachelor star (Earth's Solar System Factor 1), and only one star in two is. It must be held at the right angle (Earth's Solar System Factor 13]) – 2 planets out of 10 eliminated by this. The tilt of the planet must be right (Earth's Solar System Factor 12) – he conservatively estimates this at only 1 planet in 3. Rotation period (Earth's Solar System Factor 11) – about 1 out of 10 planets. With these and other estimates, Ross calculates that there is less than 1 chance in 10^{31} that there would be such a life-support planet. (And writing before 1994 he thought that *possibly* only this solar system definitely has planets i.e., 11 planets; although Ross then modified this following work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris in Ross's *The Genesis Question* of 2001*, op. cit.*, pp. 24-25). Alternatively, some would theorize there might be many planets. But none expect them for stars formed early in the history of the universe, or elliptical galaxies; and if one *assumed* the other stars each had about 10 planets, there would then be about 100 billion trillion planets = 10^{23} . But comparing these two estimates, $10^{23} \div 10^{31}$ = less than 1 chance in 100 million that one would find even one planet that could support life.

something found in Mars exhibited the same DNA, RNA, and protein structure as life on Earth, then one could reasonably conclude that this did not evolve by some natural process on Mars, but rather it came from Earth. However, this important scientific method for making such a distinction has not been built into the design for NASA's experiments on Mars, as they are only looking for the remains of protein; and so if they did find such remains they could well jump to an erroneous conclusion as to where these protein remains came from[211].

But Hugh Ross also accepts that at least to date, no evidence has been found for the theory that Earth life may have been carried by the solar wind to Mars, since no evidence for any life has ever been found on Mars. Two robotic exploration rover craft were sent to Mars by NASA. The first one, *Mars Exploration Rover A* (MER-A), was launched in June 2003, and operated on Mars from January 2004 to March 2010, closing down in early 2010 after it got stuck in the Martian terrain in late 2009. The other Mars Rover, *Mars Exploration Rover B* (MER-B), launched in July 2003, arrived on the other side of Mars three weeks after MER-A in January 2004. MER-B, also known as "Opportunity Rover," continued to operate; and on 19 May 2010 became the longest probe to operate on Mars. Hence Ross notes in "Mars Rover Findings – The Real Story" (2004), that the collection of data by MER-A has simply found that if water ever had existed on Mars, such occurrences were at best minor and intermittent. Sulfuric acts from the Martian volcanoes would have quickly transformed any water to the sulfate salts found on Mars; and so natural life would have been impossible. The dust storms on Mars can block the atmosphere for between 50% to 90% of the time, making sunlight necessary for life an improbable energy source on Mars. And in the frequent Martian dust storms with particles varying in size from 0.001 to 3.0 millimeters or 1/25,000 to 3/25 inches, the surface of Mars is repeatedly buried in depths of 5 to 60 centimetres or 2 to 24 inches, and this deposition is then in turn removed in this cycle by storm winds of 480 kilometres or 300 miles per hour. These findings of the MER-A space probe indicate Mars is *even less hospitable for life* than was previously thought to be the case. Thus the amazing contrast with Earth as a planet designed for life by the Creator stands out even more clearly as a consequence of this scientific research on Mars[212].

---

[211] See Ross's "Mars-Life Speculations Run Wild," *Facts & Faith*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 3, 3rd Quarter, 1996, pp. 10-11. Ross here wisely critiqued the "wild" "speculations" of "a team of NASA and Stanford University … scientists" who "announced a set of 'possible evidences for the remains of life in a meteorite (discovered … in Antarctica) from Mars'." E.g., "the 'fossil-like structures' found in the meteorite" with the same shape and size of bacteria, can also be explained by "non-organic processes … in rocks;" "the chemicals touted as 'organic molecules' found in the vicinity … may not be organic," and the associated list given of "hydrocarbons" is misleading as they "exist in virtually every gas cloud in our galaxy."

[212] Hugh Ross's "Mars Rover Findings – The Real Story," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 6, No. 4, 4th Quarter, 2004, p. 4; referring to *Science*, Vol. 305 (2004), pp. 770-771; 794-799; 600-806; 807-810; 810-821; 824-826; 829-832; & 837-842 (http://www.sciencemag.org/cgi/content/abstract/305/5685/ + the first page number of

In July 1969, Apollo 11 was the first manned mission to land on the moon. Neil Armstrong (1930-2012) of the USA was the first man to walk on the moon, and Edwin "Buzz" Aldrin (b. 1930) of the USA was the second man to walk on the moon. In 1969 I was 9 years old in Year 4 at Watsonia Heights School in Melbourne, Australia, and I was part of a school assembly in which a television was turned on so we could all *watch a man named Armstrong, walk upon the moon*. But it was an old TV and what we saw was quite blurry; although clearer pictures thereafter came through on our family TV at home[213].

That night I saw clear pictures of the lunar landing on TV, and in both the newspaper and the television media this remained a big and exciting story for quite some time. It was one of those rare events that gripped people's imagination and interest all over the world. Indeed, I recall my father saying at the time, that while other discoveries had been made, such as Captain Cook discovering eastern Australia in 1770, this was the first time such a major event could be watched by people all over the world. It seemed that everybody was interested, enthused, and excited to turn on the TV and *watch a man named Armstrong, walk upon the moon*.

Let the reader now consider the barren Lunar and Martian landscapes in these NASA (*National Aeronautics & Space Administration* of USA) photos.

---

each article e.g., the first article mentioned at pp. 770-771 is http://www.sciencemag.org/cgi/content/abstract/305/5685/700).

[213] The son of an army officer, I enjoyed a highly mobile lifestyle attending nine different primary and secondary (or high) schools before proceeding to College for tertiary studies. I was at Watsonia Heights State School in Melbourne, Victoria, Australia, from 1969-1970, in 1969 being in Mr. Crowley's Year 4 Class (at the time my Father was a Captain at 3 Signals Regiment, South Melbourne). While living at Watsonia I attended Sunday School and *Church of England Boys' Society* (CEBS) at All Saints' Greensborough (an Evangelical Anglican Church).

Neil Armstrong, working on the Lunar Module July 1969.

"Buzz" Aldrin next to Lunar Module's Strut & Probe[214].

In December 1972 Apollo 17 was the last manned mission to land on the moon. Harrison Schmitt (b. 1935) of the USA was the Lunar Module Pilate.

Harrison Schmitt left of Moon boulder Dec. 1972[215].

---

[214] Apollo 11 NASA photos: cropped AS11-40-5885 (Armstrong) & AS11-40-5902 (Aldrin), in "Apollo 11 Image Gallery" (http://history.nasa.gov/ap11ann/kippsphotos/apollo.html).

[215] Photo of Harrison Schmitt at boulder at Taurus-Littrow, the Moon, NASA photo AS17-140-21496, in "NSSDC Photo Gallery Moon" (http://www.google.com.au/imgres?imgurl=http://nssdc.gsfc.nasa.gov/image/planetary/moon/gal_moon_color.jpg&imgrefurl=http://nssdc.gsfc.nasa.gov/photo_gallery/photogaller

The barren landscape of Mars[216].


Lifeless looking Mars.

Having considered these photographs of the Lunar and Martian surfaces, we are reminded that a comparison between the Earth and the other planets of our solar system, acts to show just how unusual the Earth is as a life-support planet capable of sustaining advanced life such as man. We can compare and contrast Earth with a number other planets in our solar system on a number of issues. For instance, the fact that a planet with a closer distance to the sun is seen with Venus and Mercury, and the corresponding effect of tidal interaction with the Sun giving these two planets much slower rotations (Earth's Solar System Factor 6, *supra*). Or the effect of a planet's rotation period on wind velocity as seen by the high winds of Jupiter which rotates every 9 hours (Earth's Solar System Factor 11, *supra*). Or the effect of Earth's gravitational interaction with the moon which is very large relative to the Earth compared with other planets that have moons in e.g., Jupiter, Uranus, Mars, and Pluto, so that the higher axial tilt of Neptune compared with that of the Earth preserves the Earth from e.g., extreme atmospheric tidal effects (Earth's Solar System Factor 13, *supra*). Or the importance of earth's magnetic field preventing extreme electromagnetic storms is seen in comparison with Jupiter's moon, Io (Earth's Solar System Factor 14, *supra*). Or the fraction of light reflected by the Earth compared to the higher amount reflected by Venus, or the lesser amount

---

y-moon.html&h=787&w=761&sz=58&tbnid=tJufVCpCUbJRPM:&tbnh=228&tbnw=221&prev=/search%3Fq%3Dmoon%2Bpictures%26tbm%3Disch%26tbo%3Du&zoom=1&q=moon+pictures&usg=__HlLphloEZiO14sMrM8eLN_kSkkM=&hl=en&sa=X&ei=0CzuT4b0GsmfiAfr6sWTDQ&ved=0CBMQ9QEwAQ).

[216] Photo in Coffey, J., "Why is Mars Red?," *Universe Today*, 19 Dec. 2008 (http://www.google.com.au/imgres?imgurl=http://www.universetoday.com/wp-content/uploads/2008/05/mars_panorama.jpg&imgrefurl=http://www.universetoday.com/22580/why-is-mars-red/&usg=__FVT91Yu2apW9BY8uSWCJznpGjZU=&h=287&w=770&sz=63&hl=en&start=9&zoom=1&tbnid=O6dYZ6LFae2p6M:&tbnh=53&tbnw=142&ei=ZS3uT4O5D-fZigf_u6yKDQ&prev=/images%3Fq%3Dmars%2Bpicture%26hl%3Den%26sa%3DX%26gbv%3D2%26tbm%3Disch&itbs=1).

reflected by the Moon (Earth's Solar System Factor 15, *supra*). Or the size and orbit of Jupiter relative to Earth (Earth's Solar System Factor 21, *supra*).

Or as seen in comparative analysis with Mars, the sulphur in the Earth's core and associated magnetic field is just right to shield the earth from harmful solar X-ray radiation (Earth's Solar System Factor 23, *supra*). Or with regard to the relationship between a planet's mass and atmosphere, and the fact that the Earth has the right mass and atmosphere, we see how this principle operates in comparative analysis with Venus and Mars, since Venus has a mass 7 times that of Mars, and a related atmosphere more than 600 times thicker than Mars (Earth's Solar System Factor 26, *supra*). Hence I do not think it too much to say, that one can hear the voice of Nature's God therein saying to us that even before he created the solar system, he foresaw that man would one day come to gaze upon these works of his, and that by comparison of such factors as those that we have considered between the Earth and these other planets of our solar system, we are meant to recognize that the Earth is specially designed by a Designer who has made this planet for life in general, and in particular for man who is in God's image and has a soul. (And this lesson of Earth being designed for temporal life would also have been clear to angels afore man's creation.) For the voice of nature itself testifies to us of Nature's God, "I am the Lord thy God. Thou shalt have no other gods before me" (Exod. 20:2,3; see Rom. 1:20; 2:9-16).

Thus having considered the teleological argument from design with particular reference to Hugh Ross's generally excellent work on astronomical and other scientific proofs, we are given a fresh insight into some of the layers of depth in the words of King David in Ps. 19:1; "The heavens declare the glory of God; and the firmament sheweth his handywork." With Robinson Gregory in his book, *The Theological Student* (1899), at the section entitled, "*The argument from design*," we are left to conclude, "Design implies intelligence and intention" as recognized by "Paley." "The universe presents evidence of adaptation and order, such as the relation between light and the eye, and the regularity and constancy of natural processes," and "this line of thought must lead us to personal intelligence and will – to God … Heb. 3:4 …[217]." "For every house is builded by some man; but he that built all things is God" (Heb. 3:4).

Therefore looking at the "Biblical creation model to be scientifically compared & contrasted with the Book of Nature" found in Part 2, Chapter 1, section b, *supra*; the evidence of teleology is clearly consistent with what we would expect from *Guideline 3*, "A succession of discernibly different 'worlds' to emerge in the scientific record … (Heb. 1:2; 11:3) as the 'generations of the heavens … when they were created, in the day that the Lord God made … the heavens" (Gen. 2:4). These unknown numbers of multiple worlds must by definition be over a considerable period of time, and may be over a vast period of time since they are created by God 'who inhabiteth eternity' (Isa. 57:15) i.e., no time limits." And *Guideline 4*, "There is a supernatural uniformity in the universe (Gen. 8:22; Pss. 104:19; 119:90,91; Jer. 31:35; 33:25). Nature's general uniformity is thus

---

[217] Gregory, J.R., *The Theological Student*, Charles H. Kelly, London, UK, 1892 & 1899, pp. 14-15.

consistent with discernibly supernatural acts from time to time, which stand out as different to, but not incongruous with, this general supernatural uniformity."

(Chapter 2) b) Teleology (Design):
iv] "God created … the earth" (Gen. 1:1): Earth-Sun-Moon system.

In Volume 1, Part 2, Chapter 2, section b, section i, at headings *Universe Factor 1, The force of gravity*; *Universe Factor 7, The expansion rate of the universe; Universe Factor 9, The mass … of the universe; Universe Factor 11, The stability of the decay rate of the proton; The expansion rate of the universe; Universe Factor 14, The distance between stars*; & section iii at headings *Earth's Solar System Factor 5, The distance of the Sun from the centre of the galaxy*; *Earth's Solar System Factor 22, The Sun's carbon count & timing of a supernova explosion; & Earth's Solar System Factor 29, The timing and location of the solar system with regard to the amount of aluminum metal isotopes*, *supra*, I make the same basic qualification to Ross's work with respect to planetary formation of the earth. Specifically, that quite apart from the issue of how planets in general form, is the issue of how the earth in particular was formed. Ross refers to work since 1994 on planetary formation beyond earth's solar system, indicating planets may form from a gas cloud combined with a shroud of dust and debris[218]. But even if this model is correct for some, or even all planets other than the earth, with e.g., God having used heavy elements for such planets from the stars, the earth was not made by any such naturalistic process established under God's secondary laws of nature. All present naturalistic explanations for planetary origins in general are speculative, and any naturalistic explanation for the earth's origins in particular are highly speculative, and all such conjectures referred to by Ross are by secular scientists with anti-supernaturalist presuppositions. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic

[218] Ross, H., *The Genesis Question, op. cit.*, pp. 24-25.

plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1).

In his treatment of the Earth-Sun-Moon system, Hugh Ross comes closer to my position on the earth than he usually does. Although, his model for the earth's formation also clearly intersects with mine at a number of his Earth's Solar System Factors e.g. at Part 2, Chapter 2, section b, subsection iii, Earth's Solar System Factors 20, 23, 24, 26, & 27, *supra*, where Ross clearly believes in some level of supernatural activity and Divine Design in the formation of the earth.

Hugh Ross looks at "the earth as a fit habitat;" and considers evidence for Divine Design in the Earth-Sun-Moon system. This includes the matters relating to Earth's moon, as here there is also a just right gravitational interaction between the Earth and the moon, if it were less this would cause climatic instabilities; whereas if it were more, there would be too severe an effect on ocean tides, the atmosphere, and the rotational period. Thus this points to Divine Design. Concerning Earth's sun: if there was more than one star or sun, tidal interaction would then disrupt planetary orbits, whereas one is needed to give the heat for life. Thus this points to Divine Design. Earth's sun is e.g., the right age for stable burning; and the right luminosity. It is the right distance from the Earth, since if it were closer it would be too warm for a stable water cycle on the Earth, whereas if it were further out it would be too cold for the Earth's water cycle. Thus this points to Divine Design.

And so concerning the Earth itself, the Earth's crust is the right thickness, since if it was thinner there would be too much tectonic and volcanic activity; whereas if it was thicker, there would be too much oxygen transferred from the atmosphere to the earth's crust. Thus this points to Divine Design. The Earth's rotation period is also just right, since if it were shorter, then atmospheric winds would reach velocities that were too great; and if slower, then the temperature would be too great during the daytime. Thus this points to Divine Design. The earth's magnetic field is just right, since if it were weaker it would give inadequate protection from the hard radiation of the stars; whereas if it were stronger, there would be too severe electromagnetic storms. Thus this points to Divine Design. The Earth's axial tilt is also just right, since it were less or more, the surface temperatures differences of the Earth would be too great. Thus this points to Divine Design.

The ratio of the reflected light relative to the total amount falling on the Earth is just right[219], for if it were less, there would be a runaway greenhouse effect produced; whereas if it were greater, then an ice age would occur. Thus this points to Divine Design. The oxygen to nitrogen ratio in Earth's atmosphere is just right. If it were less, then advanced life functions would move too slowly; whereas if it were more, advanced life functions would move too fast. Thus this points to Divine Design. The Earth's carbon dioxide and levels of atmospheric water vapor are just right. If they were less, there would not be enough greenhouse effect; whereas if they were more, there would be

[219] Technically called, "albedo."

a runaway greenhouse effect. Thus this points to Divine Design. The Earth's atmospheric ozone level is just right. If it were less, then the Earth's surface temperatures would be too great, and there would be too much ultra-violet radiation on the Earth's surface; whereas if it we more, the temperatures on the Earth's surface would be too great. Thus this points to Divine Design. The electric discharge rate in the Earth's atmosphere is just right. If it were less, there would be insufficient nitrogen fixing in the Earth's soil; whereas if it were more, too much destruction by fire on the earth would occur. Thus this points to Divine Design. And the seismic activity on the Earth is just right. If it were less, nutrients form river runoff on the ocean floors would fail to be recycled onto the continents via tectonic uplift; whereas if it were more, the destruction of too many life-forms would then result. Thus this points to Divine Design[220].

Hence commenting on these factors of Divine Design, Hugh Ross concludes that less "than a trillionth of a trillionth of a percent of all stars" in the universe "will have a planet capable of sustaining life." Given therefore that the universe has about a trillion (1,000 billion) galaxies, each with about 100 billion (or 100 thousand million) stars, Ross concludes "not even one planet would be expected, by natural processes alone, to possess the necessary conditions to sustain life" here itemized. "… <u>It seems abundantly clear that the earth, too, in addition to the universe, has experienced Divine design</u>[221]."

On the one hand, I thank both God, and man in the person of Hugh Ross, for the excellent work he has here done in isolating multiple just right features of the Earth that point to Divine design; and I here breath a sigh of relief that Ross *has finally* recognized that, "It seems abundantly clear that the earth, too, in addition to the universe, has experienced Divine design." And in fairness to him he also made this same basic point with regard to some of Earth's Solar System Factors (see Part 2, Chapter 2, section b, subsection iii, e.g., Earth's Solar System Factors 20, 23, 24, 26, & 27), *supra*. But on the other hand, *this is not enough*! The words of Genesis 1:1, "In the beginning God created the heaven and the earth;" and the echoing of these words in e.g., Psalm 124:8, "Our help is in the name of the Lord, who made heaven and earth," or Psalm 134:3, "The Lord that made heaven and earth bless thee …;" require a much greater emphasis on God's creation of the earth, comparable in type to Hugh Ross's correct emphasis on the creation of the universe at the time of the Big Bang when, "In the beginning God created the heaven." While it is possible to argue for God establishing some naturalistic processes in the universe that may produce some planets such as those referred to by Ross which have been observed since 1994, *supra*, it is not possible to argue for any such naturalistic processes when it comes to the earth. The words of Genesis 1:1 requires that "… God created … the earth."

We are reminded of the importance of this Genesis 1:1 teaching in the creedal statements of both the *Apostles'* and *Nicene Creeds* found in the Anglican 1662 *Book of*

---

[220] Ross, H., *The Fingerprint of God* (1989), *op. cit.*, pp. 128-131.

[221] *Ibid.*, pp. 131-132 (emphasis mine).

Common Prayer, and further endorsed in Article 8 of the Anglican *39 Articles* which says that they "ought thoroughly to be received and believed: for they may be proved by most certain warrants of holy Scripture." These are known as Catholick (or universal) Creeds because whether or not a person or church specifically uses them, if they do not agree with their doctrine then they are not orthodox. It is surely notable that these two Catholick Creeds of Christian orthodoxy, both stylistically replicate the Biblical emphasis which puts in the very first verse of the Bible the words, "In the beginning God created the heaven and the earth" (Gen. 1:1). Thus they both state at the very start of them, "I believe in" "God," "maker of heaven and earth." Hence the *Apostles' Creed* says, "I believe in God the Father Almighty, Maker of heaven and earth …;" and the *Nicene Creed* says, "I believe in one God the Father Almighty, Maker of heaven and earth, and of all things visible and invisible: and in one Lord Jesus Christ, the only begotten Son of God, … by whom all things were made … . And I believe in the Holy Ghost, the Lord and giver of life, who proceedeth from the Father and the Son … ." We here see how the teachings of orthodoxy put an emphasis where Genesis 1:1 puts it, namely, with an emphasis at the very start on the teaching that "… God created the heaven and the earth" (Gen. 1:1). *This requires that we put an appropriate emphasis on God's creation of "the earth" in about 4.6 billion B.C., and in doing so clearly state that its importance is comparable in type to the emphasis we put on the creation of "the heaven" with e.g., the universe at the time of the Big Bang in about 14 billion B.C.; for "God" is "maker of heaven and earth"* (*Apostles' & Nicene Creeds*).

The Earth was not made by a combination of naturalistic processes coupled with some Divine Design *fine-tuning*. *The Earth was specifically created by God over time.* With all due respect to Hugh Ross whose excellent work on cosmology and teleology has greatly enriched these two classic arguments from godly reason for the existence of God and creation miracles; he has nevertheless lost this Biblical balance that "God created the heaven and the earth" (Gen. 1:1). On the one hand, Ross makes references to stars producing heavy elements necessary for "rocky planets" such as the earth by naturalistic processes set in place by God i.e., *secondary laws*; and also makes unqualified references to planetary formation by naturalistic processes relevant to the earth's formation set in place by God i.e., *secondary laws*, *supra*. But on the other hand, Ross also refers to Divine Design features evident in Earth's Solar System Factors, *supra*, i.e., *God's primary actions by Divine Design*; or the Earth-Sun-Moon system i.e., *God's primary actions by Divine Design*; and in this context he says that "the evidence is" that "God Divinely intervened to create" "a life-support planet" "here on earth," and so "the earth is a miracle of God," because "by natural process we wouldn't even have one planet earth in the entire universe[222]" i.e., *God's primary actions by Divine Design*. But when these two types of statements by Ross are looked at in their entirety, they most naturally are interpreted to mean a Theistic evolutionary model (*not* in the sense of biological macroevolution which Ross rightly rejects,) of the Earth in which God fine-tuned naturalistic planetary formation processes.

---

[222] Ross's *Evidence of Design* (1990), *op. cit.*, referred to in Part 2, Chapter 2, section b, subsection iii, at heading, "Earth's Solar System Factor 20," *supra*.

Given that in the same way that God made man from "the dust of the ground" (Gen. 2:7) when he "created (Hebrew *bara'*)" "man" (Gen. 6:7), God *might* have used some pre-existing materials when he "created (Hebrew *bara'*) … the earth" (Gen. 1:1); and I consider the evidence from the Book of Nature indicates that God did so used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7). Thus it is *possible* that Ross's argument about the stars producing heavy elements may have *some* relevance in analogous terms to God's creation of man in Gen. 2:7, of God first producing what were pre-existing elements by *c.* 4.6 billion B.C. for his creation of the earth over time from this point. But of course, *Biblically* it is also *possible* that God "created (Hebrew *bara'*) … the earth" (Gen. 1:1) in an act of creation *ex nihlo*, "so that things which are seen were not made of things which do appear" (Heb. 11:3). The exegetical difficulty here at Genesis 1:1 is increased by the fact that the same usage of "created (Hebrew *bara'*)" for, "In the beginning God created (Hebrew *bara'*) the heaven," contextually requires creation *ex nihlo* for "the heaven," since the depiction of what happens "in the beginning" is not a picture of God taking some pre-existent matter and forming it. Thus "In the beginning God created (Hebrew *bara'*) the heaven" requires creation *ex nihlo*. Thus when we then read, "and the earth," it is *prima facie* possible to interpret this as meaning that "the earth" too is creation *ex nihlo* on analogy with "the heaven;" but it is also *prima facie* possible to interpret this as meaning that because in explanation of this in Gen. 2:4 we read of "the generations of the heavens and of the earth," that some earth material was made by God in the preceding "generations of the heavens" that he then used for "the earth" (Gen. 2:4), in the same way that he made man from "the dust of the ground" (Gen. 2:7) when he "created (Hebrew *bara'*)" "man" (Gen. 6:7). It is therefore axiomatic that it is also possible that some combination of these two *prima facie* possibilities was used. Scripturally, this is an open question.

However, *what is not an open question*, is the fact that *the Earth was specifically created by God*. It *was not made by a combination of naturalistic processes coupled with some Divine Design fine-tuning*. The Earth is different to every other planet we know of, in that the Earth is made by God to sustain life. We cannot, as Ross has done, look to models for how planets *might* be forming somewhere else in the universe for the purposes of how the earth was formed. *The Earth is different. The Earth is*, as far as we know, *a unique creation of God*. *The Earth was specifically created by God* as recorded in Genesis 1:1. Thus in the same way that we defend creation of creatures by God at the taxonomical level of genus (or in some classifications where "genus" is not used the equivalent of at least one level below family e.g., "subfamily" for Hawkes), or below from macroevolutionary biological theory, so we must defend creation of the earth from evolutionary planetary theory of planet formation which though *possibly correct* for some planets in the universe, *is under no circumstances correct* for the creation of the Earth. And nor is any half-way house idea that the Earth was made by a combination of naturalistic processes coupled with some Divine Design fine-tuning. For "… God created … the earth" (Gen. 1:1).

In Luther's *Short Catechism*, the great Protestant Reformer under whom God ignited the Reformation in 1517, Martin Luther (1483-1546), recommends that together

with other prayer, "At night, when thou goest to bed, … say, 'In the name of the Father, the Son, and the Holy Ghost. Amen.' Then … repeat the [Apostles'] Creed and the Lord's Prayer … ." While I do not always do so, I sometimes follow this advice and so recite the Apostles' Creed "at night," just before I "go … to bed." Let us thank God for this statement of Christian orthodoxy, which though by itself is an incomplete statement of the Christian faith and Christian orthodoxy, nevertheless states a number of important elements of Christian orthodoxy, and so is wisely selected in e.g., the Anglican *Short Catechism* (1662 *Book of Common Prayer*), Luther's *Short Catechism* (1529); and the Westminster (Presbyterian) *Shorter Catechism* (1648), as *a starting point* for understanding the Christian faith as explained to a catechumen. Like other statements of Protestant Christian orthodoxy, this wonderful statement of orthodoxy helps us to "keep on 'the strait'n' narrow" (Matt.7:13,14) in not departing from the relevant teachings of Scripture that it covers. It reads:

> "I believe in <u>God</u> the Father Almighty, <u>maker of heaven and earth</u>:
> And in Jesus Christ his only Son our Lord,
> who was conceived by the Holy Ghost, born of the Virgin Mary,
> suffered under Pontius Pilate, was crucified, dead, and buried,
> he descended into hell;
> the third day he rose again from the dead,
> he ascended into heaven,
> and sitteth on the right hand of God the Father Almighty;
> from thence he shall come to judge the quick and the dead.
> I believe in the Holy Ghost;
> the holy catholick church;
> the communion of saints;
> the forgiveness of sins;
> the resurrection of the body, and the life everlasting.
> Amen."

(Chapter 2) b) Teleology (Design):
v] "God created … the earth" (Gen. 1:1) – but how "old" is the "old … earth" (Ps. 102:25)?

The Psalmist says of "God," "of <u>old</u> hast thou laid the foundation of the <u>earth</u>: and the heavens are the works of thy hands" (Ps. 102:24,25). But how "old" is the "old … earth" (Ps. 102:25)?[223]

Thomas Chalmers (1780-1847) was the First Moderator of the Presbyterian *Free Church of Scotland* (1843-1847) which is a Reformed Church. He was a Professor of

[223] See also Vol. 1, Part 2, Chapter 5, section c, *infra*.

Theology, and Principal of the *Free Church of Scotland* College which later became *New College* at Edinburgh University (1846-1847). He was an old earth creationist Global Earth Gap Schoolman who considered that most of earth's geology could be placed in between the first two verses of Genesis. He first spoke in favour of a time-gap between the first two verses of Genesis, into which fits most of earth's geological history, in his *Remarks on Cuvier's Theory of the Earth* in 1814[224], although he then seems to have become reserved about it by 1830, (possibly being influenced by the non-committal comments with regard to an old earth or young earth of Conybeare & Phillips in 1822,) till he again clearly endorsed it in his *Natural Theology* of 1835. Thus in 1814 Chalmers spoke of the "unity in the work" on a number of the creation days, and then said, "This unity of work would be violated on the first day, of the primary act of creation [in verse 1] were to form part of it; and the uniformity is better kept up by separating the primary act from all the succeeding operations, and making the formation and division of light, the great and only work of the first day[225]." He thus clearly endorsed a Gap School model. But he then seems to have had some doubts about it by 1830, since in terms of Biblical apologetics, Thomas Chalmers referred in 1830 to "the skepticism of" certain "geologists," who "give a higher antiquity to the world than … the Bible" is said to. "Admit this antiquity," he asked, "and in what possible way does it touch upon the historical evidence of the New Testament? The credibility of the Gospel miracles stands upon its own appropriate foundation, the recorded testimony of numerous … witnesses." But this still leads to religiously liberal objections about how in the Gospels Christ upheld the authority of Pentateuch (e.g., "the law" in Matt. 5:17), and Mosaic authorship (e.g., Matt. 8:14; Mark 7:10). Hence Chalmers further says, "in different ways we may dispose of … the alleged falsehood of our Saviour's testimony … . Does he really assert what has been called the Mosaical antiquity of the world? It is true that he gives his distinct testimony to the Divine legislation of Moses; but does Moses ever say …, that there was not an interval of many ages between the first act of creation, described in the first verse of the Book of Genesis, and said to have been performed at the beginning; and those more detailed operations, the account of which commences at the second verse, and which are described to us as having been performed in so many days?" So that "of consequence," has not the Pentateuch "left the antiquity of the globe a free subject ...?[226]"

Old earth creationist Global Earth Gap Schoolman, William Buckland (1784-1856), was the Anglican Canon of Christ Church, Dean of Westminster from 1845 to

---

[224] Chalmer's "Remarks on Cuvier's Theory of the Earth," in "Extracts from a Review of that theory which was contributed to *The Christian Instructor* in 1814," in *The Works of Thomas Chalmers*, 1850, Published for Thomas Constable by Sutherland & Knox, Edinburgh, Scotland, UK, 1860, Vol. 12, "Tracts & Essays," pp. 349-372. Referred to in Custance's *Without Form and Void* (1970), *op. cit.*, pp. 26-27, footnote 20.

[225] Chalmer's "Remarks on Cuvier's Theory of the Earth," in *The Works of Thomas Chalmers*, 1850, Vol. 12, *op. cit.*, pp. 349-372 at pp. 371-372 (emphasis mine).

[226] *The Works of Thomas Chalmers*, 1830, *op. cit.*, chapter 7, pp. 45-48 (emphasis mine).

1856, and Reader in Geology and Mineralogy at Oxford University, where he was appointed Professor of Mineralogy in 1813. In 1820 he concurred with "the highly valuable opinion of Dr. Chalmers" concerning "an interval of many ages between" the first two verses of Genesis 1. Then in 1836 he said he considered "millions and millions of years may have occupied the indefinite interval" between the first two verses of Genesis, followed by the "evening or commencement of the first day of the Mosaic narrative[227]."

The founder of Bob Jones University, USA (whose better days were 1927-1997), Bob Jones Sr. (d. 1968), who was educated in e.g., the Latin tongue, at Southern University, Greensboro, Alabama, USA[228], said, "Now you can put all the time you want, millions of ages, as much as you please, between the first and second verse of revelation and be Scriptural." And his son and successor as Chancellor of Bob Jones University, Bob Jones Jr. (d. 1997), who was educated in e.g., the Latin tongue, at *Stark's Military School* in Montgomery, Alabama, USA[229], also held to that Gap School position[230]. And the Principal of Homerton College in London UK (d. 1851), which now continues after its relocation as Homerton College in Cambridge University, old earth creationist Local

---

[227] Buckland, W., *Geology and Mineralogy*, As exhibiting the power, wisdom, and goodness of God, 1836, fourth edition edited by F.T. Buckland, Bell & Daldy, London, 1869, p. 15; & Buckland, W., *The Bridgewater Treatises*, On the power and wisdom and goodness of God as manifested in the creation. Treatise 6, *Geology and Mineralogy considered with reference to Natural Theology*, in 2 volumes, William Pickering, London, 1836, Vol. 1, pp. 20-30.

[228] Bob Jones Sr., *Word of Truth* 323 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA; & Wright, M., *Fortress of Faith*, Bob Jones University, 3rd ed, 1984, p. 11.

[229] Bob Jones Sr., *Word of Truth* 350 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA. Acting President Bob Jones College 1934-1947 (Cleveland, Tennessee), President Bob Jones University 1947-71 (Greenville, South Carolina), Chancellor BJU 1991-1997.

[230] The Young Earth Creationist, Dan Olinger of South Carolina, USA said in a 2006 address, "most of the major Evangelical Colleges" "accept … old earth creation." He referred to how "Bob Jones Jr. [1911-1997], the late Chancellor out at Bob Jones" University "was an old earth creationist" who believed there was "a gap" between the first two verses of Genesis. He said Bob Jones Jr.'s "reason was that … the *Scofield Reference Bible* held to the Gap" School. He further said "I … work at Bob Jones" University; and Bob Jones Jr. "mentioned it on the Chapel platform" (Dan Olinger's "Problems with Old Earth Creationism," Sermon, Heritage Bible Church, Greenville, South Carolina, USA, Sunday 9 July 2006, http://www.sermonaudio.com/sermoninfo.asp?SID=82508214571). Bob Jones Jr.'s father, Bob Jones Sr., also followed the *Scofield Bible* (e.g., *Word of Truth* audio recordings 222, 248, & 434); so both followed a form of the global earth gap school.

Earth Gap Schoolman, J. Pye Smith (d. 1851), said the gap between the first two verses of Genesis may represent "an antiquity which millions or ten thousand millions of years might fail to represent[231]." In Volume 1, Part 1, Chapter 2, "The First of Seven Keys to understanding Gen. 1-11," section c, "Summary of first key," reference is made to our "need to *Mind the Gap between 'the heavens' & 'the earth' of Gen. 1:1 & between the first two verses of Genesis.* … Since God 'inhabiteth eternity' (Isa. 57:15), and with him a day is as a thousand years, (Ps. 90:4; II Peter 3:8), it follows that this 'day' of Gen. 2:4 which is found both in Gen. 1:1 and between Gen. 1:1 and Gen. 1:2, may be hundreds, thousands, millions, billions, trillions, quadrillions, or zillions of years long. We are simply not told. This is a matter God leaves man to discover through reference to the Book of Nature (Job 12:7,8; Ps. 19:1-3)."

The issue of "young" and "old" is potentially relativistic. E.g., in broad terms I would say that from conception to age 39, a person is, in varying degrees, "young." From 40 to 64 years he is "middle-aged;" and from 65 and over he is, in varying degrees, "old." Yet as a school teacher, I find there are some teenagers who seem to consider anyone over 30 years of age, including therefore a middle-aged man such as myself, are "old." By contrast, my beloved father (b. 1921) who as at 2014 is a nonagenarian, thinks of both my elder brother who is his elder son (b. 1957), and myself who is his younger son (b. 1960), as "young." If a man lived to be a 100, he would be regarded as "old;" but if he is a saved man, then upon his death when his soul or spirit doth "fly away" (Ps. 90:10), being "carried by the angels" (Luke 16:22) to "judgement" (Heb. 9:27), and then the rest "in heaven" of "the spirits of just men made perfect" (Heb. 12:23); if he conversed with a saint who had been in heaven e.g., 500 years, this older saint might conceivably refer to him, or think of him, as "a young man."

Jewish physicist, Gerald Schroeder of Israel (b. *c.* 1938 in USA, emigrated to Israel 1971), notes that, "Well into the twentieth century, both astronomers and physicists believed the age of the Earth to be measured in millions, not billions, of years;" but then came better scientific data "indicating an Earth some 4.5 billion years old and a universe that reaches back 10 to 20 billion years[232]." Before the development of scientific dating methods, estimates of the Earth's age varied. The basic recognition that rock strata contain characteristic fossils which means they can be distinguished from other rock strata in the earth, was a basic principle developed between 1790 and 1810 by William Smith (d. 1839) in England, as well as George Cuvier (d. 1832) and Alexander Brongniart (d. 1847). It ceased to be possible to allow for the possibility of a young earth by *c.* 1835, (and indeed one might also reasonably argue for a slightly earlier date than *c.* 1835,) and although some like Conybeare & Phillips (1822) and Chalmers (1830)

---

[231] Bob Jones Sr., *Word of Truth* 407 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA, [undated, c. 1961]; Pye Smith's *Scripture & Geological Science*, p. 502 quoted in Hitchcock, E., *The Religion of Geology*, Glasgow, Scotland, UK, 1851, p. 53.

[232] Schroeder, G., *Genesis and the Big Bang*, Bantom Books, New York, USA, 1990 & 1992, pp. 14 & 22.

allowed that this was still one possibility, this was with ever increasing difficulty and the qualification from *c.* 1810-1835, that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier (1811 & 1813) and Buckland (1820) considered the data required an old earth[233].

Thus they showed that rocks could be dated in a relativistic manner within a given region. But how old is old? One attempt to date the earth was made using accumulation of salt in the ocean. This led to a speculative calculation by Lord Kelvin (1824-1907), born in Protestant Belfast in Northern Ireland and after whom the Kelvin temperature scale is named, that the earth was between 20 and 40 million years old[234]. Another method used estimates based on sediment thicknesses of earth's layers, and as at 1893 this yielded varying dates from different estimators in a range between three million and six billion years[235].

But then a number of better techniques for dating the earth were developed. E.g., dendrochronology or dating from tree-rings has proven useful for periods up to 12,000 years, for instance, bristlecone pine has been used in the Great Basin of western USA for North American dates up to *c.* 6,000 B.C., and a 12,000 year old oak has been used in chronologies going up to *c.* 7,000 B.C. in the eastern Mediterranean region and *c.* 10,000 B.C. in other parts of Europe[236].

Carbon 14 dating, or radiocarbon dating has proven useful for dating objects up to about 25,000 years of age, and controversial for objects allegedly between 25,000 and 40,000 years of age (or some say possibly even 50,000 years ago, even though Carbon 14 dating is only meant to be accurate to about 40,000 years ago). Radiocarbon has a half-life of 5,370 years, and so Carbon 14 decay rates can with qualification be measured[237]. Impurities in samples can result in a range of different dates, and in such instances there is then a potential dispute as to which sample has impurities and which sample does not[238]. (E.g., there are associated disputes connected with when the Neanderthals went

---

[233] See Chapter 5, section d, subsection ii.

[234] Young, D.A., "How Old Is It? … A Review of Dating Methods – Part One …," *Perspectives on Science & Christian Faith*, Vol. 58, No. 4, Dec. 2006, pp. 259-265, at p. 262.

[235] *Ibid.*, pp. 260-262; citing Walcott, C.D., "Geologic Time, As Indicated by the Sedimentary Rocks of North America," *Journal of Geology*, Vol. 1 (1893), pp. 639-676.

[236] *Ibid.*, pp. 263-264.

[237] Young, D.A., "How Old Is It? … A Review of Dating Methods – Part Three …," *Perspectives on Science & Christian Faith*, Vol. 59, No. 2, Dec. 2007, pp. 136-142, at p. 139; "Carbon 14 Dating," Iowa State University, USA (http://www.ndt-ed.org/EducationResources/HighSchool/Radiography/carbon14dating.htm).

[238] See Volume 2, Part 6 on dates for Sodom.

extinct[239].) A further issue is the question of a situation where atmospheric carbon declined, in which instance a younger sample may appear to be older. Yet another issue arises for dates from about 23,000 B.C. up to the limits of Carbon 14 at 38,000 B.C. . That is because calibration curves are calculated for such dates, and the possible error bars are frequently either not stated, or understated. The calibration process reduces the *prima facie* Carbon 14 dates for 30,000 years from 8,000 B.C. to 38,000 B.C., down to a period of 25,000 years. Thus the first question for a date in the range of "10,000 to 40,000 years ago" is, "Has it been calibrated?" since it might actually be lower that the date given on calibration tables. Thus e.g., an object said to be at 38,000 B.C., could in fact be 3,000 or 3,500 years younger than this, i.e., 35,000 B.C., or even less at e.g., 34,500 B.C.[240].

This is relevant to e.g., the issue of dating the lion-headed figurine with a primate's body from the Swabian Alps of Europe[241]. It had first been previously Carbon 14 dated to 30,000 years ago or *c.* 28,000 B.C.[242]. But about a decade later, a 2013 Carbon 14 based date led to the claim that it is 40,000 years old. This immediately raises the question, Was the first Carbon 14 date of 30,000 years ago contaminated, or was the second Carbon 14 date of 40,000 years ago contaminated? Rather than addressing this issue, there has been a tendency to uncritically accept the later date, which may or may not be correct. Furthermore, the second date of 40,000 years ago puts it at the limits of Carbon 14 dating, yet relevant detail is lacking on how this date was arrived at, and what the error bars are. A safer Carbon 14 date would thus be *c.* 36,500-40,000 years ago. Another problem is that this "new date" is based not a direct Carbon 14 dating of the lion-headed figurine, but rather on bones found in the same strata[243]. But this too can be hazardous, because it is possible that the lion-headed figurine sank down in the mud over 30,000 or more years; or was deliberately buried about 30,000 years ago, and if so, then the earlier date of *c.* 30,000 years ago would be more accurate. While a number of issues with respect to the lion-headed figurine remain unresolved, one here sees the danger of uncritically accepting an alleged Carbon 14 date; because in the first instance, it clearly disagrees with the earlier Carbon 14 dating by some 10,000 years; in the second

---

[239] See Volume 1, Part 2, Chapter 6, section c, subsection iv, Heading A, "Where are the Adamites in the fossil record?, at subheading "A contrast & comparison of models case study: The Highly Controversial Neanderthals."

[240] John Hawks "Straightening the Calibration Curve" (Jan. 2010) (http://johnhawks.net/taxonomy/term/50).

[241] See also Part 2, Chapter 6, section c, subsection i, *infra*.

[242] Dalton, R., "Lion man takes pride of place as oldest statue," *Nature*, 4 Sept. 2003 (http://www.nature.com/news/2003/030904/full/news030901-6.html).

[243] Bailey, M., "Ice Age Lion Man is world's earliest figurative sculpture," *The Art Newspaper*, Jan. 2013 (http://www.theartnewspaper.com/articles/Ice-Age-iLion-Mani-is-worlds-earliest-figurative-sculpture/28595).

instance, the issue of which sample is contaminated and why in this disparity of 10,000 years has not been properly addressed; in the third instance, detail on its error bars are lacking; and in the fourth instance, it is based on surrounding bones so that it might have sunk down, or been buried at a lower level, and this is not taken into account.

But notwithstanding such qualifications which are sometimes sadly lacking with Carbon 14 dates (which have much narrower error bars for objects under 10,000 years), Carbon 14 is clearly a useful dating technique, *providing its limits are recognized*.

There is also e.g., radiometric dating. This works on the basis of the decay rate of the atomic nucleus in multiple atoms. The half-life of a particular atom can be measured i.e., for any given sample of atoms, the time it takes half of a sample to disintegrate. Since uranium (symbol U) decays into lead (symbol Pb) over a long period of time (uranium 238 has a half-life of *c.* 4.5 billion years; uranium 235 has a half-life of *c.* 710 million years; and uranium 234 has a half-life of *c.* 247,000 years or about a quarter of a million years), or potassium (symbol K) decays into argon (symbol Ar) (potassium has a half-life of *c.* 12 billion years); or rubidium (symbol RB) into strontium (symbol Sr) (rubidium has a half-life of *c.* 49 billion years), these rates can be used to date certain rocks. E.g., the Earth has been found to have rocks dating to *c.* 3.5 million B.C., and lunar rocks and meteors have been so dated to *c.* 4.5 million B.C.[244]. The uranium 234 to uranium 238 radiometric dating is useful for about 100,000 years ago to 1.2 million years ago, and so helps fill a gap between Carbon 14 dating, *supra*, and potassium-argon dating. The potassium-argon radiometric dating has been used to date volcanic rocks as young as 20,000 years and meteors as old as 4.5 billion years. E.g., it has been used to date volcanic ash from Bishop Tuff in California, USA, to *c.* 725,000 years ago. And the rubidium-strontium radiometric dating is useful for dating very old rocks. It has proven valuable in dating minerals bearing potassium such as several varieties of mica which have a large amount of the originating rubidium and only low amounts of the derivative strontium.

If as claimed by young earth creationists, God made the earth 6,000 to 10,000 years ago, then one would reasonably expect the half-life decay rates of these Carbon 14 dating and radiometric dating methods to show that the decay process had only been going on for 6,000-10,000 years. But this is not the case. The reply that is sometimes made by young earth creationists relates to "appearance of age." The example that has been used with me are the trees of Eden. I remember some years ago speaking to a young earth creationist in New South Wales, Australia, who was from New Zealand. He said to me that if one were to cut down a tree in Eden just after it had been made, it would have tree rings in it for some number of years. And this he said was the requisite proof for the young earth creationist claim of "appearance of age." *My response to this claim*

---

[244] *Encyclopaedia Britannica CD99*, *op. cit.*,, "Time: Time as systematized: Radiometric Time;" "Potassium-argon dating;" "Rubidium-Strontium dating;" "Rubidium-Strontium method;" "Uranium-234-uranium-238 dating;" & Young, D.A., "How Old Is It? … A Review of Dating Methods – Part Two ….," *Perspectives on Science & Christian Faith*, Vol. 59, No. 1, March 2007, pp. 28-36, at pp. 28-31.

is that we do not have material evidence to show what a tree in Eden would look like if we were to cut it down. It is a circular argument to *first presume* that the trees of Eden did have tree rings. What is wrong with saying that, God must have created wide trunk trees in Eden as "a one-off"? And if, for example, God made uranium 235 some 6,000-10,000 years ago, it would be reasonable to expect that its erosion patterns would not be also given a form that correlated with "an appearance of age" accelerated half-life from *c.* 710 million years. In this context, it should also be remembered that we are told in Holy Writ that, "God is not a man, that he should lie" (Num. 23:19). And indeed, it is "impossible for God to lie" (Heb. 6:18) because he is infinitely perfect. Wherefore, "God, that cannot lie" (Titus 1:2) thundered from Mount Sinai in the ninth of the Ten Commandments, "Thou shalt not bear false witness" (Exod. 20:16; Matt. 19:18; Rom. 13:9). Hence the claim that God would give these different rocks "the appearance of age," not only in terms of their half-life decay rates, but also in simultaneous terms of their erosion patterns, is not consistent with the character of a "God" who says, "I am … the truth" (John 1:1; 14:6). For he is a "God, that cannot lie" (Titus 1:2), a "God" who condemns "the Devil" "for" being "a liar" (John 1:1; 8:44), a God who condemns the Antichrist for his "deceivableness" (II Thess. 2:10), and who says that "all" willfully unrepentant "liars, shall have their part in the lake which burneth fire and brimstone" (Rev. 20:8; cf. Rev. 21:27; 22:14,15).

Therefore, these and other dating methods for the earth[245] have thus shown that the "old … earth" (Ps. 102:25) is *c.* 4.6 billion years old. The fact that this is within the range of estimates used on the basis of sediment thicknesses of earth's layers, which before these scientific techniques became available yielded extrapolations between 3 million and 6 billion years (Walcott, 1893), *supra*, is also notable as showing that at *c.* 4.6 billion years they are within a range of dates that can be deduced from non-radiometric means.

Thus in consulting The Book of Nature we learn that the earth is *c.* 4.6 billion years old. E.g., some granites discovered near the Great Slave Lake in Canada have been found to contain zircons dating to 3.96 billion B.C.; and in 1983 William Compston's research team from the *Australian National University* in the Australian capital city of Canberra, found that a water-laid layer at Mount Narryer in Western Australia contained zircon grains that could be dated to 4.18 billion B.C., and 35 miles or 60 kilometres away they found zircon that could be dated to 4.276 billion B.C.[246]. This

---

[245] Young, D.A., "How Old Is It? … A Review of Dating Methods – Part Two ….," *op. cit.*, pp. 31-35 (Isochron Methods & Cordia Method); & "How Old Is It? … A Review of Dating Methods – Part Three ….," *op. cit.*, pp. 136-140 (Thermochronometry, The U-Th/He Method, Fission-Track Dating, Cosmogenic Isotopes, Exposure-Age Methods).

[246] Zircon is a silicate mineral (ZrSiO-4). Silicates are abundant on the Earth, with *c.* 25% of all minerals and *c.* 40% of the most common minerals being silicates; indeed almost all the igneous rocks which constitute more than 90% of the earth's crust are silicates.

was an outstanding discovery since it then constituted the oldest dated material on Earth[247].

But once again, the concept of "a young earth" and "an old earth" are necessarily relativistic to some specified points in time. Thus given that God "inhabiteth eternity" (Isa. 57:15), and it would be possible for the earth to be billions, trillions, quadrillions, or zillions of years old, the fact that "it is only" *c.* 4.6 billion years old means that it could be conceptualized as "a young earth." But inside the parameters that are used in contemporary creationist discourse, "young earth creationist" refers to those arguing for "a young earth" of 6,000-10,000 years of age, and "old earth creationist" refers to those arguing for "an old earth" of millions or billions years of age. Therefore in terms of the normative usage of these terms in contemporary creationist discourse, we cannot doubt that The Book of Nature clearly teaches the creation by God of an old earth whose origins date to *c.* 4.6 billion B.C. .

These findings for an old earth *c.* 4.6 billion years old also correlate with later datable events. E.g., ice cores extracted from Greenland show a history for 120,000 years; and three cores extracted from Antarctica dated back to *c.* 340,000 B.C. (Dome Fuji), *c.* 420,000 B.C. (Vostok), and *c.* 740,000 B.C. (Dome C). These were dated by a method of triangulation using: volcanic ash layers, such as that of Krakatoa in 1883, Vesuvius in 79 A.D.; and climactic cycles caused by the tilt in the earth's orbit over 41,000 years, and ellipticity or eccentricity variations in earth's orbit over a period of 100,000 years; with radiometric dates gained from certain minerals in the ice layers to check that there is a correlation with their annual ice layer. So too a sedimentary core drilled off-shore from the South Alps of New Zealand dated the earth's crust back to *c.* 3.9 million B.C. . The climatic cycles and other events in this New Zealand core over the last 740,000 years were found to perfectly correlate with those of the ice layers in Dome C in Antarctica. A number of young earth creationists who claim the earth is only 6,000-10,000 years old, e.g., Carl Wieland of *Creation Ministries International* in Queensland, Australia, in the young earth creationist magazine, *Creation Ex Nihlo* (1997), then attempted to discredit this evidence by referring to possible problems at the bottoms of tops of such core sample e.g., in two of the three ice cores from Greenland, there was a disturbance caused by ice folding in close proximity to bedrock in the lower 15,000 ice layers. But as old earth creationist Hugh Ross pointed out in what he called the "clash between young-earth and old-earth creationists," any such disturbance does not in fact invalidate the 105,000 layers above, or 123,000 layers of the third core, and so the broad finding of an old earth which in Greenland goes back in the ice layers to *c.* 120,000 B.C. is clearly a valid scientific finding. Ross then draws from this the following observation, "According to Psalm 19:1-4, God speaks not only through the words of the Bible but also through the record of nature. Since God speaks truth and chooses to reveal himself, nature's record and the Bible's words can be expected to agree. The ice

---

[247] *Encyclopaedia Britannica CD99* (1999), *op. cit.*, "Geochronology: The Interpretation & Dating of the Geological record: Geological History of the Earth: The Pregeological Period."

and sediment cores provide compelling extra-Biblical evidence that the earth is indeed ancient[248]."

Likewise, young earth creationists who consider the earth is 10,000-6,000 years old and so dates to 8,000-4,000 B.C., have claimed that the immense gorge known as the Grand Canyon in the State of Arizona, in the United States of America, was formed due to an alleged global flood of Noah *c.* 3,000-2,500 B.C. . But there is evidence to date this North American canyon from formations in a number of caves in the Grand Canyon's walls, that were formed as water moved through the ground and into the caves[249]. Hence geologists from New Mexico University in the State of New Mexico, USA, analyzed samples from these caves at nine different sites in order to calculate the speed at which the water table dropped during the formation of the Grand Canyon. These relevant formations in the caves were only formed when the level of groundwater coincided with where the cave was, and after this water level dropped down there was no new material that was then added to these cave formations. In order to trace the movement of a chemical, such as H^20 (water), scientists can add to it a radioactive isotope[250], known as a radioisotope, and then from the radiation emitted by this radioisotope, it can be tracked by an isotope tracer. By this means, the New Mexico scientific researchers were able to determine dates for when the water level correlated with the water level in a given Grand Canyon cave. Two different techniques for dating

---

[248] Hugh Ross's "Deep Core Tests for the Age of the Earth," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 7, No. 3, 3rd Quarter, 2005, pp. 2-3; referring to K.K. Andersen *et al*, "High-Resolution Record of Northern Hemisphere Climate Extending into the Last Interglacial Period," *Nature*, Vol. 431 (2004), pp. 147-51; Augustin, L, *et al*, "Eight Glacial Cycles from an Antarctic Ice Core," *Nature*, Vol. 429 (2004), pp. 623-28; McManus, J.F., "A Great Grand-Daddy of Ice Cores," *Nature*, Vol. 429 (2004), pp. 611-612; Walker, G., "Frozen Time," *Nature*, Vol. 429 (2004), pp. 596-597; Carter, R.M. & Gammon, P., "New Zealand Maritime Glaciation: Millennial-Scale Southern Climate Change Since 3.9 Ma," *Science*, Vol. 304 (2004), pp. 1659-1662; & *Young Earth Creationist articles*: Wieland, C., "The Lost Squadron," *Creation Ex Nihilo*, Vol. 19, no. 3 (1997), pp. 10-14; Vardiman, L., "Rapid Changes in Oxygen Isotope Content of Ice Cores Caused by Fractionation & Trajectory Dispersion Near the Edge of an Ice Shelf," *Creation Ex Nihilo Technical Journal*, Vol. 11, no. 1 (1997), pp. 52-60; & Oard, M., "Do Greenland Ice Cores Show Over One Hundred Thousand Years of Annual Layers?," *Creation Ex Nihilo Technical Journal*, Vol. 15, no. 3 (2001), pp. 39-42.

[249] Technically called, "speleothems." One of these formations technically called a "mammillary," and which forms just under the groundwater table level, is the type of formation in a cave that was used in this geological research.

[250] An isotope is one of two or more different species of atoms in a chemical element, which in the periodic table have the same atomic number and position, and which exhibit nearly identical chemical behaviour, although they have different physical properties and different atomic masses.

were used as a double-check on their figures. The results showed that the Grand Canyon's western section was formed more slowly than, and before, its eastern section. The results also showed that the higher formations in the caves of the Grand Canyon are older, and that it took about 17 million years for the water level to drop 3,800 feet (just under ¾ of a mile) or 1,160 metres (just under 1.2 kilometres) to its present position. Old earth creationist, Jeff Zweerink of Hugh Ross's organization, *Reasons To Believe* in California, USA, said that in response to this research, certain Young Earth Creationists simply asserted that *the radioactive isotope dating method just had to be wrong*, yet they failed to produce any cogent scientific rationale for this claim, and also failed to explain why the double-check methodology could go wrong not once, but twice[251].

Moreover, when the words of Gen. 1:1 are considered, "In the beginning God created the heaven and the earth," with the description of events in the time-gap between the creation of "the heaven" and then "the earth" in Gen. 1:1, as in the time-gap between Gen. 1:1 and Gen. 1:2, "These are the generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens;" then it follows that an old earth should also be understood in the connection of an old universe. In this context, it is to be noted that the evidence for an old universe is also relevant. E.g., in 2011 scientists on Earth in the Milky Way Galaxy, observed a supernovae exploding in the relatively "nearby" Pinwheel Galaxy which is "only" 21 million light years away[252]. The fact that an explosion which occurred 21 million years ago has just become visible to astronomers, is just one of the evidences of an old universe, a fact harmonizing with an old earth. Thus the scientific evidence points us to an earth that is about 4.6 billion years old in a universe that is about 14 billion years old plus or minus 4 billion years.

---

[251] Zweerink, J., "Grand Canyon Formed Over Millions of Years," *Connections*, Magazine, Reasons To Believe, California, USA, Vol. 10, No. 4, 4th Quarter, 2008, pp. 2-3; referring to Polyak, V., *et al*, "Age & Evolution of the Grand Canyon Revealed by U-Pb [Uranium to Lead] Dating of Water Table-Type Speleothems," *Science*, Vol. 319, 7 March 2008, pp. 1377-1380.

[252] Jeff Zweerink's "Calibrating Cosmic Candles," *Reason To Believe E[mail]-News*, Reasons To Believe, California, USA, 15 July 2013; citing Pereira, R., *et al*, "Spectrophotometric Time Series of SN 201 1fe from the Nearby Supernovae Factory," *Astronomy & Astrophysics*, Vol. 554 (June 2013), p. A27.

CHAPTER 3

"God created … the earth" (Gen. 1:1): uniformitarianism & catastrophism.

a] From Xenophanes to William Hutton.
b] Adam Sedgwick (old earth creationist) verses Charles Lyell (anti-supernaturalist uniformitarianism).
c] Thomas Chalmers (old earth creationist) verses Charles Lyell's type of anti-supernaturalist uniformitarianism.
d] William Whewell (old earth creationist) verses Charles Lyell (anti-supernaturalist uniformitarianism).
e] George Cuvier et al (old earth creationist): uniformitarianism & catastrophism in the "worlds" or "ages" (Heb. 1:2; 11:3) of Gen. 1:1 & 2:4; creation, not macroevolution – mind the gap.
f] The generally united Gap School view: filling in the blanks in the "worlds" or "ages" of multiple "generations" of Earth's history in Gen. 2:4; Heb. 1:2; 11:3, following the creation of the temporal and spiritual heavens, from the Pregeological World of c. 4.6 billion B.C. to the start of the Last Ice Age c. 68,000 B.C.; creation, not macroevolution – mind the gap.

(Chapter 3) "God created … the earth" (Gen. 1:1): uniformitarianism & catastrophism: a] From Xenophanes to William Hutton.

In ancient times, the Greek poet and thinker, Xenophanes (6th–5th centuries B.C.), of Colophon in Ionia, Asia Minor, was said by later writers to have observed that seashells are found "in the midst of the earth and in mountains." He is said to have attributed this to an earlier catastrophe which flooded the earth with the sea, thus burying these fossil remains. On this basis, Xenophanes is sometimes called the father of paleontology[253].

Other precursor theories are also found in the 18th century debate between Neptunists and Plutonists. The Neputunists of Werner *et al*, thought the planet earth was first covered by water, with some sediments then laid with granites and crystalline rocks, followed by an ocean subsidence and stratified rocks laid in succession, with "volcanic" rocks regarded as the youngest. The Plutonists of James Hutton *et al*, considered the earth functioned as a heat machine in which water streams wear down the continents whose material runs into the sea; and in which subterranean heat then causes expansion of the earth's outer surface, thereby lifting up the compacted marine deposits so as to

---

[253] *Encyclopaedia Britannica CD99*, *op. cit.*, "The Earth Sciences: History of the Earth Sciences: Antiquity: Geological Sciences: Knowledge of Earth History;" & "Xenophanes."

make new continents. Hutton's *Theory of the Earth* (1788) was attacked by the Neptunists, and then defended by John Playfair (1748-1819) in *Illustrations of the Huttonian Theory of the Earth* (1802)[254].

And Playfair's work is important for another reason. Though William Smith is fairly called the "father of English geology," I see the modern origins of geology earlier than 1799 with William Hutton (1726-1797), who first established a theory of uniformitarianism and catastrophism with his dissertation to the Royal Society of Edinburgh in 1785 and with his published work *Transactions* in 1788. Hutton recognized by, e.g., reference to Roman roads in Europe built 2,000 years earlier, that the natural processes of erosion are quite slow and so (even allowing for some catastrophism and the element of supernatural changes amidst this general uniformitarianism,) the earth therefore had to be a lot older than 6,000 years. His work was given a wider audience when summarized and presented by Professor John Playfair (1748-1819) of Edinburgh University, Scotland, in *Illustrations of the Huttonian Theory of the Earth* (1802)[255].

(Chapter 3) "God created … the earth" (Gen. 1:1):
uniformitarianism & catastrophism:
b] Adam Sedgwick (old earth creationist) verses Charles Lyell (anti-supernaturalist uniformitarianism).

Hutton's work was later developed in an anti-supernaturalist and significantly different way by Charles Lyell (1797-1875), that was rejected by old earth creationists such as e.g., Adam Sedgwick because it took *a general* rule of natural process uniformitarianism, misinterpreted it as anti-supernaturalism, and then made of it an absolute rule of anti-supernaturalist natural processes. Though Lyell's basic model is much closer to what old earth creationists would accept than would young earth creationists, the interpretation of *a general* rule of natural process uniformitarianism as anti-supernaturalism is an invalid starting presupposition (see Part 2, Chapter 3, section c, on Thomas Chalmers, *infra*), and flowing from this, important differences of interpretation remain with elements of catastrophism (e.g., rapid deposits from volcanoes) which in the old earth creationist gap school may sometimes, though not always, be interpreted as miraculous acts of God (e.g., the mass extinctions at the end of the *Paleozoic Age* in *c.* 245 million B.C., or at the end of the following *Mesozoic Age* in *c.* 66.4 million B.C.) i.e., supernatural activity temporarily suspending and operating beyond such natural laws with e.g., the very creation of the earth (see Part 2, Chapter 2, section b, subsection iv, "'God created … the earth' (Gen. 1:1): Earth-Sun-Moon

---

[254] *Encyclopaedia Britannica CD99*, *op. cit.*, "The Earth Sciences: History of the Earth Sciences: The16th – 18th centuries: Geological Sciences: Earth History according to Werner and James Hutton."

[255] Gribbin, J., *Science: A History 1543-2001*, Penguin Books, London, England, UK, 2002, pp. 312-5,321.

system," *supra*), or the creation of a succession of worlds on the earth (see Part 2, Chapter 3, sections e & f, *infra*).

As previously discussed at Part 2, Chapter 2, section a, subsection i, "'The creation of the world' (Rom. 1:20): the generally united old earth creationist school," "Cosmology (The First Cause): 'In the beginning God created' (Gen. 1:1), the universe & how at the time of the Big Bang God made matter out of nothing at all!;" it follows at a scientific level from Einstein's equation $E = mc^2$ (Energy = mass times the speed of light squared), that there was an act of creation *ex nihilo* at the time of the Big Bang about 14 billion B.C. (plus or minus 4 billion years); and this also acts to show God as a *primary cause* in nature. It also links secondary laws of nature stemming from secondary causes to this primary cause, that is, to God. Thus as Adam Sedgwick noted in antithesis to the type of defects found in Lyell's anti-supernaturalist geological philosophy, "man" "can" only "observe" and "interpret" the relevant "laws" of nature because "they are LAWS, that is have the impress of MIND upon them[256]."

The young earth creationists Whitcomb and Morris referred negatively to what they called "such non-geologists as," "William Smith," "Georges Cuvier" and old earth creationist gap school "theologians" such as "Buckland," "Pye Smith," or "Sedgwick[257]." In fact, George Cuvier undertook important original work in geology. Moreover, the "theologians" mentioned also had geologist qualifications. William Buckland was Reader in Geology and Mineralogy at Oxford University, and appointed Professor of Mineralogy there in 1813. Pye Smith became a Fellow of the Geological Society in 1836. Adam Sedgwick was Professor of Geology at Cambridge University from 1818 to 1873; and in that capacity wrote in 1872, "In determining a geological nomenclature" "two great principles must never be lost sight of," "no true nomenclature can be in conflict with the actual succession of the physical deposits; neither can it contradict the true succession of organic types. Nature does not contradict her own workmanship. This was the principle on which William Smith, whom we call the Father of English Geology, acted; and it was the principle on which Murchison acted when he made known his beautiful succession in the upper part of" "his Silurian System[258]."

Therefore Whitcomb and Morris's claim that men like e.g., "Georges Cuvier" (d. 1832), William "Buckland" (d. 1856), "Pye Smith" (d. 1851), and Adam "Sedgwick" (d. 1873) are "non-geologists" is absurd and indefensible. They clearly had a good overview of relevant geological matters known in their day, which was certainly

---

[256] Pye Smith's *Scripture & Geological Science*, 1852, pp. 382-4; quoting Sedgwick's letter to Pye Smith.

[257] Numbers' *The Creationists*, p. 208; quoting Morris, H., & Whitcomb, J., "Reply to Reviews," *Journal of the American Scientific Affiliation*, 1964, pp. 59-61.

[258] Salter, J.W., *A Catalogue of the Collection of Cambrian and Silurian Fossils contained in the Geological Museum of the University of Cambridge*, With a Preface by the Reverend Adam Sedgwick, Cambridge University Press, UK, 1873, p. 13.

sufficient for them to recognize a succession of geological worlds on an old earth. Notably, Sedgwick engaged in debate with young earth creationists in his own day, comparable in type to Whitcomb and Morris. For example, he defended relevant elements of Buckland's *Bridgewater Treatise* against the young earth creationist Dean Cockburn who claimed all the geological layers were produced by marine volcanoes and Noah's Flood which had deposited the strata in a few days[259]. Or in *Relation between the Holy Scripture and some parts of Geological Science*, Pye Smith quotes from Sedgwick's *Discourse on the Studies of the University of Cambridge* (1834) where Adam Sedgwick argues for an undefined "interval" of time "between the first creation of the earth and that day in which it pleased God to place man upon it." Then in discussing the so called "'Mosaic Geology,' or 'Scripture Geology,' and other works of cosmology with kindred titles" by young earth creationists, Sedgwick says "they have overlooked the aim and end of revelation, tortured the Book of Life out of its proper meaning, and wantonly contrived to bring about a collision between natural phenomena and the Word of God." "They have committed" "folly" and "sin," "pretending to teach mankind on points where they themselves are uninstructed" (compare King Solomon who said, "The thought of foolishness is sin," Prov. 24:9). Adam Sedgwick found such "mischievous nonsense" comparable in type to a vegetarian Brahmin of the heathen Hindu religion, who "crushed with a stone the microscope that first showed him things living among the vegetables of his daily food" rather than accept that he had ever eaten any non-vegetable creature. Sedgwick concluded that young earth creationists were a "school of false philosophy," and that "their position is impregnable while they remain within the fences of their ignorance[260]."

The Young Earth Creationist, Terry Mortenson of Ken Ham's young earth creationist organization *Answers In Genesis*, UK & USA, said in 2007, "Adam Sedgwick (1785-1873) was Buckland's counterpart at Cambridge, receiving the Chair of Geology in 1818. He too was an ordained Anglican clergyman and" considered that the "old-earth" model "did not contradict the Bible, but he never once attempted to show how they could be harmonized. Like Buckland" he ended up "embracing Lyell's uniformitarianism. Through the influence of these two clerical / academic geologists and others (e.g., George Greenough, Rev. William Conybeare, Roderick Murchinson and Henry De La Beche …) old-earth … geology was widely accepted in the 1820s by most geologists, and many clergy and theologians in Britain and North America[261]." In fact, contrary to Mortenson's claims about the "old-earth … geology" of e.g., "Roderick Murchison" being like "Sedgwick" and "Buckland" in "embracing Lyell's uniformitarianism;" after

---

[259] Clark & Hughes' *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 2, pp. 77-9.

[260] J. Pye Smith's *Scripture & Geological Science* (1852), pp. 30-1; quoting Sedgwick's *Discourse on the Studies of the University of Cambridge*, 1834, pp. 148-152.

[261] Mortenson, T., "The Historical Development of the Old-Earth Geological Time-Scale," *Answers In Genesis*, 8 Aug. 2007 (https://answersingenesis.org/age-of-the-earth/the-historical-development-of-the-old-earth-geological-time-scale/) (emphasis mine).

referring to the same *Discourse on the Studies of the University of Cambridge* by Adam Sedgwick as referred to by Pye Smith, *supra*, in 1867 old earth creationist, Roderick Murchison specifically says, "The" Lyell type "uniformitarian, who would explain every natural event in the earliest periods by reference to the existing conditions of being, is … stopped …" by the "general principles of destructions and renovation," "the violence of which … operations infinitely surpassing any changes of which the historical era affords examples" i.e., he adopted the same basic view of a succession of geological worlds as the old earth creationists, Cuvier, Sedgwick, and Buckland. Thus some eight years after Darwin's *Origin of Species* (1859), this old earth creationist, Sir Roderick Murchison, also refers to the "proof of a distinct creation" at various geological layers. In support of which Sir Roderick further refers to "such eminent writers for numerous evidences of the grandeur intensity of causation in former epochs" as e.g., "Cuvier, … Buckland, Conybeare, De la Beche, … Élie de Beaumont, … Sedgwick, … and many others[262]."

Without now entering a more fulsome critique of Mortenson's article which is a mix of accurate and inaccurate statements, Mortenson's claim that "Sedgwick never once attempted to show how" an "old earth" model and "the Bible" "could be harmonized," is not correct. That is because he was a Global Earth Gap Schoolman who as noted above, said in his 1834 *Discourse on the Studies of the University of Cambridge*, that there was an undefined "interval" of time "between the first creation of the earth and that day in which it pleased God to place man upon it;" and he likewise said in 1844, "The first two verses" of Genesis, refer to "God the Creator of all material things." "After the first verse there is a pause of vast unknown length, and here I would place the periods of our geological formations[263]." And so too, Mortenson's claim that "Sedgwick" ended up "embracing Lyell's uniformitarianism" is once again highly inaccurate.

In fact, Adam Sedgwick turned his adroit old earth creationist mind to the anti-supernaturalist and naturalistic uniformitarian claims of Lyell and Darwin which, like the young earth creationist claims, he also described as "folly." Unlike Lyell and Darwin, Sedgwick held that "nature" also exhibits an invisible "moral" and "metaphysical part" in addition to the visible "physical" part, and said, "A man who denies this is deep in the mire of folly" (compare the Apostle Paul who said of such persons, "professing themselves to be wise, they became fools," Rom. 1:22). As an old earth creationist, Sedgwick certainly accepted that there was a certain uniformity in nature, and that this is clearly evident in secondary laws or secondary causes of nature in the physical world. But Sedgwick also recognized that while these secondary causes constitute God's *usual* way of working in nature, there are also *primary laws* or *primary causes* in which God acts *supernaturally* and departs from the established order of nature to produce an *unusual* or *extraordinary* effect. All miracles are examples of these *unusual* effects, and

---

[262] Murchison, R.I. *Siluria*, John Murray, London, UK, fourth edition, 1867, pp. 477,488-489. See my wider relevant reference to Murchison's *Siluria* (4th edition 1867) in Part 2, Chapter 5, section b, *infra*.

[263] Clark, J.W. & Hughes T.M., *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 2, p. 79.

with respect to science, God as the First Cause is an example of a primary cause, and his creation of creatures is another example[264]. By contrast, Lyell, and later Darwin, sought to develop a form of uniformitarianism that denies the supernatural element of the uniformitarianism that we do have (Ps. 119:90,91; see Part 2, Chapter 3, section c, on Thomas Chalmers, *infra*), and additionally reduced science to just secondary causes, thus denying the primary causes of the Creator as e.g., seen in the creation of various creatures.

The basic claim of Lyell that one can look at the forces at work today to determine the forces at work in geological history fails to recognize that we are not presently in e.g., a period of a Divine catastrophe destroying a world, or a following period of Divine creation of new parent stock creatures in a new world after a large number from a former world have been wiped out. Thus Sedgwick's critique of Lyell's anti-supernaturalist uniformity with an old earth creationist supernatural uniformity, involved the fact that Lyell failed to recognize that in the geological record there are some much greater magnitude forces evident in the past, that anything we see today. For the geological record shows the power of God, that *he can create, and he destroy*[265].

Shortly after Lyell's *Principles of Geology* were first published, Sedgwick rejected Lyell's naturalistic or anti-supernatural hypothesis of uniformitarianism. Writing in 1831, Sedgwick said, "According to the principles of Mr. Lyell, the physical operations going on, are not only the type, but the measure of intensity, of the physical powers acting on the earth at all anterior periods: and all we now see around us is only the last link in the great chain of phenomena, arising out of uniform causation, of which we can trace no beginning, and of which we can see no prospect of an end." Certainly "we all allow, that the primary laws of nature are immutable - that all we now see is subordinate to those immutable laws - and that we can only judge effects which are past by the effects we behold in progress." "But to assume that the secondary combinations arising out of the primary laws of matters, have been the same in all periods of the earth, is an unwarrantable hypothesis with no *a priori* probability." "If the principles" of Lyell "I am combating be true, the earth's surface ought to present an indefinite succession of

---

[264] Compare Berkhof's *Systematic Theology*, p. 177.

[265] Davis A. Young & Ralph Stearley, *The Bible, Rocks and Time: Geological Evidence for the Age of the Earth*, Intervarsity Press, Downers Green, Illinois, USA, USA, 2008, p. 110; citing A Sedgwick, "Vestiges of the Natural History of Creation," *Edinburgh Review*, Vol. 82, 1845, pp. 1-85; Rudwick, *The Meaning of the Fossils*; Michael Ruse, *The Darwinian Revolution: Science Red in Tooth & Claw*, Chicago University Press, Chicago, Illinois, USA, 1979; James A. Secord, *Victorian Sensation*, Chicago University Press, Chicago, Illinois, USA, 2000 (http://books.google.com.au/books?id=TRKtFWlSrRsC&pg=PA110&lpg=PA110&dq=john+phillips+1800-1874+creation+evolution&source=bl&ots=ryMSlF_Nkw&sig=YW_cUZAURf8aIO8rAdqQUSNT_ws&hl=en&sa=X&ei=aVTXUfrRKOfOiAef_IHwAQ&ved=0CC8Q6AEwAQ#v=onepage&q=john%20phillips%201800-1874%20creation%20evolution&f=false).

similar phenomena. But as far as I have consulted the Book of Nature, I would invert the negative of this proposition, and affirm, that the earth's surface presents a definite succession of dissimilar phenomena. If this be true," "and if it be also true, that we know nothing of secondary causes, but by the effects they have produced then" Lyell's principles of geology such as "'the undeviating uniformity of secondary causes,' the 'uniform order of physical events,' 'the invariable constancy in the order of nature,' and other phrases of like kind, are to me, as regards the phenomena of geology, words almost without meaning. They may serve to enunciate the propositions of an hypothesis" put forward by Lyell, "but they do not describe the true order of nature."

In response to this, Lyell said, "Sedgwick's attack is the severest, and I shall put forth my strength against him in the second volume[266]." Then in his second volume of *Principles of Geology* (1832), Lyell first criticized "the Huttonian theory" of William Hutton who first established the theory of uniformitarianism with his dissertations in 1785 and 1788, *supra*. Lyell said that in his "view" one of Hutton's "principle defects" was "the assumed want of synchronism in the action of the great antagonistic powers, the introduction, first of periods when continents gradually wasted away and then others when new lands were elevated by violent convulsions." In this context, he also opposed the view of the earth held by Adam "Sedgwick" "who saw 'feverish spasmodic energy during which her very frame is torn asunder ... followed by mighty waves desolating whole regions of the earth' and, according to some authors, whole races of organic beings are thus suddenly annihilated[267]" i.e., the type of creationist view found in an old earth creationist Gap School model of a succession of worlds in the time-gap between the first two verses of Genesis (Gen. 1:1,2; 2:4; Heb. 1:2; 11:3). In short, Lyell drew a contrast between uniformitarianism (himself) and uniformitarianism interspersed by catastrophism (Hutton & Sedgwick).

Lyell's type of criticism was clearly a general attack on the old earth creationist model of e.g., Cuvier and Sedgwick. On the one hand, I would agree that their creationist models were not perfect, and needed some further refinement on them. But on the other hand, in broad overview they had the correct picture of earth's geological history as showing supernatural catastrophism ending one geological world, followed by supernatural creationism in the creation of another world, over a succession of geological worlds, and so Lyell clearly threw the baby out with the bathwater with his anti-supernaturalist uniformitarianism. On the specific point raised by Lyell, I note that though the action of "mighty waves desolating whole regions of the earth" is rare, it is not unknown in local context, for example, the flooding of the Persian Gulf region during the period of about 130,000 to 70,000 years ago which possibly, though not definitely, may constitute the pre-Adamite local flood described in Genesis 1:2. Moreover, on the general issue raised by Lyell in his attack on Sedgwick, there can be no doubt that the

---

[266] Clark & Hughes' *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 1, pp. 368-70; Vol. 2, p. 357 (emphasis mine).

[267] Lyell, C., *Principles of Geology*, John Murray, London, UK, Vol. 2, 1832, pp. 196-7; quoting Professor Sedgwick's Anniversary Address of 1831, p. 5.

geological record supports the proposition of uniformitarianism interspersed by catastrophism (Hutton and Sedgwick) usually in *local* contexts, although e.g., the dinosaur extinction at the end of the *Cretaceous World* in the *Mesozoic Age* from 245 million to 66.4 million B.C. shows a clear example of a *global* catastrophe.

Darwin also later followed Lyell's erroneous uniformitarianism which is a mix of truth and error, since there is a good deal of uniformitarianism in the geological record, although contrary to Lyell's claims, this does not indicate anti-supernaturalism (Ps. 119:90,91; see Part 2, Chapter 3, section c, on Thomas Chalmers, *infra*.) Thus in order to explain the "abrupt manner in which whole groups of species suddenly appear in certain formations," which "has been urged by several palaeontologists, for instance, Agassiz, Pictet, and by none more forcibly that by Professor Sedgwick, as a fatal objection to the belief in the transmutation of species," Darwin argued for a *macroevolution of the gaps* based on an imperfection in the geological record, a large planet, and long periods of time. Therefore in his closing chapter of *Origin of Species* (1859) Darwin ruled out "special creations" by "the Creator," and with it any possibility of catastrophism ever destroying life, saying, "As all the living forms of life are the lineal descendants of those which lived long before the Silurian epoch" (438-408 million years ago), "we may feel certain that the ordinary succession by generation has never once been broken, and that no cataclysm has desolated the whole world. Hence we may look with some confidence to a secure future of equally appreciable length. And as natural selection works solely by and for the good of each being all corporeal and mental endowments will tend to progress towards perfection[268]."

This is a very circular argument since it first presumes that "all the living forms of life are" "lineal descendants" from "long before the Silurian epoch." By contrast, in Whewell's 1831 critique of Lyell's uniformitarianism that undergirds Darwinism, Whewell noted that the earth's history shows "the manifestation of powers more energetic and extensive than those which belong to the common course of every day nature," so one can speak "of a break in the continuity of nature's operations, of the present state of things as permanent and tranquil, the past having been progressive and violent." In this context, Whewell made specific reference to "the obliteration and renewal of a whole creation" with geological evidence "from a creation in which scarcely one species of animal (if one) was identical, with those which now live[269]." Unlike the Lyell-Darwin type of anti-catastrophism, and like the Sedgwick-Whewell's type of catastrophism, we now have the clear evidence of the dinosaur extinction about 64 million B.C. . But in order to maintain the core Lyell-Darwin hypothesis of uniformity, Darwinian macroevolutionists have made the bizarre claim that the world of great birds that came into existence after the dinosaur extinction indicates that these and other birds macroevolved from dinosaurs.

---

[268] Darwin's *Origin of Species* (1859), see chapter 9, "On the imperfection of the Geological Record" & chapter 14, "Recapitulation & Conclusion."

[269] Whewell, W., "Lyell - Principles of Geology," *British Critic*, Vol. 17 (1831), p. 190.

I think a more candid approach is to say that the dinosaur extinction destroys the Lyell-Darwin notion of uniformity which is manifested in the claim "that no cataclysm has desolated the whole world." Moreover, the world of birds following the world of dinosaurs indicates a cataclysm followed by a radically dissimilar type of animals well outside the genus of any of the dinosaurs (albeit with some plants and animals surviving from the former world)[270], and so contrary to the Lyell-Darwin theory, this is consistent with the generality of the creationist models of those like the Swiss born American scientist J. Louis Agassiz (1807-1873) of Harvard University, Whewell, Murchison, and Sedgwick, that Darwin attacked in *Origin of Species* on the basis that Lyell's type of anti-supernaturalist uniformity could be used to justify a *macroevolution of the gaps* model for "transmutation of species." Since the Creator clearly acted to make new creatures with parent stocks at the taxonomical level of genus or species or subspecies, for instance, a world of giant birds following the dinosaurs, it is also reasonable to at least allow for the possibility that the antecedent catastrophe was supernaturally rather than naturally induced. Such a possibility becomes a clear fact only if one then looks to the overview of repeated worlds destroyed and new ones created in cycles of cataclysms and new creations, in harmony with the Divine revelation of a succession of "worlds" in Gen. 2:4; Heb. 1:2; 11:3. Hence if by arguing this type of uniformity Lyell thought he had "put forth" his "strength" "against" Sedgwick, then I conclude the strength of Lyell's theory to be *as weak as water*, and so considerably less powerful than the might of Sedgwick.

Then in 1838 Lyell learnt from the *Norfolk Chronicle* of a "lecture" by Sedgwick in which he said, "Various false theories have been adopted by *infidel* naturalists," and "one of these" "was Lamarck's theory," and another, "Mr. Lyell's theory, that the creation of new species is going on at the present time" which was "condemned as rash and unphilosophical." Lyell replied by saying "that to assume that there have been no new creations since man appeared is at least as 'rash and unphilosophical' as" to allow "the possibility of such occurrences," saying that he did not think this theory "capable of proof" but thought it to be only a "possibility." Lyell said he thought Sedgwick must have been misreported in the statement that "I," Lyell "had been classed with infidels" by Sedgwick[271]. However, on the basis that this is consistent with other statements made before and after 1838 by Sedgwick about Lyell's anti-supernatural naturalistic theory of uniformity, I think it fair to conclude that Sedgwick's lecture was in fact fairly reported. Sedgwick here saw the obvious conclusion from Lyell's anti-supernatural naturalistic theory before Lyell had fully realized it himself, namely, that if the geological record

---

[270] The distinction between the Paleozoic Age (540-245 million B.C.), Mesozoic Age (245-66.4 million B.C.), and Cenozoic Age (66.4 million B.C. to Second Advent) is also clearly based on different characteristics of life-forms in the geological record; but many other discontinuities and differences are also evident in the many finer divisions of these three ages, which thus points to many acts of creation over vast periods of time.

[271] Mrs. Lyell (Editor, Charles Lyell's sister-in-law), *Life, Letters and Journals of Sir Charles Lyell*, John Murray, London, UK, 1881, Vol. 2, p. 36.

shows *only* naturalistic principles of uniformity as Lyell was claiming, then it follows that species must have arisen and still be arising, on these naturalistic principles. Hence what Lyell was saying was only a "possibility," was, on Lyell's own principles, the only possibility for the origins of species which must be by some non-supernatural, that is, some "infidel" non-creationist means, and must still be occurring. Thus Sedgwick here showed greater intellectual qualities than those of Lyell in seeing the ramifications of Lyell's anti-supernaturalist uniformitarianism, long before Lyell, and some 20 years before the Darwin-Wallace Theory of Natural Selection in 1858, as then elucidated upon in Darwin's *Origin of Species* in 1859. Thus I think Sedgwick fairly concluded that Lyell's geological principles were, like Lamarck's theory of macroevolution, some of the "false theories" "adopted by *infidel* naturalists."

When Darwin wrote *Origin of Species* it was clear that Lyell's antisupernaturalism had already led him to seriously entertain the transmutation theory. For example, Darwin referred to such "difficulties" as, for example, "our not finding in the successive formations infinitely numerous transitional links between the many species which now exist or have existed" and "the sudden manner in which whole groups of species appear in our European formations;" as "undoubtedly" "difficulties" "of the gravest nature. We see this in the plainest manner by the fact that all the most eminent palaeontologists, namely, Cuvier," "Agassiz, Barrande," "& c; and all our greatest geologists, as Lyell, Murchison, Sedgwick, & c, have unanimously maintained the immutability of species" (as opposed to the non-immutability of such species by some creationists within genre or species or subspecies depending on the creationist in question, e.g., creationist Edward Blyth allowed it for genus or below, but other creationists have limited it to lower levels, with e.g., Agassiz at the most limiting end of creationists). "But I have reason to believe that" "Lyell" "entertains grave doubts on this subject[272]."

In 1859, Charles Darwin sent copies of *Origin of Species* to a number of people for reviews. For example, he sent one to the old earth creationist, John Herschel (1792-1871) who was a notable astronomer, and indeed the son of Sir William Herschel who is regarded as the Father of Modern Astronomy. Commenting on Herschel's review, Darwin says in a letter to Lyell of Dec. 1859, "I have heard … that Herschel says my book 'is the law of higgledy-piggledy,' … this … is evidently very contemptuous …[273]."

So too, in 1859 Darwin sent a copy of his *Origin of Species* to the man he recognized as one of "our greatest geologists," Adam Sedgwick. Sedgwick read the book and said to Darwin in that same year, "I have read your book with more pain than pleasure. Parts of it I admired greatly, parts I laughed at till my sides were almost sore;

---

[272] Darwin's *Origin of Species*, chapter 9, "On the imperfection of the Geological Record," section, "On the sudden appearance of groups … ."

[273] Darwin to Lyell, 10 Dec. 1859, Letter 2757, "Darwin Correspondence Project" (http://www.darwinproject.ac.uk/letter/entry-2575). This is a classic citation by creationists of Herschel's review.

other parts I read with absolute sorrow, because I think them utterly false and grievously mischievous. You have *deserted*" "the true method of induction." "Many of your conclusions are based upon assumptions." "As to your grand principle - *natural selection* - what is it but a secondary consequence of supposed, or known, primary facts? Development is a better word." Now "you do not deny causation. I call (in the abstract) causation the will of God; and I can prove that he acts for the good of his creatures. He also acts by laws which we can study and comprehend. Acting by law, and under what is called final cause, comprehends, I think, your whole principle," that is, *creation by law*. "We all admit development as a fact of history; but how did it come about?" "There is a moral or metaphysical part of nature as well as a physical. A man who denies this is deep in the mire of folly. 'Tis the crown and glory of organic sciences that it *does*, through *final causes*, link material to moral; and yet *does not* allow us to mingle them in our first conception of laws, and our classification of such laws, whether we consider one side of nature or the other. You have ignored this link; and" "you have done your best in one or two pregnant cases to break it. Were it possible (which, thank God, it is not) to break it, humanity, in my mind, would suffer a damage that might brutalize it, and sink the human race into a lower grade of degradation than any into which it has fallen since its written records tell us of its history. Take the case of bee-cells. If your development produced the successive modifications of the bee and its cells," "final causes would stand good as the directing cause under which the successive generations acted and gradually improved. Passages in your book, like that," "and there are others almost as bad," "greatly shocked my moral taste. I think, in speculating on organic descent, you *over*-state the evidence of geology; and that you *under*-state it while you are talking of the broken links of your natural pedigree." "I humbly accept God's revelation of himself both in his works and in his word, and do my best to act in conformity with that knowledge which he only can give me, and he only can sustain me in doing."

Darwin replied in 1859 that while his theory of macroevolution had "shocked a man whom I sincerely honour," and "I am to have encountered your severe disapprobation and ridicule," nevertheless, though "I may have written too confidently," "I have made already a few converts," and that he would continue to expound his macroevolutionary theory of natural selection[274].

Sedgwick's recognition that nature includes a metaphysical and moral element also led him to attack Locke and Paley. For example, in criticizing Locke, Sedgwick said, "If the mind be without innate knowledge, it is also to be considered without innate feelings and capacities - a piece of blank paper, the mere passive recipient of impressions from without? The whole history of man shows this hypothesis to be an outrage on his moral nature. Naked he comes from his mother's womb; endowed with limbs and senses indeed, well fitted to the material world, yet powerless from want of use; and as for knowledge, his soul is one unvaried black; yet has this blank been already touched by a

---

[274] Clark & Hughes, *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 2, pp. 357-9. See my citation of Sedgwick's review in, "Intelligent Design from an Old Earth Creationist Perspective," *Perspectives on Science & Christian Faith*, (2006), Vol. 58, pp. 252-253.

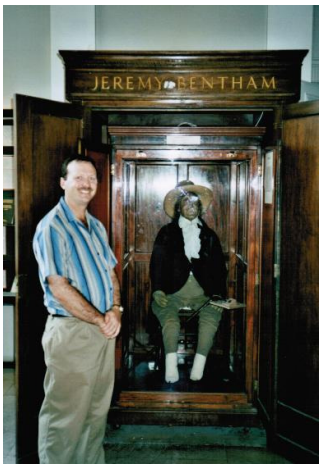
celestial hand, and when plunged in the colours which surround it, it takes not its tinge from accident but design, and comes forth covered with a glorious pattern." This type of natural law in Sedgwick's *Discourses* also came under attack in the same year of 1859 with the reprinting of Mill's earlier attacks on Sedgwick. Clark and Hughes record that the libertine "John Stuart Mill said all that could be said against it in an elaborate article which he afterwards reprinted in his *Dissertations and Discussion* (1859). (Sedgwick's friend, William Whewell, who as President of the Geological Society in 1838 described Sedgwick as a "distinguished ornament" of Cambridge University, also attacked Mill's "System of Logic," arguing "that there are *two* distinct elements in our knowledge, experience, without, and the mind, within. Mr. Mill derives all our knowledge from experience alone." Mill's "experience alone" has some points of conceptual intersection with Lyell's claim that one must find processes in our geological experiences today by which to understand all past geology)[275].

The attack of John Stuart Mill (d. 1873) upon Adam Sedgwick (d. 1873) is quite significant. Mill's nineteenth century libertine views in favour of, for example, sex role perversion (feminism), sexual immorality, and the uninhibited usage of illegal drugs, were successfully opposed at the time in law and society by, for example, Sir James Fitzjames Stephen's *Liberty, Equality, Fraternity*. The principle of Jeremy Bentham (1748-1832) argues for *the greatest overall happiness* as the guiding principle of law, but in turn this is interpreted quite differently as both Fitzjames Stephen (1829-1894) and Mill were Benthamites but in rival schools. (Contemporary Type 2 secular discourse *only* uses Benthamism or utilitarianism in the John Stuart Mill libertine way, and so always makes it anti-Christian morals.) Fitzjames Stephen's type of utilitarianism was generally harmonious with Christian morality, whereas Mill's was not. Mill's type of libertine utilitarianism was revived in the 1950s and 1960s to give philosophical justification in law and society to, for example, miscegenation, feminism, pornography, sexual promiscuity, and the promotion of illegal drugs. Sadly the principle debate between H.L.A. Hart (supporting Mill) and Lord Patrick Devlin (supporting Fitzjames Stephen) was defective in that Devlin's *Enforcement of Morals* made no reference to the historic natural law thought stream that runs parallel with the Divine law thought stream, and failed to advance utilitarian arguments in the Fitzjames Stephen type of Benthamite tradition (two amazing omissions by Devlin!), and so Devlin (d. 1992) inadvertently helped to create the false perception subsequently promoted quite deliberately by the libertines that Mill's and Hart's form of libertine utilitarianism is the only form of Benthamism and has no rivals[276].

---

[275] Clark & Hughes, *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 1, pp. 404-5; referring to Mill, J.S., *Dissertations and Discussions*, London, 1859 in 8 volumes, Vol. 1, p. 95. Reverend William Whewell, President of the Society, Address delivered at the Annual Meeting of the Geological Society of London, 16 Feb 1838, p. 25; Whewell's *Of Induction*, With special reference to Mr. J.S. Mill's "System of Logic," p. 79.

[276] Devlin, P., *The Enforcement of Morals*, Oxford Univ., 1965; Hart, H.L.A., *Law, Liberty, and Morality*, Oxford Univ., 1963. Devlin's argument was premised on a shared cultural commonality historically Protestant Christian derived morals in a

Gavin (right photo) at University College, London, UK, August 2001. Bentham (d. 1832) wanted his body preserved here; but his head rotted (& is now in storage,) with this head in cabinet made from wax by Jaques Talrich (d. 1855).

Thus Sedgwick's understanding of natural law was opposed at the geological and scientific level by Lyell and Darwin, and Sedgwick's recognition that the physical world of nature points to a metaphysical and moral element was opposed by Mill. *Sedgwick saw the significance of such relationships about a hundred years before the general community appears to have done so.* Thus the corrosive effects of Lyell's anti-supernaturalist theory of uniformitarianism and Darwin's macroevolutionary theory of natural selection, first broke the nexus between science and the metaphysical and moral elements; and later, after Darwinism and this type of anti-supernaturalist uniformitarian thinking was well established in university science faculties and schools over about a hundred years, when the libertine philosophy of Mill was promoted in the 1950s and 1960s law and society of the Western World, the foundations having been destroyed, that natural law morality which was harmonious with Biblical morality but which had been argued in terms on natural law (for example, Blackstone, Burke, Fitzjames Stephen), was jettisoned. But *Sedgwick's perceptive mind could see this chain-of-logic result long before it happened*, saying in 1859 that "Were it possible … to break it," which "it is not," but "Were it possible … to break" the nexus of creation to "causation" in "the will of God" in the erroneous thinking of men, then "humanity … would suffer a damage that might brutalize it, and sink the human race into a lower grade of degradation than any into which it has fallen since its written records tell us of its history." We see this in e.g., the abortion slaughter, the promotion of pornography, fornication, sodomy, and many other evils that have occurred under the secular state, as intensified greatly in the post-World War Two era with the Type 2 libertine and "human rights" secularists.

---

homogenous, or largely homogenous white Caucasian society (although at the time he was a Theist of Roman Catholic background, and he later made a death-bed conversion back to the Church of Rome that he had broken with in his younger days).

But *Sedgwick's perceptive mind could see this chain-of-logic result about 90 to 100 years before much of this happened!* Alas, this type of person who can properly understand chains of logic has been removed from the formal academic world since Sedgwick's time, most specially, from the biological and geological sciences starting in the nineteenth century, and more generally across faculties in the post World War Two era, with so called "human rights" empowering those of an intellectually inferior and morally putrid mind to "justify" in their minds the marking down and removal of their intellectual superiors and moral betters. Indeed, most of them are so stupid that they do not even consciously do this, since they lack the requisite intellectual qualities to understand, or appreciate, let alone humbly submit themselves to, such men. The removal from politics and the formal academic world of such persons, e.g., the removal via the "human rights" agenda of those who are by nature governors, and quite rightly under the authority of God's holy book, the Bible; and the general removal of the genuine intelligentsia from the formal academic world, is an example of how we now find that it can be said of them, they are them "of whom the world was not worthy" (Heb. 11:38). The libertine politicians then add insult to injury as they intensify evil through bad legislation e.g., promoting the Darwinian theory as opposed to old earth creationism in the so called "science" classes of secondary schools, anti-racist legislation against white supremacists, anti-sexist legislation against patriarchal sexists, sodomite marriage, and so on, by saying "no-one in the formal academic world disagrees with us."

But such politicians do not requisitely ask, "I wonder why such persons 'just disappeared'?" Or e.g., Why are there so many dysfunctional families? Why is the divorce rate so high? Why are there so many single mothers causing both social problems and placing undue economic burdens on social welfare benefits on society? Why is there no sense of meaningful community in the multi-racial, multi-religious, multi-cultural society of the post World War Two Era? Why are there so many teenage gangs around? What is the relationship between Big Beat music and fornication? In New South Wales, Australia, What is the relationship between a society removing the protections of legal paternalism and tolerating the unbridled lusts of e.g., fornication in the private sphere and feminism in the private and public spheres; and a society removing the protections of legal paternalism and tolerating the unbridled lusts of certain business men as in the public sphere it sells off government bodies such as the New South Wales Electricity Commission (State government) or Commonwealth Bank (Federal Government)? If a government body such as e.g., the Electricity Commission or Commonwealth Bank makes a profit of $100 million per annum, how does this amount of money going into government revenues act to benefit a generally free enterprise society? If this same amount of profit of $100 million per annum is paid to shareholders, given that they will want increased returns for their shares, is it surprising that e.g., electricity prices will keep rising, with various roll on effects of increased prices throughout society as these electricity users increase their prices to pay for the increased price of electricity? If one said to the average person, or a Type 2 secularist academic or politician, "By allowing fornication in the private sphere, you will cause many social problems, and in the public sphere, you will cause unnecessary economic problems with, for example, run away increases in electricity prices," such a person would be likely to sincerely regard the person making this claim as "an alarmist" or "a bigot." What does

this tell us about the type of person in the formal academic world and in the major political parties in Western lands? Why is nobody in the power positions able to macro-manage the economy beyond micro-management matters? Why are there so many millions of abortion murders? Why are there so many illegal drugs users around? Etc. . Or why is it that "the righteous man perisheth, and no man layeth it to heart"? (Isa. 57:1).

For example, in Leviticus 18 God says he will judge Gentile nations that did not have any Divine revelation because they were "defiled" because of: incest, coitus with a menstruating woman, adultery, human sacrifice to an idol, profanation of the name of Nature's God, and sodomy with man and beast. This clearly presumes and requires that such Gentiles were capable by God's common grace, of discerning through reference to nature and godly reason, that, for example, sodomy was immoral (and hence these laws of Lev. 18 are universal, and not simply provincial Jewish civil precepts). The common law historically recognized sodomy (oral or anal) committed with man (either heterosexually or homosexually), or sodomy committed with beast (oral, anal, or vaginal), as *against nature* and so immoral. This is relevant to Sedgwick's profound realization that Lyell-Darwin uniformity produces a warped view of nature which breaks the nexus between the spiritual and moral elements of nature. For example, more than twenty years before Darwin's *Origin of Species* (1859), Lyell was prepared to reduce miracles to nothing more than God's foreknowledge of events, so that he said, "No doubt some people would not like any reasoning which made miracles more reconcilable with possibilities in the ordinary course of the universe and its laws." "They are shocked at the idea of an eruption of a volcano before foreknown, which was to destroy Sodom and Gomorrah[277]." It is not hard to see how this type of thinking goes on to deny the Noachic Flood as a Divine Judgment (II Peter 3:5,6); and since, e.g., under Lyell's anti-supernaturalist uniformitarian principles we cannot today see angels rolling stones, the resurrection story of Christ in which "the angel" "rolled back the stone" of "the sepulchre" (Matt. 28:1,2) would also be dismissed as allegedly "unscientific," as indeed it is by various religious liberals. Furthermore, since Christ used the destruction of Sodom and Gomorrah as a miniature of the Final Judgement (Matt. 10:14,15; 11:23,24; Luke 10:11,12; 17:29,30), it must also result in a denial of the Second Coming (II Peter 3:7).

By contrast, the great English Common Law jurist, Sir William Blackstone (1723-1780), in his *Commentaries on the Laws of England* (1765-9), says sodomy is "against nature," and that "the express law of God" in Leviticus 20:13,15 ("If a man also lie with mankind, as he lieth with a woman, both of them have committed an abomination, they shall surely be put to death," and "if a man lie with a beast, he shall surely be put to death: and ye shall slay the beast"), together with "the voice of nature and of reason," "determine" sodomy "to be" a "capital" crime. "Of which we have a signal instance, long before the Jewish Dispensation, by the destruction of two cities by fire from heaven: so that this is an universal, not merely a provincial, precept." That is, Blackstone considers that nature manifests both a natural element (governed by secondary causes) and a supernatural element (governed by primary causes), so that because their "sin" of

---

[277] Mrs. Lyell, *Life, Letters and Journals of Sir Charles Lyell*, *op. cit.*, Vol. 2, pp. 9-10 (May 1837).

unnatural acts was "very grievous" (Gen. 18:20), as manifested in the fact that "the men of Sodom" wanted to sexually "know" the visitors (Gen. 19:4,5), the destruction of Sodom and Gomorrah in Genesis 19 is God acting as a primary cause in nature i.e., a miracle, showing that sodomy is wrong. Hence because by a supernatural action (or primary cause) in which "the Lord rained upon Sodom and upon Gomorrah brimstone and fire" "out of heaven" (Gen. 19:24), the destruction of these cities is "the voice of nature" thundering against sodomy, hence Blackstone says one can "determine" sodomy "to be" a "capital" crime from "the voice of nature and of reason," and from "the express law of God" in "Levit[icus] xx. 13,15[278]."

On the one hand, I would agree with Blackstone that one can refer to sodomy as a "crime against nature," and that the destruction of Sodom and Gomorrah are "the voice of nature and of reason" declaring this to be a capital offence. But on the other hand, I would qualify this by saying that godly reason requires that while this sentence of execution may be carried out immediately in a society like the Jewish society of Moses' day (Lev. 20:13,15,16), or the Christian society of Blackstone's day, where people are taught that sodomy is "against nature" and "worthy of death" (Rom. 1:26,32); this is not necessarily so. That such a penalty is not necessarily or always required, is evident in the fact that homosexuality was practiced in ancient Rome, and in the New Testament we read that some who were, for instance, "idolaters," "effeminate," and "abusers of themselves with mankind," who were given time and opportunity to repent, and did so. Hence we read of these and other itemized sinners, "such were some of you: but ye are washed, but ye are sanctified, but ye are justified in the name of the Lord Jesus, and by the Spirit of our God" (I Cor. 6:9-11). In my opinion this element of ample and reasonable opportunity to repent was first present in the judgment pronounced against Gentile nations engaging in such practices in Lev. 18, who were therefore not destroyed much earlier.

Thus I agree with Blackstone that sodomy is "against nature" and "the voice of nature and reason" condemn sodomy as seen "by the destruction of two cities by fire from heaven" (primary causes). And St. Jude also says, "Even as Sodom and Gomorrha, and the cities about them in like manner, giving themselves over to fornication …, are set forth an example suffering the vengeance of eternal fire." The contrast between Blackstone's recognition of natural law and nature's voice with God acting as a *primary cause* in the destruction of Sodom and Gomorrah; and Lyell's attempt to reduce the destruction of Sodom and Gomorrah to natural processes *resulting from secondary laws of nature* simply foreseen by God; and over time as Darwinian theory has become more accepted, the loss in large parts of Western society of a horror and repugnance to sodomy, could not be a starker example of Sedgwick's basic criticism of Lyell's anti-supernaturalist type of uniformitarianism breaking the nexus between God's Book of nature and the supernatural, moral, and spiritual elements of nature.

---

[278] Blackstone, W., *Commentaries on the Laws of England*, 1765-9 in 4 volumes, Volume 4 (1769), pp. 215-6.

Thus in parallel to the Book of Divine Revelation; we also see in the Book of Nature that while secondary laws of nature such as Einstein's, Newton's, and other natural laws therefore point to a law-maker and hence a Creator; Einstein's law additionally goes to prove God as a First Cause and thus a specific primary cause. This thus demonstrates that even from the Book of Nature, one cannot, like Lyell or Darwin, simply reduce the workings of nature to secondary causes found in secondary laws *alone*. The claims of Lyell's anti-supernaturalist uniformitarianism, which may be characterized as, *that which is, is that which was, is that which will be*, are shown to be false by e.g., Nature's God as the great First Cause; and Lyell's fundamental misinterpretation of uniformitarianism as shall now be further discussed through reference to Thomas Chalmers.

(Chapter 3) "God created … the earth" (Gen. 1:1):
uniformitarianism & catastrophism:
c] Thomas Chalmers (old earth creationist) verses Charles Lyell's type of anti-supernaturalist uniformitarian.

Unlike young earth creationists who attribute most of earth's geology to a catastrophism that is said to have occurred with a global flood of Noah *c.* 2,500-3,000 B.C., on an earth *c.* 6,000-10,000 years old; old earth creationists consider that uniformitarianism has been the general rule of nature in the universe's and earth's history, although a lesser level of supernatural catastrophism is also recognized as an exception to this general rule. The old earth creationist, Thomas Chalmers (1780-1847), the first Moderator of the Presbyterian *Free Church of Scotland* (1843-1847), and Principal of the *Free Church of Scotland* College which later became *New College* at Edinburgh University (1846-1847), first spoke in favour of a time-gap between the first two verses of Genesis into which fits most of earth's geological history, in his *Remarks on Cuvier's Theory of the Earth* in 1814, although while still regarding it as a valid model he then became reserved about it by 1830, (possibly being influenced by the non-committal comments with regard to an old earth or young earth of Conybeare & Phillips in 1822[279]), before once again clearly endorsing it in his *Natural Theology* of 1835. He discussed the issue of uniformitarianism in a creationist model in a sermon he preached when he was the Minister of St. John's *Church of Scotland* Glasgow between 1819 and 1823[280]. Though he does not specifically refer to Charles Lyell by name, whose *Principles of Geology* was not first published till about 10 years later in 1830, Chalmers nevertheless deals with the issue of Lyell's type of anti-supernaturalist uniformitarianism.

Thomas Chalmers sermon is entitled, "The Constancy of God in His Works an Argument for the Faithfulness of God in His Word." He uses the Bible passage of Ps.

---

[279] See e.g., Chapter 5, section d, subsection ii.

[280] *The Works of Thomas Chalmers*, Complete in One Volume (1830), *op. cit.*, Sermon I, "The Constancy of God in His Works an Argument for the Faithfulness of God in His Word," Ps. 119:89-91.

119:89-91, "For ever, O Lord, thy word is settled in heaven. Thy faithfulness is unto all generations: thou hast established the earth, and it abideth. They continue this day according to thine ordinances: for all are thy servants." Chalmers makes the point that in these verses there is a teaching of dual revelation, "an analogy between the Word of God and the works of God" with regard to the earth; and the fact that it is said of both, "They continue this day according to thine ordinances: for all are thy servants" (Ps. 119:91)[281]. (Cf. Gen. 8:22; Ps. 104:19; Jer. 31:35; 33:25.)

Chalmers recognizes that "in the Book of Nature," we learn that the "constancy of nature is taught by universal experience." E.g., "the order of the seasons, or the mathematical courses of astronomy." Indeed, the "regularity in Nature" "is" "lodged in every bosom" of man as there is a "secure and steadfast confidence in the uniformity of her processes." "We recognize it in the mysteries of vegetation," or in the water cycle, in which we see the "beautiful circulation of the element of water, as it rolls its way by many thousand channels to the ocean, and, from the surface" thereof, "is again uplifted to the … atmosphere – and is there dispersed" in rain, hale, sleet, and snow. "And all goes to impress us with the regularity of Nature[282]."

But Chalmers recognizes that there is a fundamental difference of perception in how such "constancy" or "regularity in Nature" is perceived by the ungodly man and the godly man. For concerning the ungodly man, the "contemplation" of "this," "has at times served to foster the atheism of philosophers. It has led them to deify Nature, and to make her immutability stand in the place of God. They seem impressed with the imagination, that had the Supreme Cause been a Being who thinks, and wills, and acts as man does, on the impulse of a felt and a presence motive, there would be more the appearance of spontaneous activity, and less of mute and unconscious mechanism in the administrations of the universe. It is the very unchangeableness of Nature and the steadfastness of those great and mighty processes wherewith no living power that is superior to Nature, and is able to shift or to control her, is seen to interfere – it is this which seems to have impressed the notion of some blind and eternal fatality on certain" "deluded" "men." "And, accordingly, in France, where the physical sciences have, of late," as at about 1820, "been the most cultivated, have there also been the most daring avowals of atheism. The universe has been affirmed to be an everlasting and indestructible effect[283]." The presence of Lamarckian macroevolutionary theory was much stronger in France at this time than in the United Kingdom. Of course, since Chalmers preached this sermon in 1820, since the claim of these French atheists around 1820, there has been a recognition that the universe has a beginning with the Big Bang, in accordance with the teaching of Genesis 1:1, "In the beginning God created the heaven …" (see Part 2, Chapter 2, section a, subsection i, *supra*). But this does not undermine

---

[281] *Ibid.*, p. 371.

[282] *Ibid.*, pp. 372,379.

[283] *Ibid.*, pp. 372-373.

Chalmers basic point that the "regularity in nature" and "unchangeableness of Nature" can underpin the ungodly man's antisupernaturalism and atheism.

Furthermore, Chalmers says that "this atheistical impression that is derived from the constancy of Nature, is not peculiar to the disciples of philosophy." "Nature in fact is personified into God: and as we look to the performance of a machine without thinking of its maker, so the very exactness and certainty, wherewith the machinery of creation performs …, has thrown a disguise over the agency of the Creator. Should God interpose by miracle, or interfere by some striking and special manifestation of Providence, then man is awakened to the recognition of him. But he loses sight of the Being who sits behind these visible elements." And "we need not go to the schools" of philosophy which deal in such ungodly formal logic that draws such inferences[284], "in the quest of this infidelity, but may detect it in the bosoms of simple and unlettered men, who, unknown to themselves, make a god of Nature, and just because of Nature's constancy; having no faith in the unseen Spirit who originated all and upholds all [Gen. 1:2; Ps. 104:30; Isa. 32:15], and that, because 'all things continue as they were from the beginning of the creation' [II Peter 3:4]." Such has been the perverse effect of Nature's constancy on the alienated mind of" the ungodly "man[285]."

But Thomas Chalmers then contrasts this with the godly man's perception of the same laws of nature, saying, "let us now attend to the true interpretation of it." "God has, in the first instance, put into our minds a disposition to count on the uniformity of Nature, insomuch that we universally look for a recurrence of the same event in the same circumstances. This is not merely the belief of experience, but the belief of instinct." "The infant who makes a noise on the table with his hand, for the first time, anticipates a repetition of the noise from a repetition of the stroke, with as much confidence as he who has witnessed, for years" such "invariableness." "Or, in other words, God by putting this faith into every human creature, and making it a necessary part of his mental constitution, has taught him at all times to expect the like result in the like circumstances." "The man who leads me to expect that which he fails to accomplish, I would hold to be a deceiver. God has so framed the machinery of my perceptions, … that I am led irresistibly to expect, that everywhere events will follow each other in the very train I have ever been accustomed to observe them[286]."

In commentary on Chalmer's observations here, I would further note that certain moral principles may be adduced from nature by godly reason, for which reason the Apostle Paul says on another matter, "Doth not even nature itself teach you?" (I Cor. 11:14). This is relevant to Chalmer's argument of how "the uniformity of nature" when coupled with man's "belief of instinct" "anticipates a" scientific "repetition" of a given phenomenon, such as "the noise from a repetition of the stroke." That is because the fact

---

[284] Technically called, "ratiocination."

[285] *The Works of Thomas Chalmers* (1830), *op. cit.*, p. 373 (emphasis mine).

[286] *Ibid.*, p. 373 (emphasis mine).

that "God" has put "this faith into every human creature" shows that God is a truthful Being, and so nature teaches us the ninth commandment of the Holy Decalogue, "Thou shalt not bear false witness" (Exod. 20:16; Rom. 2:14,15; 13:9).

Chalmers also draws out from this a Divine Attribute of Almighty God. Thus he says, "when God so sustains the uniformity of Nature," "he is manifesting the faithfulness of his character." "So that, when we behold Nature keeping by its constancy, we behold the God of Nature keeping" nature "by his faithfulness." Thus "the constancy of Nature" "is more especially" "an evidence of his truth." "It is of his 'faithfulness unto all generations' [Ps. 119:90] that mention is" "made – and for the growth and the discipline of your piety, we know not a better practical habit than that of recognizing the unchangeable truth of God, throughout your daily and hourly experience of Nature's unchangeableness[287]."

And in commentary on Chalmer's observations here, I would further note that this "constancy" and "uniformity of Nature" over "generations," shows the Divine Attribute of God's faithfulness in that part of the Second Commandment of the Holy Decalogue which says of God, "And shewing mercy unto thousands of them that love me, and keep my commandments" (Exod. 20:6). One may also add to this the fact that Nature teaches that there is a Creator as seen from e.g., the cosmological and teleological arguments we have already considered in Part 2, Chapters 1 & 2, *supra*, and so one can fairly conclude that idolatry is correspondingly immoral in harmony with that part of the First and Second Commandments of the Holy Decalogue which say, "I am the Lord," "Thou shalt have no other gods before me" (First Commandment, Exod. 20:2,3; commonality of Design points to monotheism, see Part 2, chapter 5, section e); "Thou shalt not make unto thee any graven image, or any likeness of any thing that is in heaven above, or that is in the earth beneath, or that is in the water under the earth: thou shalt not bow down thyself to them, nor serve them" (Second Commandment, Exod. 20:4,5a; Rom. 1:19-23; 2:14,15). And one may further add to this the fact that where miscegenation occurs across secondary race i.e., between Caucasoids, Negroids, Mongoloids, Australoids, and Capoids; that the half-castes, quarter-castes, and octa-castes born of them still show clear race admixture after three or four generations; so that nature here teaches God's displeasure at miscegenation, and in such instances this shows his character in that part of the Second Commandment of the Holy Decalogue which says of God, "for I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me" (Exod. 20:5b). And so we find that Nature itself teaches us the morality of the Second Commandment; but in this process, that element of the Second Commandment which says of God, "And shewing mercy unto thousands of them that love me, and keep my commandments" (Exod. 20:6), may be derived from the constancy or uniformity of nature as recognized by the learnèd Thomas Chalmers of Scotland, and so *this is one of three integral elements from the Book of Nature required to understand how nature teaches the Second Commandment*.

---

[287] *Ibid.*, pp. 373-374.

And I also observe that the constancy of the laws of nature shows the sun and moon are "for signs, and for season, and for days, and years" (Gen. 1:14). Now it is clear that the lunar cycle is about 29 days, and so this is a natural cycle in the moon created by God. It is also clear that there are four seasons in the year, so that nature itself teaches us that 4 is the natural number of division of a God given annual solar cycle. When this is cross-applied to the lunar cycle which is correspondingly rounded to the nearest number divisible by this natural division number of a creation cycle of 4, it is 28 ÷ 4 = 7 days. Thus nature itself teaches us that a weekly cycle of seven days is part of the God of Nature's reckoning. Since the sun, moon, and seasons of the earth are all relevant to this calculation, it follows that this is *a cycle of creation*, and so we should properly *worship the God of creation* in some special way of public worship every seventh day as found in the fourth commandment (Gen. 2:1-3; Isa. 66:23). And whereas nature itself teaches us that this God of creation should be worshipped and not idols, most especially every seventh day, it follows that the name of Nature's God should not be profaned in any irreverent manner, as also found in the third commandment. *For by God's common grace which is not unto salvation, "the Gentiles, which have not the law," may "do by nature the things contained in the law" (Rom. 2:14), as e.g., here seen in the Second, Third, and Fourth Commandments of the Holy Decalogue of Exodus 20.*

We thus find that there is a contrast between the godly and ungodly man with respect to the "constancy" and "uniformity of Nature" over "generations." The godly man perceives that in harmony with the words of Ps. 119:89-91, that the "Lord" "hast established the earth, and it abideth" "according to" God's "ordinances" as one of his "servants;" in the same way that God's Divine revelation "is" "forever" "settled in heaven," and also doth "continue this day according" to God's "ordinances" as one of his "servants." Hence in this dual revelation of the constancy of the Word and Nature, we find that "in remembrance of his promises," "he meets all our anticipations of Nature's uniformity with" "a law that is unalterable[288]." *And in commentary on Chalmer's observations here*, I note that this exhibits *God's character as one that will make a promise and keep it*, and this shows his character in that part of the Fifth Commandment of the Holy Decalogue in which God says, "that thy days may be long upon the land which the Lord thy God giveth thee" (Exod. 20:12), or in the second giving of the Holy Decalogue (Exod. 32:19), "that thy days may be prolonged, and that it may go well with thee, in the land which the Lord thy God giveth thee" (Deut. 5:16; Eph. 6:2,3).

And so Chalmers observes that, "by the constancy of Nature, he hath imprinted upon it the lessons of his own constancy." But then, in a contrast and comparison of the ungodly man and godly man, he further observes: "and that very characteristic wherewith some would fortify the ungodliness of their own hearts, is the most impressive exhibition which can be given of God, as always faithful, and always the same[289]." Thus with reference to Ps. 119:89-91, in a comparison of natural revelation and Divine revelation,

---

[288] *Ibid.*, p. 374.

[289] *Ibid.*

Chalmers recognizes "that the same God who is fixed as to the ordinances of Nature, is faithful as to the declaration of his Word[290]."

Now, "The fool hath said in his heart, There is no God" (Ps. 14:1). And as for the foolish claim of those in "atheism," who "seem impressed with the imagination, that had the Supreme Cause been a Being who thinks, and wills, and acts as man does, on the impulse of a felt and a presence motive, there would be more the appearance of spontaneous activity, and less of mute and unconscious mechanism in the administrations of the universe[291];" Chalmers poignantly asks what would the universe be like if these silly atheists were correct? To which he astutely replies, "The vexatious alternations of command and of countermand … which ever and anon break forth, to the total overthrow of system; the perpetual innovations which none do foresee, and for which, none, therefore, can possibly be prepared – these are not more harassing to the subject, than they are disparaging to the truth and authority of the superior." "Now those very qualities of which the uniformity is the test and the characteristic in the government of any human society, of these also is it the test of Nature. It bespeaks the wisdom, and the authority and the truth of him who framed and who administers. Let there be a 'King eternal, immortal,' and 'invisible,' and let this universe be his empire – and in all the rounds of its complex but unerring mechanism, do I recognize him as 'the only wise God' [I Tim. 1:17]. In the constancy of Nature, do I read the constancy and truth of that great master Spirit, who hath imprinted his own character on all that hath emanated from his power; and when told that throughout the mighty lapse of centuries, all the course both of earth and heaven, have been upholden as before, I only recognize the footsteps of him who is ever the same, and whose 'faithfulness is unto all generations' [Ps. 119:90]." "The present age is only re-echoing the lesson of all past ages – and that spectacle, which has misled those who by 'wisdom' know 'not God' [I Cor. 1:21], into dreary atheism, has enhanced every demonstration both of his veracity and power, to all intelligent worshippers …[292]."

Moreover, Chalmers further says, "Now, it is just because the successions which take place in the economy of Nature, are so invariable, that we should expect the successions which take place in the economy of God's moral government to be equally invariable[293]." And so we should expect this Moral Law to be a code of moral absolutes, such as is set forth in *The Ten Commandments* (Exod. 20:1-17; Rom. 2:14,15; 13:9). This includes such principles of the Decalogue discernable from nature as already itemized, such as, for example, the second commandment, "Thou shalt not make unto thee any graven image, or any likeness of any thing that is in heaven above, or that is in the earth beneath, or that is in the water under the earth: thou shalt not bow down thyself

---

290 *Ibid.*, p. 375.

291 *Ibid.*, pp. 372.

292 *Ibid.*, pp. 376-377 (emphasis mine).

293 *Ibid.*, p. 377.

to them, nor serve them: for I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me: and shewing mercy unto thousands of them that love me, and keep my commandments" (Exod. 20:4-6; Rom. 1:20-23); or the ninth commandment, "Thou shalt not bear false witness" (Exod. 20:16; Rom. 2:14,15; 13:9), *supra*. For "the God of Nature and the God of the Bible, are one;" and we know that "death cometh upon all men, 'for' that 'all have sinned' [Rom. 3:23[294]]." "There is an indissoluble succession here between our sinning and our dying." "The sinner who wraps himself in delusive security – and that, because 'all things continue as they' have done [II Peter 3:4], does not reflect of this very characteristic, that it is indeed the most awful proof of God's immutable counsels, and to himself the most tremendous presage of all the ruin and wretchedness which have been denounced upon him. The spectacle of uniformity that is before his eyes, only goes to ascertain that as God hath purposed, so without vacillation or inconstancy, will he ever perform. He hath already given a sample, an earnest of this, in the awful ravages of death; and we ask the sinner to behold, in the ever-recurring spectacle of … funerals, … the token of that still deeper perdition which awaits him. Let him not think that the God who deals his relentless inflictions here on every son and daughter of the species, will falter there from the work of vengeance that shall then descend on the heads of the impenitent. O, how deceived then are all those ungodly, who have been building to themselves a safety and an exemption on the perpetuity of Nature![295]"

"But," "there is another succession announced to us in Scripture, and on the certainty of which we may place as firm reliance as on any of the observed successions of Nature – even that which obtains between faith and salvation. He who 'believeth in' Christ shall 'not perish, but' shall 'have' 'life' 'everlasting' [John 3:16]." "And thus it is, that what we read of God's constancy in the Book of Nature, may well strengthen our every assurance in the promises of the Gospel." "The faith in Christ, to which we are invited upon earth, has its sure result and its landing-place in heaven – and just with as unerring certainty as we behold in the courses of the firmament, will it be followed up by a life of virtue, and a death of hope, and a resurrection of joyfulness, and a voice of welcome at the judgment-seat, and a bright ascent into fields of ethereal blessedness, and an entrance upon glory, and a perpetual occupation in 'the city of the living God' [Heb. 12:22]." "Look to the promise as equally steadfast, of 'Lo, I am with you always, even unto the end of the world' [Matt. 28:20] – and come … in the like confidence of a fellowship with him, as you would to any of the senses or ordinations of Nature, and in the confidence that there the Lord of Nature will prove himself the same that he has ever been. The 'blood' that was announced many centuries ago to cleanse 'from all sin,' 'cleanseth' still [I John 1:7]. The 'body' which hath borne in all past ages the iniquity of believers, beareth it still [Isa 53:14; II Peter 2:24]. That 'faith' which appropriates 'Christ' and all the benefits of his purchase to the soul, still performs the same office [Philp. 3:9]. And that magnificent economy of Nature which was established at first, and

---

[294] On the universal recognition of the universality of sin to mankind referred to in Rom. 3:23, see Part 2, Chapter 7, section c, "Conscience Morality," *infra*.

[295] *The Works of Thomas Chalmers* (1830), *op. cit.*, p. 378 (emphasis mine).

so 'abideth' [Ps. 119:90], is but a symbol of that higher economy of grace which continueth to 'this day according to' all its 'ordinances' [Ps. 119:91][296]."

Hence on the one hand, Chalmers rightly recognizes through reference to Ps. 119:89-91, in which "the earth" "abideth" as one of the "ordinances" and "servants" of the "Lord;" that "it is because Nature is so fixed, that we apprehend the God of Nature to be so faithful." But on the other hand, given this supernaturalist dimension to such constancy or uniformity, it is perfectly consistent with this to recognize that "in a season of miracle, did the word" of God "take precedency over Nature, but ever since" such creation miracles of God, "hath Nature resumed her courses, and is now proving by her steadfastness, the authority of that, which she then proved to be authentic by her deviations. When the word was first ushered in, Nature gave way for a period, after which she moves in her wonted order, till the present system of things shall pass away, and that faith which is now upholden by Nature's constancy, shall then receive its accomplishment at nature's dissolution[297]."

We thus here see how in the old earth creationist paradigm, the principle of "the constancy of Nature" or "the uniformity of Nature," is supernaturalist; and so it is harmonious with, and indeed demonstrates the correctness of, the concomitant principle of creation miracles when we see "the word" of God "take precedency over Nature." Hence e.g., such supernatural uniformity (Ps. 119:90,91) in which God's laws often make rivers by the slow cutting out of rocks by erosion; is consistent with the fact that there is sometimes supernatural catastrophism in which e.g., God "cutteth out rivers among the rocks" by an earthquake, thus quite rapidly splitting open the earth near a coastline or shoreline to open up a new river (Job. 28:10)[298]; or such supernatural uniformity (Ps. 119:90,91) is consistent with other supernatural acts of God in creation miracles. *Thus the uniformity of nature proves for the godly man who is an old earth creationist, the very opposite of what the ungodly atheistic or Deistic type of model would claim, as seen in the way Lyell's type of anti-supernaturalist uniformity underpins Darwinian macroevolution claims that the general rule of uniformity in nature requires the religiously liberal conclusion that there cannot be any creation miracles.*

Contrary to this type of recognition as here found in Thomas Chalmers sermon of *c.* 1820, there have been attempts by religious liberals to introduce a form of methodological atheism or methodological Deism into "Christian" approaches to science

---

[296] *Ibid.*, pp. 378-380.

[297] *Ibid.*, p. 375.

[298] "He cutteth out (*biqqea'*, active perfect, masculine 3rd person singular, piel verb from *baq'*)," is an active piel verb. In Hebrew, the piel verb with an active voice, is used to express an *intensive* action (Pratico & Van Pelt's *Basics of Biblical Hebrew Grammar*, *op. cit.*, pp. 307-309). And so the picture in Job 28:10 is not one of rivers being cut by slow erosion, but by God's smashing or breaking the "rocks" open such as occurs with an earthquake, in this instance, brought about by direct act of God.

on the basis of such general constancy or uniformity in nature. A more subtle approach is to claim that religious conservatives referring to creation miracles under such terminology as Chalmers uses when he refers to how "God" may "interpose by miracle, or interfere by some striking and special manifestation of Providence[299]," or similar terminology such as "divine intervention," is somehow a denial of God's sustaining power of an allegedly non-miracle universe. This is clearly very false since in the first place it contains an invalid presupposition from religious liberalism, namely, that the universe is a non-miracle universe because of its general constancy or uniformity; and in the second place, religious conservatives do not question God's sustaining power over creation as taught in such passages as Col. 1:17, or the fact that he has created a universe which has a general constancy and uniformity as taught in Ps. 119:90,91.

Typical of this type of nonsense are the claims by the religiously liberal Darwinian evolutionist, Walter Hearn (b. 1926), who in *Being a Christian in Science* (1997), seeks to promote a Deistic model of creation as found at the more liberal end of macroevolutionary theory with his favourable reference to "Howard van Till," who seeks "to champion a … view of … a world created by God with the capacity to do whatever God wants it to do" i.e., what he means is that there are no miracles in the macroevolutionary process[300]. Hearn claims "Fighting words cause needless fights. For example, 'divine intervention' is a phrase that engenders conflict. … Perhaps some reconciliation could be achieved by substituting another phrase, such as 'divine invention' …[301]." By contrast, Chalmers' religiously conservative usage here of the correct understanding of Ps. 119:89-91 routes such methodological Deism which is the same in its methodological view of science as methodological atheism, since Chalmers' recognition of supernaturalist uniformitarianism strikes down the invalid presupposition of such men who claim that the general constancy or uniformity in nature acts to support an anti-supernaturalist model of the universe where such supernatural acts of *Divine intervention* would be out of place with the *Divine invention* of an anti-supernaturalist universe and anti-supernaturalist laws of nature. Rather, when supernaturalist uniformitarianism is recognized in harmony with Ps. 119:90,91, any such supernatural acts of *divine intervention* are simply a different form of the same supernaturalism that more commonly maintains a supernaturalist uniformitarianism. *Thus uniformitarianism and acts of Divine Intervention in e.g., creation miracles, are in fact the two sides of the one supernaturalist coin.* Hence the holy Apostle St. John refers to Christ as Creator, saying, "all things were made by him; and without him was not any thing made that was made" (John 1:3); and the holy Apostle St. Paul refers to Christ as sustainer of the cosmos, saying that "by him all things consist" (Col. 1:17). And thus this is perfectly consistent with e.g., the miracles of Christ recorded in the four gospels (e.g., John 2:1-11), or his resurrection from the dead on the third day (e.g., John 20 & 21).

---

[299] *The Works of Thomas Chalmers* (1830), *op. cit.*, p. 373.

[300] Hearn, W.R., *Being a Christian in Science*, *op. cit.*, p. 75.

[301] *Ibid.*, pp. 74-75; see my comments on Hearn *et al* at Part 1, Chapter 7, section a, subsection iv, "Consideration of the anti-supernaturalist argument of religiously liberal Darwinists."

Thus in the correct perception of supernaturalist uniformitarianism as found in Holy Scripture at Ps. 119:89-91 and rightly propounded upon by old earth creationist, Thomas Chalmers, *supra*, Chalmers finds it no incongruity to also say, "Should God interpose by miracle, or interfere by some striking and special manifestation of Providence, then man is awakened to the recognition of him." Being so "awakened," shall now be further discussed in reference to the critiquing of Lyell's anti-supernaturalist uniformitarianism in connection with the old earth creationist William Whewell (Part 2, Chapter 3, section d, *infra*) and George Cuvier (Part 2, Chapter 3, section e, *infra*).

(Chapter 3) "God created … the earth" (Gen. 1:1):
uniformitarianism & catastrophism:
d] William Whewell (old earth creationist) verses Charles Lyell (anti-supernaturalist uniformitarianism).

Gavin next to a bust of William Whewell (or "Bill Hill"); Library, Trinity College, Cambridge University, UK, Dec. 2003. Old earth creationists William Whewell and Adam Sedgwick were friends.

In his 1831 critique of Lyell's *Principles of Geology* (Volume 1) and 1832 critique of Lyell's *Principles of Geology* (Volume 2), the old earth creationist William Whewell ("Bill Hill")[302] (1794-1866) of Trinity College, Cambridge University, UK, (Professor of Mineralogy, 1828-1832, Professor of Moral Philosophy, 1838-55, Vice-Chancellor, 1842, College Master, 1841-66,) made three basic points in critiquing Lyell's type of anti-supernaturalist uniformitarianism. Written in 1831, I would not agree with all the illustrations Whewell used to demonstrate these three points in his criticism of Lyell's theory, but in broad terms his three basic points remain valid to this day, and so I shall add to them my own examples.

---

[302] This Welsh surname is silent on the letter "w" (twice) and has the "e" pronounced like the English "i" (twice), so that it is pronounced, "Hill."

Whewell's first point is that the earth's history shows "the manifestation of powers more energetic and extensive than those which belong to the common course of every day nature," so one can speak "of a break in the continuity of nature's operations, of the present state of things as permanent and tranquil, the past having been progressive and violent[303]." That is, while there is a general rule of uniformity evident in earth's history, this is not an absolute rule. I think this is clearly seen in the creation of the earth which also shows God as a primary cause since while this planet operates subject to many secondary laws, and has done so for about four and a half billion years, it is clearly very different to any other known planet. Contrary to the principles of Lyell's uniformity, any naturalistic explanation for the earth's origins are intellectually unsustainable. Did God make the earth in part or in whole from pre-existing matter that he had earlier made by one or more processes (cf. Gen. 2:7; 6:7), or was the earth an act of creation *ex nihlo* (cf. Heb. 11:3), or over time was the earth made by some combination thereof? I think the evidence indicates that God certainly used *some* pre-existing matter that he had earlier made in "the generations of the heavens" (Gen. 2:4; cf. Gen. 2:7; 6:7); and certainly the succession of "worlds" "that" "were framed by the word of God" also included some acts of creation *ex nihlo* (Heb. 11:3), "so that things which are seen were not made of things which do appear," e.g., fossil remains show bacteria and blue-green algae in the *Archeozoic World* (3.96 to 2.5 billion B.C.) from *c.* 3.5 billion B.C. . Importantly, a naturalistic process for earth's formation is disallowed by the words of Gen. 1:1, which point to "God" as "maker of heaven and earth" (*Apostles' & Nicene Creeds*). I think the earth's many life support features, and e.g., its tectonic plates, and other features point to Divine Design and thus a Creator. Thus Nature itself teaches us that, "In the beginning, God created the heaven and the earth" (Gen. 1:1).

It was of course in development of Lyell's type of views that Charles Darwin claimed a "scientific" basis for his anti-supernaturalist uniformitarian premised macroevolutionary theory of the origin of species by natural selection. For example, Darwin rejected the creationist model which holds "that a new species should suddenly appear" since if this were so, "it is almost necessary to believe, ... that several wonderfully changed individuals appeared simultaneously within the same district." Of course, most old earth creationists would agree with Darwin in some instances of microevolution of a genetically rich parent stock at the taxonomical level of genus or species or subspecies, in which natural selection acted on mutations that involved either rearrangement or loss of pre-existing genetic material. But Darwin sought to develop this well beyond instances of microevolution within a genus, such as Edward Blyth would potentially agree with. Thus Darwin would not allow e.g., for "transformations as prodigious as … the sudden development of the wings of birds or bats[304]." Darwin's *raison d'être* for this was "our experience." That is to say, "According to our

---

[303] Whewell, W., "Lyell - Principles of Geology," *British Critic*, Vol. 17 (1831), pp. 180-206, at p. 190.

[304] Darwin's *Origin of Species* (6th ed. 1872 - final ed. 1876/8) chapter 7, "Miscellaneous Objections to the Theory of Natural Selection."

experience, abrupt and strongly marked variations occur in our domesticated productions, singly and at rather long intervals of time[305]."

But Darwin's argument based on "our experience" is methodologically unsound for a number of reasons. In the first place, Darwin's "experience" was limited in time. Thus according to his "experience," "species are produced and exterminated by slowly acting and still existing causes, and not [i] by miraculous acts of creation and [ii] by catastrophes[306]." For Darwin there could be no "catastrophes" either in the past or future. Why? Because he presumed on the basis of a limited "experience," that global catastrophes could not happen. Hence Darwin said on the basis of Lyell's type of anti-supernaturalist geological philosophy, "we may feel certain that the ordinary succession by generation has never once been broken, and that no catastrophe has desolated the whole world. Hence we may look with some confidence to a secure future of equally appreciable length[307]." For Darwin, "natural selection" was thus moving the world on an endless "progress toward perfection[308]." But this Darwinian "experience" does not fair well with what is now known about dinosaur extinction *c.* 66.4 million B.C.[309]. or the creation of a succession of worlds on the earth. (See Volume 1, Part 2, Chapter 3, sections e & f, *infra*.)

Whewell's second point in his critique of Lyell's anti-supernaturalist uniformitarianism, is that "the differences of the *temperatures*, which seem to have existed in the former and the present state of the world, are explicable by" a supernatural primary cause[310]. While not denying that many weather changes may reflect *secondary laws* of nature, I think weather changes such as the great ice ages of the Pleistocene seem best explained by reference to God as a *primary cause*[311]. This fact is also relevant to

---

[305] *Ibid*.

[306] Darwin's *Origin of Species* (1859), chapter "Recapitulation & Conclusion."

[307] *Ibid*.

[308] *Ibid*.

[309] See McGrath, G.B. (myself), *The American Journal of Jurisprudence*, Vol. 40 (1995), pp. 229-285 at pp. 260-261, footnote 132.

[310] Whewell's "Lyell - Principles of Geology" (1831), *op. cit.*, p. 194.

[311] Of course, any number of attempted arguments have been put forth, but none convincingly show that this is a natural phenomena. E.g., a combination of factors is sometimes speculated such as: differing combinations of methane and carbon dioxide in the atmosphere; changes in orbit around the sun (Milankovitch Cycles); tectonic plate activity; variations in solar output; impact of meteors; and volcanic eruptions ("Ice Age," *Wikipedia*, May 2013, http://en.wikipedia.org/wiki/Ice_age#Causes_of_ice_ages). But even if one were to isolate e.g., a major volcanic eruption, such as the Toba Eruption in

the linkage of the last ice's ages start *c.* 68,000 B.C., and associated drying up of the Persian Gulf in order either at that time, or sometime thereafter, for the events of the local earth creation of Eden to occur as found in Gen. 1:2b-2:25; as further discussed at Part 2, Chapter 11, "Paradise Lost: So Where Was Eden & How local is local or how small is small? The incomplete fossil record" *infra*.

Finally, *Whewell's third point* in his critique of Lyell's anti-supernaturalist uniformitarianism, is as numerous other creationists have also pointed out, such as e.g., Sedgwick and Murchison, the creation of biological life points to a Creator. This matter that shall be further discussed in Part 2, Chapter 4, *infra*.

Therefore while not all the 1831 examples used by William Whewell's have stood the test of time, and so I choose to use my own examples; nevertheless, it seems that *"Bill Hill's" three basic creationist points have stood the test of time against Lyell's type of anti-supernaturalism uniformitarianism.*

(Chapter 3) "God created … the earth" (Gen. 1:1):
uniformitarianism & catastrophism:
e] George Cuvier et al (old earth creationist): uniformitarianism & catastrophism in the "worlds" or "ages" (Heb. 1:2; 11:3) of Gen. 1:1 & 2:4; creation, not macroevolution – mind the gap.

Old earth creationists reject the young earth theory of an earth that is only 6,000 to 10,000 years old; and generally accept that science can be used to date the geological layers of the earth and build up a picture of plant and animal life in different strata, but consider that science goes beyond its limits when it seeks to interpret geology with macroevolutionary theory. Foundational anti-macroevolutionist old earth creationist scientists include, for example, the French Protestant Christian, George (Georges) Cuvier (1769-1832), who rejected the theory of macroevolution proposed by Lamarck (d. 1829), on the basis that creatures were so well coordinated functionally and structurally that they could not survive the degree of change required by macroevolutionary theory. Or the Swiss born American scientist J. Louis Agassiz (1807-1873) of Harvard University. The son of a Protestant Minister, Agassiz was not himself a Christian and so did not believe in the Biblical account of creation. But he believed in Nature's God, was one of the best informed biologists and geologists of his day, and he repudiated Darwin's *Origin of Species* after it was published in 1859. While Agassiz accepted that some of the ordinary phenomena Darwin listed could bring about extinctions, he simultaneously argued that they could not bring about new species. Thus Agassiz argued that creatures arose due to a series of special creations by God, and saw in anatomical similarities the

---

Sumatra, and allow that this was a contributory factor to the last ice age, this still does not show that it, or a number of other relevant factors, were naturally occurring phenomena.

"associations of ideas in the Divine Mind." Thus he supported the notion of numerous catastrophes over geological time followed by new creations[312].

Not all old earth creationists follow a form of the Gap School. E.g., old earth creationist, Dan Wonderly (d. 2004), refers to the work of "the early Christian paleontologist Georges Cuvier (1768-1832) and his colleagues." Wonderly claims they "were perplexed by … a large number of genera and species of fossil fishes, amphibians, and reptiles [which] were often found in a given stratum or group of strata; but in the stratum or group of stratum next above, most or all of the genera and species found below were not present. Instead, a new assemblage of genera and species were found … . Cuvier and his colleagues saw much evidence in the strata that the … Biblical flood [of Noah] could not have produced this kind of distribution of fossils and that there was too much difference in the maturity and apparent age of the strata for all of them to have been produced within any short time period such as that of the Biblical flood. These observations led Cuvier and his colleagues to suppose that God had allowed a whole series of natural catastrophes to have occurred, bringing about the extinction of the assemblages of vertebrate animals that" were "living (in that area of Europe [where they were examining the geological stratum] at least) repeatedly. They assumed that either a new assemblage of animals became established as a result of migration from other areas, or from special new creations by God, after each extinction occurred. This is not a hypotheses which we" non-gap school old earth creationists "would want to adopt today, but Cuvier did not have the benefit of modern sedimentological research. He and his colleagues were continuously careful during their studies, not to violate the Genesis account of creation or to adopt [macro]evolutionary philosophy" (such as taught by Lamarck). "In Cuvier's time even the science of paleontology and oceanography were very poorly developed, so even the determination of whether the sediments and fossils had been deposited by fresh water or by salt water was impossible" (and thus e.g., one might then still argue for a series of global floods). "This and many other principles of deposition and lithification have now been so frequently observed occurring in natural freshwater and saltwater environments that sedimentologists have a rather full understanding of these principles. These and other geological discoveries have done much to deliver Christians" of "past" "generations from the extraBiblical superstitions and unreasonable explanations regarding the origin of the earth's sedimentary strata and fossil assemblages which have been commonly held[313]."

---

[312] *Encyclopaedia Britannica CD99*, *op. cit.*, Agassiz (Jean) Louis (Rodolphe); Ramm, B., *The Christian View of Science and Scripture*, Paternoster, London, UK, 1955, pp. 130-1; Numbers' *The Creationists*, pp. 6-8,82.

[313] Wonderly, D.E., "Can we easily determine the 'plain, literal sense' of all parts of Genesis One?," May 1990, p. 3 (emphasis mine); *Interdisciplinary Biblical Research Institute* (IBRI), USA (website: http://www.ibri.org/; Wonderly subdirectory, "Daniel E. Wonderly Memorial Library," http://www.wonderlylib.ibri.org/ at http://www.wonderlylib.ibri.org/90-literalsenseGen/README.htm).

I consider that Wonderly here is *overly critical of Cuvier*, with the result that he *fails to spot the wood from the trees*. To some extent this appears to relate to Wonderly's adoption of a Day-Age School model as opposed to a Gap School model which looks to catastrophes and new creations in a succession of "worlds" (Heb. 1:2; 11:3) in the "generations of the heavens and of the earth" (Gen. 2:4) in the time-gap between the first two verses of Genesis 1. "Cuvier … and his colleagues" "were" not, as Wonderly claims, "perplexed by" the "fossil" "stratum" picture; and nor could they be said to just "suppose" and have simply "assumed that either a new assemblage of animals became established as a result of migration from other areas, or from special new creations by God, after each extinction occurred." Rather, they considered that this was a natural reading of the fossil stratum, and so used it as their old earth creationist model. This was quite valid, since it had a predictive quality that new creatures in new worlds would be found following a destruction, or a large destruction, and subsequent work on more and more geological layers in more and more places of the globe, unknown to Cuvier and his colleagues at that time, have shown a similar picture.

Furthermore, Wonderly considers that from "the benefit of modern sedimentological research," he has successfully critiqued Cuvier's succession of multiple worlds view that is used in a gap school model, *because the sediments were not laid down in a succession of major global or local catastrophes such as those ending one world and starting another*, but rather, in the ordinary course of uniformitarian principles. But I consider that this is an inadequate and superficial critique of Cuvier's creationist model by Wonderly. On the one hand, Wonderly is certainly correct to say that the depositions do not, at least in general, result from a series of catastrophes such as those that ended one world and started another; but on the other hand, they still bespeak of various *local catastrophes* which may or may not have been brought about as supernatural acts of God; and in some instances, such as the mass extinctions at the end of the *Paleozoic Age* (*c.* 540-245 million B.C.) or *Mesozoic Age* (*c.* 245 million to 66.4 million B.C.), the fossil record captures a record of the mass extinction event, followed by the sudden appearance of quite different life forms created by Almighty God.

Furthermore, on the one hand, the depositions between different worlds, (as opposed to those inside a given world,) generally appear to have occurred *after* God had destroyed, or partly destroyed one world, and created another world; but on the other hand, in harmony with Cuvier's Gap School view they still *testify of a succession of worlds* created by God, in which he sometimes brought over some of the creatures from a former world, which he put together with new species he had created. Therefore, *the fossil layers do not necessarily date the destruction event, but simply show the destruction occurred sometimes between the two geological layers of different worlds.* Certainly this is a qualification to, and necessitates a revision of the basic Cuvier derived model of earth's geology for anyone who was claiming on the basis of Cuvier's work that the geological layers *only* recorded major cataclysmic destructions ushering out one world and ushering in another, or in some other way being a Divine cataclysm on a given world. Anyone claiming that this is what formed *every* geological layer would not be correct. Such an old earth creationist claim would have *some* obvious similarities to the young earth creationist *Flood Geology School* model of Price, Whitcomb, Morris *et al*,

although amidst other dissimilarities it would always look to multiple Divine cataclysms to account for *all* the geological layers (other than the most recent ones), whereas the young earth creationist flood geology school model looks to just *one* such Divine cataclysm to account for *all* the geological layers (other than the most recent ones of the Holocene).

Not only is any claim on a Cuvier derived model of earth's geology that each geological layer was brought about by a catastrophe ending one world and starting another incorrect from the fact, not mentioned by Wonderly, that there may be two or more layers formed from the same world; but also more generally, from the broad point made by Wonderly as to what we now know about how various depositions are formed. *But I endorse a revised old earth creationist Gap School model which includes the data referred to by Wonderly on how depositions are formed, but which still keeps in tact the fundamental Gap School idea of the basic Cuvier derived model as developed by Chalmers, of a succession of worlds being evident in the fossil record. This Gap School model endorsed in this work, also includes in it the idea that one world might sometimes be destroyed in "a slow burn" way over time, and another world might be very largely destroyed on "a fast burn" way such as with the destruction of the dinosaurs and ending of the Cretaceous World* (144 to 66.4 million B.C.). Thus on the one hand, Wonderly's critique of Cuvier makes an important point on how depositions are formed. But on the other hand, Wonderly's critique of Cuvier is an over-kill, since he is claiming far more for this enhanced knowledge of depositions than what is warranted in terms of critiquing the basic Cuvier derived Gap School model of a succession of "worlds" (Heb. 1:2; 11:3) evident in the geological layers containing "the generations … of the earth" (Gen. 2:4) in the time-gap between the first two verses of Genesis 1.

Moreover, Wonderly's reference to uniformitarian geological principles acting "to deliver Christians" of "past" "generations from the extra-Biblical superstitions and unreasonable explanations regarding the origin of the earth's sedimentary strata and fossil assemblages which have been commonly held;" embraces a form of anti-supernaturalist secular uniformitarianism, as opposed to the Biblical form of supernaturalist uniformitarianism (Ps. 119:91; cf. Gen. 8:22; Ps. 104:19; Jer. 31:35; 33:25), as later developed with reference to Cuvier's work by the old earth creationist Gap Schoolman, Thomas Chalmers[314]. Thus to say that the sediments revealing a succession of worlds as broadly considered by Cuvier, did not have their sudden destruction captured in "a snap shot" type "photo" in the geological record, with *the very catastrophe that destroyed that world being found in the geological layers* and thus an idea of e.g., "multiple catastrophic floods," should not in any way move the true Gap School Christian away from still seeing God's hand in the supernaturalist uniformitarianism of sedimentology capturing "a snap shot" type "photo" in the geological record *sometime after this or that catastrophe destroyed the local or global world being found in the previous geological layer,* with

[314] See Part 2, Chapter 3: "'God created … the earth" (Gen. 1:1): uniformitarianism & catastrophism," section c, "Thomas Chalmers (old earth creationist) verses Charles Lyell's type of anti-supernaturalist uniformitarianism," *supra*.

God then creating new species, and also generally bringing over some species from the previous world, into the new successive world. Thus Wonderly's critique of Cuvier is overly critical of the old earth creation model being used by Cuvier, since while his critique contains some valuable material for the purposes of showing that Cuvier's model clearly requires modification in the light of our enhanced understanding of sedimentation; one does not, like the non-gap school following Day-Age Schoolman, Wonderly, need to "throw the baby out with the bathwater." That is because, Cuvier's broad general model of creation i.e., a succession of worlds created by God being evident in the fossil record, still stands up as a valid creationist model used by Gap Schoolmen such as myself; as constituting a reasonable understanding of a what is understood to be a recorded in the Book of Nature for a succession of "worlds" (Heb. 1:2; 11:3), containing "generations … of the earth" (Gen. 2:4) in the time-gap between the first two verses of Genesis.

Furthermore, in addition to the fact that not all old earth creationists follow a form of the Gap School, the broad Gap School is further divided into multiple sub-schools. For example, I entirely repudiate the later notions of Gap School advocates such as e.g., Pember or Custance, which seek to link the fall of angels with the time-gap between the first two verses of Genesis. However, the Gap School teaching of there being multiple "worlds" or ages (Heb. 1:2; 11:3) found in the geological ages of the earth is certainly part of the model argued for in this work. The Gap School's linking of the Divine Revelation found in Scripture with the geological record found in the Book of Nature, benefited greatly from the great French Huguenot Protestant scientist, George Cuvier. He was clearly an old earth creationist since he rejected the macroevolutionary theory of Lamarck (1809) and Geoffroy (1825 and 1830), arguing instead that species were so well coordinated functionally and structurally that they could not survive much change. His *catastrophism* interpreted earth's geology as a series of cataclysms. Though the scope of the catastrophism would now be deemed less than on Cuvier's model i.e., a lot more local catastrophes and non-catastrophic laying down of sediments in local rather than global regions, nevertheless, this is still the type of view found in the Gap School.

Thomas Chalmers first spoke in favour of a Gap School model in his *Remarks on Cuvier's Theory of the Earth* in 1814, and while still regarding it as a valid model he then became reserved about it by 1830, (possibly being influenced by the non-committal comments with regard to an old earth or young earth of Conybeare & Phillips in 1822,) till he again clearly endorsed it in his *Natural Theology* of 1835. In time, he further developed the catastrophism model of the Lutheran "Cuvier," dividing Gen. 1:1 into multiple "eras of" "history," and thought "an occasional species may have survived one or two of these destructive revolutions," yet "each catastrophe annihilated the great majority of the existing genera," and was followed by new creations with "distinct origins." But "in none of the old formations" was "the human skeleton - marking the recent origin of our own species[315]."

---

[315] Chalmers, T., *Natural Theology*, 1835; in *Chalmers' Works*, Constable, Edinburgh, 1853, Vol. 1, pp. 240,245,249-51 (cf. Wylie., J.A., *Disruption Worthies*, A Memorial of 1843, Thomas Jack, Edinburgh, 1881, pp. 153-160); Encyclopedia Americana, Americana Corporation, Connecticut, 1978, Vol. 8, "Cuvier," p. 360.

Chalmers basic Gap School development on Cuvier's work, in which the geological record is understood to picture a series of catastrophes destroying one world and "the great majority of the existing genera," - or as revised, at least a very substantial number of them; followed by a new world, albeit one in which a number of creatures – as revised, parent stocks at the taxonomical level of genus or below which may then microevolve within their genus either by natural selection microevolution or God guided Theistic microevolution; and some from the old world "have survived" such "destructive revolutions;" is the "broad-brush" picture which remains the basic reading of the geological record for followers of the Gap School such as myself. As already discussed, Chalmers basic Cuvier derived model of earth's geology, is now revised and modified by better scientific knowledge e.g., of sedimentation processes, *supra*. Thus though these and other qualifications and refinement, *supra* & *infra*, must now be made to the basic Cuvier (d. 1832) derived model of earth's geology; in its broad-brush terms it was still the basic geological creationist model and argument of old earth creationists such as e.g., Buckland (d. 1856), Murchison (d. 1871), and Sedgwick (d. 1873), that Darwin (d. 1882) was never able to successfully deal with, as he wandered into *arguments from geological silence* which are contrary to the laws of genetics; and it is still the basic geological creationist model and argument of old earth creationist Gap Schoolmen such as myself.

And although Darwin overstates the matter, he was closer to the mark when he said "palaeontologists" such as "Barrande" (d. 1883) and "geologists" such as "Murchison," were examples of old earth creationists who as at 1859 maintained catastrophism in a more modest manner than some earlier creationist catastrophists, since they did not consider that "<u>all</u> the inhabitants of the earth" had "been swept away at successive periods by catastrophes;" yet even here Darwin overstates the matter in saying the "notion of … successive periods of catastrophes, is … generally given up[316]." Rather, it would be more correct to say the catastrophism of such creationists was more limited in scope that some earlier catastrophists, with more species surviving from one world to the next. E.g., rather than a 100% or near 100% extinction, a Gap Schoolman such as myself would now say that the *Ordovician World* (505 to 438 million B.C.) ended with a great catastrophe with the loss of between 50% and 60% of all marine and land species; or the *Devonian World* (408 to 360 million B.C.) ended with the Divine catastrophic loss of about 70% of species. While in broad terms this is still the old basic model of catastrophism, it is revised, and Darwin recognizes this type of revision as at 1859 by Barrande and Murchison. And as with the earlier over-stated catastrophism, the picture is still one of a new world following by God bringing some creatures across from the old world to the new world, and also creating some new creatures, so that the overall effect is still to make a new world; although in the revised models as earlier developed by e.g., Barrande and Murchison, the percentage of creatures brought over from one world to the next is generally a good deal higher than the "occasional species" of the earlier Cuvier derived Chalmers model which "may have survived one or two of these destructive revolutions," *supra*.

---

[316] Darwin's *Origin of Species* (1859), chapter 10, "On the Geological Succession of Organic Beings," section "On Extinction."

Thus there is clearly a difference in view of what percentage of species survive a catastrophe between some of the older and later old earth creationist catastrophists. Another example of this is the fact that an older type catastrophist such as d'Orbigny (d. 1857) wrongly "came to the conclusion that between the termination of the Tertiary Period and the commencement of the Human or Recent Period [i.e., the Holocene from *c.* 8,000 B.C.], there is a complete break," and "he asserted that there is not a single species common to the two periods." D'Orbigny's view led the Anglican Archdeacon John Pratt (d. 1871) to forsake the Local Earth Gap School he argued for in 1856, for the Global earth Gap School in 1859. By contrast, Lyell who was not a catastrophist, but whose view of the geological record at this point is the same as that of later catastrophists, having read what d'Orbigny said, then "re-asserted" that this was not the case, and that in fact a number of species survived. Lyell's response led Archdeacon Pratt to say in 1871 that he was now non-committal on whether the correct view of Scripture was the Local Earth Gap School which harmonized with what Lyell had said, or the Global Earth Gap School which harmonized with what d'Orbigny had said. Pratt died before a satisfactory resolution had been made on this matter several years after his death by *c.* 1875[317]. But it is now clear that d'Orbigny sometimes overstated the extinction rate from a catastrophe, for instance, looking at *Late Pleistocene II* from the start of the last Ice Age *c.* 68,000 B.C. through to the Holocene *c.* 8,000 B.C., while there were catastrophic mass extinctions from about 50,000 years ago, these were not in the order of 100%, or near 100%, but in North America in the order of about 36% of its larger animals, and in Europe and Asia in the order of about 72% of its larger animals. While these extinctions were big, they were clearly less than 100%. Thus d'Orbigny was extrapolating too much for the difference of the Holocene from local Late Pleistocene II extinctions he saw in the fossil record.

This thus means that the destruction event of the pre-Adamite Flood referred to in Gen. 1:2, when "the earth was without form and void;" followed by the new world of Gen. 1:2b-2:3 in which life-forms come from the Creator's hand suddenly as they are made in periods of less than 24 hours during the six successive 24 hour Edenic creation days of Genesis 1; and *to a lesser extent* the destruction of the antediluvian's "old world" (II Peter 3:5,6) with its Sethite and Cainite human races in Noah's Flood (Gen. 6-8), followed by the new world of post Noachian Flood times with its new human races of Japhethites, Hamites, and Shemites (Gen. 9:25-27; 10); reveals the character of a God that in the geological record shows a similar wider pattern of successive cataclysms followed by new creations. Thus throughout geological history God has, in the words of Chalmers on his basic model derived from "Cuvier," had "destructive revolutions," in which "each catastrophe annihilated the great majority of the existing genera," *or in the revised form of this, a large percentage of them*, and was followed by new creations with "distinct origins" such as occurred in Gen. 1:2-2:3; even though on some occasions "an occasional species may have survived one or two of these destructive revolutions," *or in*

---

[317] See my comments on Archdeacon John Pratt at Part 2, Chapter 5, d, "A scientific critique of the Global Earth Gap School's global pre-Adamite flood & following global six day creation," *infra*.

revision of this, a significantly higher percentage than just "an occasional species" generally survived, what was still a major catastrophic loss of species followed by a number of new creations. Therefore the Biblical picture of "the generations of the heavens and of the earth" (Gen. 2:4) forming a succession of "worlds" (Heb. 1:2; 11:3) in the time gap between the first two verses of Genesis, and the catastrophism of the pre-Adamite Flood in Gen. 1:2a followed by the six day creation of Gen. 1:2b-2:3, is a picture consistent with the character of the Creator as found in earth's geological history.

This geological and Biblical picture is further consistent with a God who has "the heaven and the earth, which are now, by the same word" of his power "kept in store, reserved unto fire against the day of judgment and perdition of ungodly men" (II Peter 3:7). In the words of the *Apostles' Creed* (named after, not written by the Apostles, as it upholds "the Apostles' doctrine," Acts 2:42), "Jesus Christ" "shall come to judge the quick and the dead." Or the words of the *Nicene Creed* (named after, and partly written by, the *Council of Nicea*, 325), "Jesus Christ" "shall come again with glory to judge both the quick and the dead: whose kingdom shall have no end." Or in the words of the *Athanasian Creed* (named after, not written by, St. Athanasius, a defender of Trinitarian orthodoxy who died in 373), "Christ" "shall come again to judge the quick and the dead. At whose coming all men shall rise again with their bodies: and shall give account for their own works. And they that have done good shall go into life everlasting: and they that have done evil into everlasting fire. This is the Catholick Faith: which except a man believe faithfully, he cannot be saved. Glory be to the Father, and to the Son: and to the Holy Ghost; as it was in the beginning, is now, and ever shall be: world without end. Amen[318]."

[318] The Anglican *Book of Common Prayer* (1662), which adds the Gloria Patri to the end of the Athanasian Creed. "The Three Creeds, Nicene Creed, Athanasius's Creed, … and … Apostles' Creed, ought thoroughly to be received and believed: for they may be proved by most certain warrants of holy Scriptures" (Article 8, Anglican 39 Articles).

(Chapter 3) "God created … the earth" (Gen. 1:1):
uniformitarianism & catastrophism:
f] The generally united Gap School view: filling in the blanks in the "worlds" or "ages" of multiple "generations" of Earth's history in Gen. 2:4; Heb. 1:2; 11:3, following the creation of the temporal and spiritual heavens, from the Pregeological World of c. 4.6 billion B.C. to the start of the Last Ice Age c. 68,000 B.C.; creation, not macroevolution – mind the gap.

The United Gap School.

The Gap School can be found in various forms in ancient times (see Volume 2, Part 3). But in its modern form which presents it as a creation model with reference to certain modern scientific discoveries of geology, it may be reasonably dated from the time of Thomas Chalmers (d. 1847) of Scotland in a dissertation of 1814. Since that time, three broad rival forms of the old earth creationist Gap School have been developed which may all trace their modern scientific treatment elements back to Thomas Chalmers' 1814 dissertation. These three schools are sometimes referred to in this work at points of intersecting agreement between one or two of them with the Local Earth Gap School as "The United Gap School." And where the second and third schools are in general agreement, these are sometimes referred to in this work generically as the "Global Earth Gap School," although depending on context, "Global Earth Gap School" may also refer to just the second school. It should also be understood that further diversity exists within each of these three sub-schools of the United Gap School.

The United Gap School:

in its modern forms with some reference to the science of geology.

Thomas Chalmers gives a dissertation in 1814 with reference to "geological" matters.

Local Earth Gap School	*Global Earth Gap School*	*Global Earth "Lucifer's Flood" Gap School.*
This School regards Gen. 1:1 as the universe & globe & then the pre-Adamite flood of Gen. 1:2 as a local flood, and Gen. 1:2b-2:3 as the creation of the local world of Eden in west Asia (Gen. 2:8,10-14). In its modern form with reference to certain modern scientific discoveries of geology, it was first put forth as a creation model by Congregationalist theologian J. Pye Smith (d. 1851) of England, UK. Advocates of it in various rival forms include: the Anglican clergyman and sometime missionary, Henry Alcock (d. 1915); & John Sailhamer (b. 1946), of the *Evangelical Free Church*, USA, a Hebrew scholar. *This is the specific Gap School creation model endorsed in this work, with Eden located in an area now under the waters of the Persian Gulf.*	This School regards Gen. 1:1 as the universe & globe & then the pre-Adamite flood of Gen. 1:2 as a global flood, and Gen. 1:2b-2:3 as the creation of the global world. In its modern form, it was first put forth by Thomas Chalmers (d. 1847). Advocates of its various rival forms include: William Buckland (d. 1856) of Oxford University, UK; & Benjamin Silliman (d. 1864) of Yale University, USA. Advances in geology meant it ceased to be tenable from *c.* 1875. Its last great advocate who could still seriously argue for it *within the known scientific data of his day*, Adam Sedgwick of Cambridge University, UK, died in 1873. *In areas of earth's geology in the time-gap between Gen. 1:1 & Gen. 1:2, this model has points of intersecting agreement with the Local Earth Gap School model endorsed in this work.*	This School regards Gen. 1:1 as the universe & globe, Gen. 1:2 as a global flood, and Gen. 1:2b-2:3 as the creation of the global world. It regards the Gen. 1:1 creation as of a "perfect" world, e.g., no death; followed by one or more ruins & restorations connected with the fall of angels, & Gen. 1:2 as "Lucifer's Flood." It was popularized after scientific knowledge made a global earth gap school untenable from *c.* 1875, by George Pember (d. 1910) from 1876. Advocates include: Cyrus Scofield (d. 1921), Harry Rimmer (d. 1952), Bob Jones Sr. (d. 1968), & Arthur Custance (d. 1985). Though Local Earth Gap Schoolmen regard parts of it as Biblically wrong & pseudo-science, *in its belief of old earth creationism & a long time-gap between Gen. 1:1 & Gen. 1:2, this model has points of intersecting agreement with the Local Earth Gap School model endorsed in this work.*

CHART SHOWING THE TWO MAIN CREATIONIST GAP SCHOOL VIEWS OF GEN. 1:1,2a, UP TILL THE START OF THE LAST ICE AGE.

The Gap School *view endorsed in this work* & followed by the William Buckland type Global Earth Gap School & Pye Smith type Local Earth Gap School: Death *not* related to sin outside of man's world; but is related to human mortality (Rom. 5:12; I Cor. 15:22), and man was created after start of last Ice Age (diverse views on exactly when).

The Beginning (eons ago).

Unknown numbers of multiple "worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4). No specific relationship between earth worlds & angels' habitation or the fall of angels.	Unknown numbers of multiple worlds on geologically old earth created by God "who inhabiteth eternity" (Isa. 57:15), for his good pleasure. For "none can stay his hand, or say unto him, What doest thou?" (Dan. 4:35).	The Last Ice Age (the Wurm) is related to Gen. 1:2 (diverse views on); and to following 6 day creation of Gen. 1:2b-2:3 (diverse views on). This view was either held by, *or is compatible with*, the models of those itemized in next column.	E.g., (though they do not all refer to the Ice Age,) Thomas Chalmers (d. 1847); William Buckland (d. 1856); Adam Sedgwick (d. 1873); Pye Smith (d. 1851); Henry Alcock (d. 1915); & Gavin McGrath (b. 1960).

Another Gap School view followed by the Global Earth "Lucifer's Flood" Gap School: Death always related to sin. This alternative gap school *view is not endorsed in this work* other than where it intersects in agreement with the above Gap School view e.g., both views see an indefinite time gap between Gen. 1:1 & 1:2.

The Beginning (eons ago).

God created "a perfect world" (Bob Jones Sr.) with no death in the original creation. The earth either was (e.g., Curtis Hutson), or may have been (e.g., Bob Jones Sr.), the abode of angels, under Lucifer.	The fall of angels brings sin and death into the world. This may have gone on for millions of ages. Perhaps multiple cataclysms (ruinations) & restorations (re-creations). Length of time unknown.	The Last Ice Age is related to Gen. 1:2; and following 6 day creation of Gen. 1:2b-2:3. This view was either held by, *or is compatible with*, the models of those itemized in next column.	E.g., (though they do not all refer to the Ice Age,) Cyrus Scofield (d. 1921), in the *Scofield Study Bible* (1909); Harry Rimmer (d. 1952); Curtis Hutson (d. 1995); Bob Jones Sr. (d. 1968); & Bob Jones Jr. (d. 1997).

Thomas Chalmers (d. 1847) was first a Presbyterian *Church of Scotland* Minister and teacher at St. Andrew's University and Edinburgh University; but then with the formation of the *Free Church of Scotland* in 1843, he became the First Moderator of the

Presbyterian *Free Church of Scotland* (1843-1847), and Principal of the *Free Church of Scotland* College (1846-1847) which later became *New College* at Edinburgh University. In his dissertation, "Natural and Geological Proofs for the Commencement of our Present Terrestrial Economy" (1835), he first refers to "the non-eternity of our present world" through reference to three different models. Firstly, a *Global Earth Gap School* model in which in "the first chapter" "of Genesis," there "is a great primary act of creation, at how remote a period is uncertain – after which our world may have been the theatre of many changes and successive economies, the traces or memorial of which might be observable to the present day" by "geological" research." On this first view, "the sacred penman does not fix the antiquity of our globe …, and enable us to super-add any geological argument which may be founded on certain characters … in the history of our globe, that are alike recognized by all systems of geology." Secondly, a young earth creationist model in which "the Mosaic account" is "held to supersede all those speculations of geology which would stretch the antiquity … of our earth beyond the period at which man was created." And "thirdly," a model in which "instead of Scripture superseding or harmonizing with geology, geology be held as superseding Scripture, an imagination which of course we disown …[319]."

Then of these three possibilities, Chalmers follows the *Global Earth Gap School*, saying, "Let us offer then a short exposition of this argument with Cuvier's theory of the earth … ." E.g., with respect to the worlds that exist in the gap between the first two verses of Genesis, Chalmers quotes "Cuvier" (d. 1832) with regard to "the different strata … ." For example, "Of the remains of sea animals, he says, 'that their species and even their genera change with the strata; and although the same species occasionally recurs at small distances, it is generally the case that the shells of the ancient strata have forms peculiar to themselves – that they gradually disappear till they are not to be seen at all in the recent strata - still less in the existing seas …'[320]." Chalmers notes that in the fossil record, "the species do not run the one into the other." "Within the limits of a species there might be manifold varieties – but these limits can never be transgressed to the formation of another distinct and enduring species in the animal kingdom." Given that, "There is … no spontaneous generation" of a species; in contrast to the macroevolutionary theory of Lamarck (1809) and Geoffroy (1825 and 1830), "There is no transition of the species into each other." Therefore the geological record means "we can … demonstrate a beginning for any … races in the physiological kingdom," (i.e., "a race" understood on the later Gap School model endorsed in this work as at the taxonomical level of genera or below,) "we … obtain" the "view that" we must interpret the geological data "within the limits of our creation of the fiat of a God[321]." This basic model remains in place, though on the later Gap School model endorsed in this work it

---

[319] Chalmers, T., *Natural Theology*, 1835; in *Chalmers' Works*, Constable, Edinburgh, 1853, Vol. 1, pp. 228-230.

[320] *Ibid.*, p. 233.

[321] *Ibid.*, pp. 244-5 (emphasis mine).

was not "an occasional species" that generally survived but a much higher percentage, though this was still followed by a number of new creatures.

Chalmers also clearly recognizes distinct worlds of the Creator in the geological record. E.g., he says, "in the older formation no vestiges of our present genera are to be found, … or even in the more recent formation, there are no vestiges of the older genera. A few of the earlier species, it would appear, may have survived one or two of those dreadful shocks to which our planet is exposed – but in the whole …, it seems …. that on the one hand there has been an entire destruction of the ancient species, and on the other an entire renovation of species wholly distinct and dissimilar from the former. The older chains of succession have been suddenly terminated, as if broken off at their lower extremities. And the more recent chains, instead of being … traced through the midway passage of a great geological tempest, … the recent chains have after a catastrophe had their first and definite origin. Now the question is, Who or what is the originator? … At no juncture, we apprehend, … is the interposition of Deity more manifest than at this[322]." Concerning "the two first verses in the Book of Genesis … . Between the initial act and the details of Genesis, the world … might have been the theatre of many revolutions, the traces of which geology may still investigate[323]." "We have … endeavored to show, how without any invasion … on the literalities of the Mosaic record, <u>the indefinite antiquities of the globe</u> might safely be given … to naturalists, as an arena … for their … gladiatorship[324]," i.e., as at 1835, though the age of the earth was vast, its "indefinite antiquities" had not yet been safely determined.

William Buckland (d. 1856), was an Anglican clergyman and the *Church of England* Canon of Christ Church at Oxford, Anglican Dean of Westminster in London (1845-1856), and Reader in Geology and Mineralogy at Oxford University in England, UK, where he was appointed Professor of Mineralogy in 1813. An advocate of the *Global Earth Gap School*, he first endorsed what he called "the highly valuable opinion of Dr. Chalmers" concerning "an interval of many ages between" the first two verses of Genesis 1, in 1820[325]. He considered the "first words of Genesis," "'In the beginning God created the heaven and the earth'" (Gen. 1:1) "may be fairly appealed to by the geologist, as containing a brief statement of the creation of the material elements, at a time distinctly preceding the operations of the first day," because "it is nowhere affirmed that God created the heaven and the earth in the *first day*, but in the *beginning*," and "this beginning may have been a epoch at an unmeasured distance, followed by periods of undefined duration, during which all the physical operations disclosed by geology were

---

[322] *Ibid.*, pp. 245-7.

[323] *Ibid.*, pp. 250-1.

[324] *Ibid.*, p. 256 (emphasis mine).

[325] Buckland, W., *Geology and Mineralogy*, As exhibiting the power, wisdom, and goodness of God, 1836, fourth edition edited by F.T. Buckland, Bell & Daldy, London, 1869, p. 15.

going on." He thus thought "millions and millions of years may have occupied the indefinite interval" between the first two verses of Genesis, followed by the "evening or commencement of the first day of the Mosaic narrative," which he understood to be six literal twenty-four hour days, "in which the earth was to be fitted for the reception of mankind[326]."

Adam Sedgwick (d. 1873) was an Anglican clergyman and the Professor of Geology at Cambridge University from 1818 till his death in 1873. In 1844 he stated his support for a time-gap between the first two verses of Genesis into which fits most of earth's geological history. "The first two verses, are" "declaring God the Creator of all material things; and I believe it means, out of nothing, at a period so immeasurably removed from man as to be utterly out of the reach of his conception. After the first verse there is a pause of vast unknown length, and here I would place the periods of our geological formations, not revealed because out of the scope of revelation ...[327]."

Henry Jones Alcock (1837-1915) graduated from Dublin University in southern Ireland in 1864 when it was part of the United Kingdom and the *Church of Ireland* was part of the Established *United Church of England and Ireland*. An Anglican clergyman and sometime missionary, he served as the Principal of the *Church Missionary Society's* Fourah Bay Theological Institute in Sierra Leone, west Africa. A Local Earth Gap Schoolman, he says, "surely we are justified in holding" to "an immense interval between verses 1 and 2" of Genesis 1. "*The Speaker's Commentary* agrees …: 'Countless ages may have elapsed between what is recorded in ver. 1 and what is stated in ver. 2 …' [328]."

John Sailhamer (b. 1946), of the *Evangelical Free Church*, USA, is a Hebrew scholar. He has taught both Hebrew and Old Testament at Southeastern Baptist Theological Seminary, Wake Forest, North Carolina, USA, and Golden Gate Baptist Theological Seminary, Brea, California. A Local Earth Gap Schoolman, in his book, *Genesis Unbound* (1996 & 2011), he considers that the time-gap between the first two verses of Genesis covers billions of years[329].

---

[326] Buckland, W., *The Bridgewater Treatises*, On the power and wisdom and goodness of God as manifested in the creation. Treatise 6, *Geology and Mineralogy considered with reference to Natural Theology*, in 2 volumes, William Pickering, London, 1836, Vol. 1, pp. 20-30 (emphasis mine).

[327] Clark, J.W. & Hughes T.M., *The Life and Letters of the Reverend Adam Sedgwick*, *op. cit.*, Vol. 2, p. 79.

[328] Alcock, H.J., *Earth's Preparation for Man* (1897), pp. 16-17 (emphasis mine).

[329] Sailhamer's *Genesis Unbound* 1st edition, 1996, p. 42; 2nd edition, 2011, p. 46.

Or Curtis Hutson (1934-1995), a Baptist Minister, succeeded John Rice (1895-1980; Founder & Editor 1934-1980) as Editor of *The Sword of the Lord* (Associate Editor 1978-1980 under Editor John Rice; Editor 1980-1995), a Baptist Protestant newspaper based in Tennessee, USA[330]. Hutson used the *Scofield Study Bible* and was an old earth creationist Scofield Global Earth Gap Schoolman. The *Sword of the Lord* is an independent Baptist newspaper historically connected with opposing all forms of macroevolution e.g., in 1961 it condemned "theistic [macro]evolution" being taught "at Wheaton College," USA[331]. The work of the *Sword of the Lord* was also more generally supported by Curtis Hutson's fellow Scofield Global Earth Gap Schoolman, Bob Jones Sr.[332]. Curtis Hutson e.g., referred to a "high star," and said the "third heaven" where "God is" (II Cor. 12:2) is "beyond that" (cf. Isa. 14:13). Since he said this "high star" is "500 million light years away which means it takes 500 million light years for light to travel from that star going 186,000 miles per second;" it follows that he thus believed in an old universe[333]. Furthermore, Curtis Hutson said of the first two verses of Genesis, "There's a gap" "between those verses," "nobody knows how many years," it "could be billions and billions[334]."

Reference was made in Part 1, Chapter 8, section c, "Consideration of violations of the 3rd commandment, 9th commandment, and propagation of schismatic heresies, by those who refuse to 'consider the work of God' (Eccl. 7:13)," *supra*, to the need to "fill in the blanks" of the "worlds" or "ages" in Heb. 1:2 & 11:3. With regard to these "generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. 2:4) of the "worlds" or "ages" (Heb. 1:2; 11:3) in the time-gap between Gen. 1:1 and Gen. 1:2, as well as the "world" outside of Eden in west Asia south of Mesopotamia (Gen. 1:2b-2:3; 2:8-14), reference was made to the fact that we are simply given as it were a series of empty boxes. On the one hand we are told that anything in these empty boxes was "created" by "God" (Gen. 1:1; 2:4), and thus we can safely reject any rival explanations e.g., macroevolution, or the unBiblical details of numerous heathen creation stories in various pagan religions; but on

---

[330] "Curtis Hutson," *Wikipedia* (http://en.wikipedia.org/wiki/Curtis_Hutson); & "The Sword of the Lord" (http://en.wikipedia.org/wiki/The_Sword_of_the_Lord).

[331] Numbers' *The Creationists*, pp. 182 & 397; citing Handford, W., "Evolution at Wheaton College, *Sword of the Lord*, Volume 27, 9 June 1961, pp. 1,10-12.

[332] Johnson, R.K., *Builder of Bridges*, A biography of Bob Jones, Sr., BJU Press, Greenville, South Carolina, USA, 1969, 1982, e.g., pp. 276,285-286,293,306-307,310.

[333] Curtis Hutson's *Demonology*, "Demons Are For Real," audio Computer Discs (CDs), recorded in 1974, CD 3 in the wider series of Hutson's 11 CDs in *Demonology*, Sword of the Lord Publishers, Murfreesboro, Tennessee, USA, 1995 & 2006 (http://www.swordofthelord.com).

[334] *Ibid.*, "The Study of Satan Part 1," recorded in 1974, CD (Computer Disc) no. 1 in the wider series of Hutson's 11 CDs in *Demonology*.

the other hand, we are simply pointed to this series of empty boxes of no specific number and told, "The heavens declare the glory of God; and the firmament sheweth his handywork" (Ps. 19:1); "speak to the earth, and it shall teach thee" (Job 12:8). Hence I concur with the views expressed in the work, *Records of Creation*, as quoted by the creationist writers, Conybeare & Phillips' in *Outlines of the Geology of England and Wales* (1822), "Any … information as to the structure of the Earth ought not … to be expected by anyone acquainted with the general character of the Mosaic records. There is nothing in them to gratify the curiosity or repress the researches of mankind[335]."

For while we are given the detail of creation with regard to Eden's creation in Gen. 1:2b-2:3; by contrast, with regard to these "empty boxes" for the successive "worlds" or "ages" (Heb. 11:3), which includes both the "worlds" between the first two verses of Genesis, and the world outside the boundaries of Eden (Gen. 2:8-14), we must "fill in the blanks" through godly natural law or reason, determining both the number and content of such "worlds" or "ages." In considering the need for appropriate scientific research on the heavens; and appropriate geological research of the earth; one such example was considered in Part 1 with regard to the geological work of old earth creationist, Sir Roderick Impey Murchison (1792-1871) of the UK, who discovered and in 1835 named *The Silurian Age* which dates to *c.* 438-408 million B.C. . He also founded a Chair of Geology & Mineralogy at Edinburgh University in Scotland, the land of his birth; and first established the geological sequence of the Early Paleozoic (540 million to 408 million B.C.). The capital city of Western Australia is Perth, which was named after Perth in Scotland, and the Murchison River of Western Australia was named after the Scotsman, Sir Roderick, in 1839[336].

The existence of a *United Gap School* on the issue of Gen. 1:1,2, has been recognized by opponents of the Gap School. This is seen in the work of young earth creationists, Don Batten, Jonathan Sarfati (pronounced "Sar-forty"), Ken Ham, and Carl

---

[335] Conybeare, W. & Phillips, W., *Outlines of the Geology of England and Wales*, Printed & Published by William Phillips, George Yard, Lombard Street, London, UK, 1822, p. lxi; citing *Records of Creation*, Vol. 2, p. 356. (New South Wales State Library copy, Sydney, Australia, Shelf Mark: RB DS554.2/8; Rare Books, Mitchell Library.)

[336] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, "Murchison, Sir Roderick Impey," "Perth," & "Murchison River."

Wieland[337], in *The Updated & Expanded Answers Book* on "The 20 most-asked question about creation, evolution, & the Book of Genesis …" (1999)[338]. In discussing the Gap School, they say, "A … modern 'gap' theory is found in *Genesis Unbound*, by J. Sailhamer … 1996. The author fits … millions of years of geological history into Genesis 1:1, and then claims the six days of creation relate to the promised land! He states … on p. 29, 'If billions of years … are covered by the simple statement, <In the beginning God created the heavens and the earth>, then many of the processes described by modern scientists fall into the period covered by the Hebrew term <beginning>. Within that <beginning> would fit the countless geological ages, ice ages, and the many global climactic changes of our planet … . By the time human beings were created on the sixth day of the week, the dinosaurs already could have flourished and become extinct – all during the <beginning> recorded in Genesis 1:1.' Many of" what from their young earth creationist perspective they consider are "the problems with the" Global Earth Gap School they are primarily interested in, with special reference to the Global Earth "Lucifer's Flood" Gap School[339], they then say, "also apply to this" Local Earth Gap School model of John Sailhamer[340]. This young earth creationist view of "problems"

---

[337] Disputation within *Answers in Genesis* (AiG) between Wieland and Ham which had been brewing for some time, reached a peak in 2005 at which time there was a division and parting of the ways. Ham who founded AiG in the USA, retained control of AiG in the USA and UK; and Wieland retained control of AiG in Australia with some small affiliate branches in e.g., Canada and New Zealand, which were then renamed as *Creation Ministries International*. Batten and Sarfati stayed in Wieland's camp, making it a 3:1 split against Ham.

[338] Batten, D. (Editor), Sarfati, J., Ham, K. & Wieland, C., *The Updated & Expanded Answers Book*: The 20 most-asked question about creation, evolution, & the Book of Genesis Answered!, Answers in Genesis, Acacia Ridge, Queensland, Australia, 1999, pp. 45-62 (Gap School), at pp. 61-62.

[339] Though reference is made to Thomas Chalmers (who did not support the "Lucifer's Flood" idea), these young earth creationist writers are more interested in the Global Earth "Lucifer's Flood" Gap School views of e.g., George Pember, the Scofield Study Bible, Dake's Annotated Reference Bible, and Newberry Reference Bible (*Ibid.*, pp. 46-47).

[340] Alleged "problems" that these young earth theorists see as common to both the Global Earth and Local Earth Gap Schools relate to the following. 1) They theorize that the six creation days of Gen. 1:2b-2:3 *just have to* be a universe wide and global creation covering *everything*, and so they deny the Gap School idea of a distinctive prior creation in Gen. 1:1,2 into which fits most of earth's geology (cf. Gen. 2:4; Heb. 1:2; 11:3) (*Ibid.*, p. 51). 2) They theorize that Scripture can be *stretched* and *expanded* at Romans 5:12, so that instead of referring to sin entering man's "world" i.e., the human world of Eden, "so death passed upon all men;" that this could theoretically be *stretched out* to include all the "worlds" (Heb. 1:2; 11:3) God created. And they theorize that Romans 8:22 could likewise be *expanded* from just "the whole creation" of man i.e., both Jews and Gentles, or "every" human "creature" (Mark 16:15), so as to include non-

with the *United Gap School* are by definition different to old earth creationist United Gap Schoolmen views about the *solutions* to any such perceived *problems* in the *United Gap School*, relative to the *problems* posed by the young earth creationist model of Batten, Sarfati, Ham, and Wieland. But such creationist differences aside, it is surely noteworthy that the core area of agreement between those of both a Global Earth Gap School model and a Local Earth Gap School model is here recognized by opponents of the *United Gap School* in terms of the type of thing covered in this section. Thus one might refer to a *United Creationist School* view that there is a *United Gap School* on "the big picture" of most of the old earth's geological layers fitting into the time-gap between Gen. 1:1 and Gen. 1:2.

On the one hand, one can in a generic way refer to a *United Gap School*, if by that, one means old earth creationists who consider that in Gen. 1:1 there is a distinctive prior creation, followed by a time-gap of vast duration between the first two verses of Genesis into which fits most of earth's geology, followed by the creation of man's Edenic

---

human creatures too; even though this would mean that they too are awaiting "the redemption of" the "body" (Rom. 8:23), so that the contextual anthropological focus of Rom. 5 & 8 on man's fall and redemption is thus lost. Though paradoxically, like some other commentators who take too superficial a view of Rom. 8:22,23, they do not perceive these ramifications (*Ibid.*, pp. 51-53). 3), 4), & 6) are specific to the Global Earth "Lucifer's Flood" Gap School view. Specifically, 3) They consider the "Lucifer's flood" global deluge scenario is self-defeating for an old earth viewpoint, since this basically puts them in the same position with respect to the geological record that young earth creationists have for Noah's Flood i.e., a rapid sedimentation process from a global flood (*Ibid.*, p. 53); 4) this then makes the young earth creationist view of a global Noah's Flood apply to a global "Lucifer's Food" (*Ibid.*, p. 54); and 6) this means they are not following the standard uniformitarian geology they claim to be (*Ibid.*, p. 55). I do not hold to, nor defend "Lucifer's flood" views, and nor have a number of Global Earth Gap Schoolmen such as e.g., Thomas Chalmers, nor have *any* Local Earth Gap Schoolmen I know of. 5) They say all Gap Schoolmen believe in an old earth, and thus reject young earth creationist theories about an earth that is 6,000-10,000 years old (*Ibid.*, p. 55); although it is a circular argument for a young earth creationist to say this is a "problem" with an old earth creationist model. 7) They repeat their theory at 2), and further theorize that the Christian Gospel could be presented in such a way as to embrace their *stretched* and *expanded* theories of e.g., Romans 5:12 (*Ibid.*, pp. 55-56). They then theorize that the Hebrew of Gen. 1:1,2 could be interpreted in the young earth creationist way, rather than the old earth creationist Gap School way; and theorize that everyone should agree with them that no other interpretation is straightforward or reasonable (*Ibid.*, pp. 56-62). They lack a spirit of Christian charity (I Cor. 13) and brotherly love (I John 3:14), insisting no Christian can legitimately disagree with their theories, as they elevate matters of secondary importance to the status of primary importance; and are *not* focused on "Christ," in whom "dwelleth all the fulness of the Godhead bodily" (Col. 2:8,9). They thus cause unnecessary "divisions" "in the church" (I Cor. 11:18), which are "heresies" II Cor. 11:19) from which they need to repent since those in "heresies" are in deadly sin (Gal. 5:20,21).

world in the six days of Gen. 1:2b-2:3. But on the other hand, beyond this area of core agreement, there is diversity on a number of issues. For instance, one view within the parameters of *The Gap School* was held by e.g., Adam Sedgwick, who considered that the six days were symbolic days of a relatively short period of geological time connected with the creation of a global world of man, a proposition he stated as a theory that he thought should one day be vindicated (although the passage of time has in fact disproved this theory); whereas the vast majority of *Gap Schoolmen* have always considered these to be six 24 hour days[341].

Like other creationist models which have antecedents from historically pre-modern times, in pre-modern times no geological treatment was integrated into any Gap School models. But in the *Gap School's* historically modern forms which seeks to relate the time-gap between the first two verses of Genesis to earth's geology, the three most major areas of internal diversity within the unity of the overall *Gap School* are: firstly, the issue of whether the creation of man's Edenic world in the six days of Gen. 1:2b-2:3 was of a global world, or a local world somewhere in West Asia near the Tigris and Euphrates Rivers (Gen. 2:10-14). Secondly, the issue of whether or not the fall of angels is relevant to the destruction event of Gen. 1:2a. While *Local Earth Gap School* advocates have never endorsed the idea that the fall of angels is related to the pre-Adamite flood of Gen. 1:2 (e.g., Pye Smith & Henry Alcock)[342]; the *Global Earth Gap School* has historically divided into those who do not endorse such a view (e.g., Thomas Chalmers, William Buckland, & Adam Sedgwick), those who do follow such a view (e.g., George Pember & Arthur Custance), and those who are uncertain about the matter but think it is probably, though not definitely, the case (e.g., Bob Jones Sr.). Certainly as a *Local Earth Gap Schoolman*, I do not endorse any such view of the fall of angels being related to the pre-Adamite flood of Gen. 1:2. Those *Global Earth Gap School* advocates who follow this erroneous idea may potentially bring some different interpretations to some elements of the geological record found between the first two verses, than would better Gap School advocates who have rightly reject this idea whether they are of the *Global Earth Gap Schoo*l or *Local Earth Gap School*. Thus all advocates of *The Gap School*, whether *The Global Earth Gap School* or *The Local Earth Gap School*, can be grouped together in terms of their agreement that *most* of earth's geological fits between the first two verses of Genesis; although *the interpretation* of what is happening in these geological layers is very different for those Global Earth and Local Earth Gap Schoolmen who do not link this with the fall of angels, and those Global Earth "Lucifer's Flood" Gap Schoolman who do so link this period with the fall of angels.

A third major issue within the confines of this generally *United Gap School* involves the distinction between those who follow the *Gap School* in connection with a commitment to some form of Scofield Dispensationalism and associated usage of the

---

[341] As discussed in Volume 2, Part 3, Sedgwick's type of Gap School view was also followed by e.g., Benjamin Silliman of Yale University, USA.

[342] Though it is at least theoretically possible that one or more local earth gap school advocates also follow the fall of angels view; I know of no such persons.

Scofield Study Bible (1909) of Cyrus Scofield (1843-1921), a sometime Minister of the *First Congregational Church* at Dallas in Texas, USA; and those who follow the *Gap School* with no such commitment to Scofield's or any one else's Dispensationalism. While Dispensationalism is not part of the views of e.g., Gap Schoolmen: Thomas Chalmers, William Buckland, Adam Sedgwick, Pye Smith, John Pratt, Henry Jones Alcock, or myself; by contrast, the *Scofield Study Bible* was used by e.g., Gap Schoolmen: Harry Rimmer, Bob Jones Sr., his son, Bob Jones Jr.[343], or Curtis Hutson (1934-1995). On a Global Earth Gap School model, Scofield claims in his commentary on Genesis 1, that Gen. 1:1 "refers to the dateless past, and gives scope for all the geological ages … . Relegate fossils to the primitive creation, and no conflict of science with … Genesis … remains[344]." On one hand, as a Local Earth Gap Schoolman, I would not accept the entirety of Scofield's Global Earth Gap School claims here. Clearly it is a relatively small overstatement, but still an overstatement, to put "all the geological ages" between Gen. 1:1 and Gen. 1:2, and an overstatement to "relegate fossils" *per se* to this period. But on the other hand, when this claim appeared in the *Scofield Study Bible* in 1909 and 1917, "the geological ages" Scofield refers to were established in science broadly as they are in this Volume 1, Part 2, chapter 3, subsection f, *infra*, even though the later more precise dating techniques were not developed; and I would accept that *most* of the "fossils" and *most* of "geological ages" fit between the first two verses of Genesis.

Indeed, in wider and broader terms, it is largely possible to put aside the multiple areas of diversity within the modern historical forms of *The Gap School*, and isolate what *should* be a core area of general agreement on "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4), from the time of the Big Bang *c.* 14 billion B.C., through to the creation of the Earth *c.* 4.6 billion B.C., and thereafter "the generations of … the earth" (Gen. 2:4) which geologists can study in the Book of Nature; *providing one limits this to Earth's geological history down to, but not including, the time from the start of the Last Ice Age c. 68,000 B.C. to the Second Advent*, and this is what shall be done in this Part 2, Chapter 3, subsection f, *infra*. Of course, the interpretation of what is being described in a given world would vary between those who like e.g., William Buckland, Adam Sedgwick, or myself consider that this was simply a succession of worlds created by God, and those following a Scofield type view which considers that the fossil record should be interpreted in terms of what they consider was happening in connection with fallen angels.

---

[343] For Bob Jones Sr., Gap School, & Scofield - Bob Jones Sr., *Word of Truth* (cassette audio recordings) 222,248,435 (Scofield), WOT 235,320,407 (Gap School), Bob Jones University, Greenville, South Carolina, USA, & Johnson, R.K., *Builder of Bridges*, *op. cit.*, p. 45 (Scofield); & for Bob Jones Jr., Gap School, & Scofield - Dan Olinger's "Problems with Old Earth Creationism," Sermon, Heritage Bible Church, Greenville, South Carolina, USA, Sunday 9 July 2006, *op. cit.* .

[344] Scofield, C., *Scofield's Study Bible*, 1909, Oxford University Press, New York, USA, 1917 & 1945; cited with biographical detail on Scofield in Numbers' *The Creationists*, pp. 45-46,361.

Furthermore, there is diversity of views within the *Global Earth "Lucifer's Flood" Gap School*, on how different advocates see a "perfect" world of no death being followed in the geological records by one or more ruins and restorations. Thus there would be some in this school who would not be united with what I am here designating the *United Gap School*. E.g., Allison & Patton seek to use a revisionist young earth creationist flood geology school model to explain much of the geological strata, but whereas the young earth creationists apply it to Noah's Flood, Allison & Patton apply it to what they call "Lucifer's Flood" i.e., the pre-Adamite flood of Gen. 1:2[345]. Clearly those like Allison & Patton looking to some millions of years of normal geological processes, overlaid by a young earth creationist *Flood Geology School* type series of layers which they identify as the pre-Adamite Flood, overlaid by normal geological processes, would be at variance with the type of views expressed in this section on the *United Gap School*.

But it must also be said that others in this *Global Earth "Lucifer's Flood" Gap School*, such as Scofield, *infra*, join with what is designated in this section as the *United Gap School*. Therefore, it should be clearly understood that in this section on the *United Gap School*, the theological interpretations of the geological data will always be in accord with the first Gap School model of William Buckland, Adam Sedgwick, *et al*, as opposed to Cyrus Scofield, Bob Jones Sr. (who used the Scofield Bible) *et al*. Nevertheless, Scofield refers to "a dateless past;" so that Bob Jones Sr. says, "we don't know how old the earth is … . We don't know how many years between the first verse of Genesis and the second verse." "Now 'God created the heaven and the earth' [Gen. 1:1] …, and the earth was, maybe, the habitation of angels." Then "the next verse in Genesis is 'And the earth was without from and void,' and it should be literally rendered, 'became waste and desolate.' … God did not create the earth 'waste and desolate' [Gen. 1:2] … . Something happened to it; and the Bible intimates it had something to do with the fall of angels when the Devil was cast out … . Then in the second verse of Genesis, God takes up a chaotic earth and makes it habitable for man. And on this earth that was cursed because of something that happened to it, God created man and created a woman; and put them in a Garden …[346]." Furthermore, Scofield recognizes distinctive "geological ages," in saying that "all the geological ages" are represented in the "fossils" which cover a "dateless past," so that he considers "no conflict of science with … Genesis … remains." Thus Buckland's & Sedgwick's type of *Global Earth Gap School* and Pye Smith's & Henry Alcock's type of *Local Earth Gap School* have points of intersecting geological and theological agreement in areas of earth's geology between the first two verses of Genesis; and in turn these are points of intersecting geological agreement, but theological

---

[345] E.g., Allison, M. & Patton, D., *Another Time Another Place Another Man*, Based on the writings of Finis Dake, Dake Publishing, Georgia, USA, 1997, p. 79.

[346] Bob Jones Sr., *Word of Truth* 235 (cassette audio recording), Bob Jones University, Greenville, South Carolina, USA. On Jones' general endorsement of the Scofield Bible, see e.g., WOT 434, cf. WOT 222. E.g., Jones says on another matter, "We're teaching what the great Bible teachers of the world like … Scofield … believed" (WOT 248).

interpretation of what was happening in them disagreement, with those in the *Global Earth "Lucifer's Flood" Gap School* such as e.g., Cyrus Scofield or Curtis Hutson.

Therefore while with regard to the two main Gap School views up to the start of the last ice age, *supra*, I support the view of William Buckland, Adam Sedgwick, Pye Smith *et al*, rather than the view of George Pember, Cyrus Scofield *et al*, I think one can still fairly refer to a *United Gap School* for the big picture of the succession of worlds as I do in this section, *infra*. That is because, inside the *Global Earth "Lucifer's Flood" Gap School*, some (e.g., Scofield), though not all (e.g., Allison & Patton), join with those in both the more general *Global Earth Gap School* (e.g., Chalmers, Buckland, & Sedgwick), as well as the *Local Earth Gap School* (e.g., Pye Smith, Henry Alcock, & myself), in accepting the general picture of geology up till the time of the pre-Adamite Flood, even though they give it a quite different theological interpretation in which they claim the presence of invisible devils that do not show up in the fossil record are related to the "ruin" found in the geological layers. *While I entirely repudiate this Global Earth "Lucifer's Flood" Gap School theological interpretation of geology, such persons are nevertheless agreed with those of the Buckland & Sedgwick type Global Earth Gap School and Pye Smith type Local Earth Gap School on the broad geological picture as built up by geologists in terms of what various "worlds" (Heb. 1:1:2; 11:3) looked like at the temporal level, up to the start of the last Ice Age*. Thus while this *United Gap School* does not include *all* persons in one of its three grand divisions, to wit, not all persons of the *Global Earth "Lucifer's Flood" Gap School*, it includes some of them, together with those of the other two divisions of the *Global Earth Gap School* and *Local Earth Gap School*. But it is still a generally *United Gap School* view, notwithstanding these qualifications.

Therefore given that in this work I give special honour to three Global Earth Gap Schoolmen in Chalmers, Buckland, and Sedgwick, and their type of model intersects at this point of the time-gap between the first two verses of Genesis with Local Earth Gap Schoolmen specially honoured in this work in Pye Smith, John Pratt, and Henry Alcock; it follows that I would also give the priority to those so following this Global Earth Gap School model up till about 1875 (since it remained within the known geological data till *c.* 1875,) in terms of the *United Gap School*. That is because I consider that at this point they make a valuable contribution to the Local Earth Gap School model endorsed in this work, in a way that those of any form of Global Earth Gap School after about 1875, for instance, the Global Earth "Lucifer's Flood" Gap Schoolmen starting from Pember in 1876, simply do not. Hence in terms of relevant higher values and "what really matters," the primary level of importance to Gap School unity in this area it that of the intersecting agreement with Global Earth Gap Schoolmen in Chalmers (d. 1847), Buckland (d. 1856), and Sedgwick (d. 1873), and Local Earth Gap Schoolmen such as Pye Smith (d. 1851), John Pratt (d. 1871), and Henry Alcock (d. 1915). Thus any further overlap with the Global Earth "Lucifer's Flood" Gap School of Scofield *et al* is really brought about only by coincidence, and is correspondingly of a secondary level of importance and interest.

As will further emerge in this section, our basic knowledge of the geological worlds is largely the work of old earth creationists, and in this context, the names of

Buckland, Sedgwick, and Murchison are particularly prominent. Of course, there are others, such as e.g., Barrande and Agassiz. While a point came in the knowledge of earth's geology from *c.* 1875 when a Global Earth Gap School model was no longer sustainable inside the known geological science of the day, both Buckland (d. 1856) and Sedgwick (d. 1873) come from before this time; and the work they did on the era covered in this section on the generally United Gap School view of earth's history from *c.* 4.6 million B.C. to *c.* 68,000 B.C., is exactly the same as it would be on a Local Earth Gap School model such as endorsed in this work. Thus to the extent that Buckland and Sedgwick are two of the six old earth creationist Protestant Christian Gap Schoolman especially honoured in this work, it might also be remarked that a Gap School view of earth's geology as a succession of "worlds" (Heb. 1:2; 11:3) of "the generations … of the earth" (Gen. 2:4) in the time-gap between the first two verses of Genesis 1, for the period covered in this section down to the Late Pleistocene II from *c.* 68,000 B.C., is an understanding that thus comes to us in a substantial way from the work of some Gap Schoolmen with the most impeccable geological credentials. Thus we should be thankful to both God and man for the truly excellent geological work done by so many old earth creationists, and in this context, for the period covered in this section down to the Late Pleistocene II from *c.* 68,000 B.C., while we give thanks to God for the work of all old earth creationists involved in this endeavour, let us especially give thanks to Almighty God for the work of three old earth creationists particularly prominent in this important endeavour in William Buckland, Adam Sedgwick, and Roderick Murchison.

The Late Pleistocene starting from about 130,000 years ago, is not in general internally subdivided into two sub-periods, in the way it is so subdivided in this work. But in this work I refer to *Late Pleistocene I* as from the end of the glaciation *c.* 128,000 B.C. to the start of the last Ice Age *c.* 68,000 B.C., and *Late Pleistocene II* as from the start of the last Ice Age *c.* 68,000 B.C. through to the Holocene *c.* 8,000 B.C. . My three primary provable geological reasons for doing this, which I consider in themselves would warrant this distinction without any reference to the other reasons, *infra*, are the fact that there is the marker of an Ice Age at *c.* 68,000 B.C.; then following this Ice Age marker in time, man first appears in the fossil record at *c.* 33,000 B.C.; and then following this Ice Age marker in time, there were also mass extinctions e.g., starting around 50,000 years ago, North America lost about 36% of its megafauna, and Europe and Asia, lost about 72% of its large animals (megafauna). Another non-geologically provable primary reason relates to the model of creation used in this work, which considers man was made in Eden in *Late Pleistocene II*. A further secondary reason for this distinction of *Late Pleistocene II* is that around the start of this period, a lot of Aper satyr beasts appear to have died.

Thus in broad-brush terms, for the purposes of considering a generally *United Gap School* which looks to those areas of intersecting agreement between the generality of many, though not all, advocates of the three rival forms of historically modern Gap Schools, in general Gap Schoolmen *should* agree on the depictions built up by geological research on the "worlds" or "ages" of multiple "generations" of Earth's history in Gen. 2:4; Heb. 1:2; 11:3, in the detail we have from the Archeozoic World of *c.* 3.96 billion B.C. till the time of the start of the Pleistocene II World commencing with the Last Ice

Age c. 68,000 B.C. (and also including reference to the earlier *Pregeological World* of the earth from *c.* 4.6 billion to *c.* 3.96 billion B.C.). This means that for the vast amount of the history of the universe from *c.* 14 billion B.C. + / - 4 billion years, and for vast amount of geological time on earth from *c.* 4.6 billion B.C. till *c.* 68,000 B.C., advocates of *The Gap School* should be in a general agreement on what the temporal "worlds" or "ages" of Gen. 2:4; Heb. 1:2; 11:3 looked like (although in practice, dissenting views still exist among some Global Earth "Lucifer Flood" Gap School advocates[347]). Therefore, in recognition of this general unity that *should* exist among better advocates of *The Gap School*, i.e., the old earth creationist unity of a generally united *Gap School* which isolates those areas of intersecting agreement between rival forms of historically modern Gap Schools; in this section we will "fill in the blanks" for *Worlds 1 to 16* from the time of the Big Bang *c.* 14 billion B.C., with special reference to earth's geology from 3.96 billion B.C with the start of the *Archeozoic World* of the *Archeoterraic Eon*, down to the *Pleistocene World* of *Late Pleistocene I* ending in *c.* 68,000 B.C. in the *Cenozoic Age*. We shall thus leave the relatively short later period of disagreement among rival forms of *The Gap School* from the time of *Late Pleistocene II* starting with the Ice Age in *c.* 68,000 B.C., to later chapters in this work. Thus this chapter will be looking at the perspective of this generally united old earth creationist *Gap School* with regard to the "worlds" (Heb. 1:2; 11:3) in "the generations … of the earth" (Gen. 2:4), in the time-gap between the first two verses of Genesis up till the start of the Last Ice Age *c.* 68,000 B.C. (also leaving the issue of the Aper from *c.* 200,000-100,000 B.C. till later chapters[348]).

---

[347] E.g., as previously noted, Allison, M. & Patton, D., *Another Time Another Place Another Man* (1997), *op. cit.* . This work is based around the writings of the Pentecostal heretic, Finis Dake (1902-1987). Though Dake was a mix of good and bad; most importantly, he was given over to the power of devils in connection with the Montanist heresy. Both Allison & Patton and their associated mentoring book, *The Dake Annotated Reference Bible* (1963) (whose Montanist theology makes it popular among various Pentecostals and Charismatics,) contains many defects; and Allison & Patton are often, though not always, at the more indefensible and erroneous end of Gap School views. E.g., Allison & Patton consider the "earth" is "millions, perhaps billions of years old" (p. xi). However, they sometimes bizarrely call upon young earth creationist "flood geology" ideas, but instead of applying them to the Noachian Flood as do young earth creationists, they instead apply them to the pre-Adamite flood, which they erroneously call "Lucifer's Flood." This then means that they can reduce the earth's probable age down to just "millions of years" (pp. 78-81). *Yet simultaneously they inconsistently refer to how* "young earth theory teaches that the earth was created about 6,000 years ago … . Accordingly scientific evidence pointing to an earth billions of years old is … dismissed as [macro]evolutionist propaganda. … Many young earth creationists believe that God created the earth with the appearance of age. He placed fossils in the ground and fashioned geological formations to appear ancient. Obviously, this explanation carries with it an unsavoury flavour of deception, as if God were trying to 'fool' men …" (pp. 8 & 10).

[348] E.g., Part 2, Chapter 5, d, "A scientific critique of the Global Earth Gap School's global pre-Adamite flood & following global six day creation;" & Chapter 17, "A Local Earth Gap School view: filling in the blanks in the 'worlds' or 'ages' of

As further discussed when looking at various geological ages and worlds, *infra*, in general these were first discovered and named by old earth creationist Protestant Christians; although there are some small number of exceptions to this general rule. There was a period up to the early nineteenth century where it was still possible to allow for the possibility a young earth on the incomplete knowledge of geology, albeit with ever increasing difficulty and the qualification from *c.* 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier (1811 & 1813) and Buckland (1820) considered the data required an old earth. But this ceased to be possible by *c.* 1835, (and indeed one might also reasonably argue for a slightly earlier date than *c.* 1835,) as by this time the evidence was overwhelmingly strong in favour of an old earth[349]. But before this time, for instance, the *Tertiary World* was named "Tertiary" in 1760 by Arduino (d. 1795) of Italy who was a young earth creationist. Or the *Carboniferous World* was first established in geology in 1822 following its discovery in the UK by William Conybeare and William Phillips, and while both men were creationists, they were non-committal on the issue of an old earth or a young earth, and allowed for either possibility to be correct.

Another *prima facie* exception to this general rule is so called "Precambrian" time, which is a term not much used in this work, since I prefer the term *Archeoterraic* ("beginning earth") for the *Archeoterraic Eon* (4.6 billion B.C. to 540 million B.C.) which includes, though is wider than, "Precambrian" time. Thus in this work *the name* of *Archeoterraic* as applied to this era is generally used for an eon that includes what is sometimes *described* as "Precambrian." William Hay says in his table of dates, "1864 John William Salter coins the unimaginative term Precambrian[350]." Yet this is *not so much the name* of an eon, *as a description* of "Precambrian" time, whose matching nomenclature for the time of the Cambrian and thereafter would be "Postcambrian." Another problem with *the description* of "Precambrian time" is that it is used for the "interval of geological time from … the age of the oldest known rocks," which the *Encyclopaedia Britannica* (1999) tentatively puts at "3.8? billion years ago" since they could not be certain if older rocks might turn up after they wrote this[351]. And as

---

multiple "generations" of Earth's history in Gen. 2:4; Heb. 1:2; 11:3, from the start of the Last Ice Age c. 68,000 B.C., and also including reference to the Aper satyr beast from *c.* 200,000-100,000 B.C. to the Holocene World," *infra*.

[349] See Chapter 5, section d, subsection ii.

[350] *Experimenting on a Small Planet*, Springer-Verlag, Berlin & Heidleberg, Germany; & Springer London, UK, & New York, USA, 2013, p. 88 (http://books.google.com.au/books?id=teJYlWH9vg4C&pg=PA88&lpg=PA88&dq=friedrich+august+von+alberti+cuvier&source=bl&ots=Cu5o47vNqL&sig=kQcrmHeXcPexeOyXxaRHCBucBpk&hl=en&sa=X&ei=-kvXUZ2_DcWdiAeMx4DIDA&ved=0CCwQ6AEwAA#v=onepage&q=friedrich%20august%20von%20alberti%20cuvier&f=false).

[351] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, "Precambrian time."

discussed at the *Pregeological World* (4.6 billion to 3.96 billion B.C.) of the Archeoterraic Eon, *infra*, the work done in Australia on zircon finds in this world date from 4.276 billion B.C. and 4.18 billion B.C., which is the type of thing geologists look at even in this *Pregeological World*. Therefore I think it is reasonable to include the *Pregeological World* in a general eon. Therefore the recognition of the *Archeoterraic Eon* (4.6 billion B.C. to 540 million B.C.) has the advantage that it includes a wider orbit that Salter's descriptive designation of "Precambrian" time (3.96 billion B.C. to 540 million B.C.). Hence the period referred to in this work as the *Archeoterraic Eon* has not really been properly named before, even though part of this period was given a descriptive designation by Salter (1820-1869) which has sometimes been used for it[352].

The macroevolutionist, Charles Darwin, made reference to some of Salter's work which "found pollen within the ovules of the passion-flower and of the rose[353]." He also says Salter "showed me … the Spirifers [a group of brachiopods] of Devonian, Lower & Upper Carboniferous formations arranged … after my diagram in the 'Origin [of Species]' … intercalating the varieties and species according to geological age[354]." And Hopwood *et al* also refer to "William Salter's unprecedented reconstruction of the macroevolutionary history of a single group of fossil organisms on show in a chart of brachiopods at the Museum of Practical Geology in London[355]." Thus after Darwin's

---

[352] I made the decision on coining this name of "*Archeoterraic Eon*" following prayer and consideration of the matter just before, during, and after, Sunday 7 July 2013, being *The Sixth Sunday After Trinity*, when I attended a Low Church Evangelical Anglican Service from the *Book of Common Prayer (1662)* at St. Philip's Church Hill, York Street, in the City of Sydney, conducted by Bishop Ray Smith (the Rector being on leave).

[353] *Variation of Plants & Animals Under Domestication*, 1868, p. 230 (http://books.google.com.au/books?id=eIQYwBjfJ5AC&pg=PA352&lpg=PA352&dq=john+william+salter+evolution&source=bl&ots=YYyl-f2y3S&sig=bkDNnk67sW4ym2hMwIwa6ryO-_0&hl=en&sa=X&ei=chnaUeyjD-6IiQeCiYDwAw&ved=0CCoQ6AEwAA#v=onepage&q=john%20william%20salter%20evolution&f=false).

[354] Cited in S. Herbert, *Charles Darwin, Geologist*, Cornell University, USA. 2005, p. 333 (http://books.google.com.au/books?id=2gF9Mkvgf_kC&pg=PA333&lpg=PA333&dq=john+william+salter+darwin&source=bl&ots=3n_xaD742z&sig=8TSmhkAjhuzr612h8f0oc2hVqZU&hl=en&sa=X&ei=IvLXUdjFB8b_iAesuoGoAg&ved=0CDUQ6AEwAg#v=onepage&q=john%20william%20salter%20darwin&f=false).

[355] "Seriality & Scientific Objects in the Nineteenth Century," by Nick Hopwood, Simon Schaffer and Jim Secord, of Cambridge University, in *History of Science*, Volume 48 (2010), p. 263 (http://www.hps.cam.ac.uk/people/hopwood/seriality.pdf).

Origin of Species in 1859, Salter became a Darwinian macroevolutionist. Darwin tried to raise *an argument from silence* in the geological record, by fantasizing improbable possibilities that *might have occurred which curiously left no trace in the geological record*, as he side-shuffled away from the fact that, "The abrupt manner in which whole groups of species suddenly appear in certain formations," as recognized by "for instance," the old earth creationists "Agassiz" and "Professor Sedgwick," are "a fatal objection to the belief in the transmutation of species." For Darwin was not prepared to accept the evidence for "special creations" by "the Creator," in which "species are produced and exterminated … by miraculous acts of creation and by catastrophes;" even though he had the benefit of the evidence of "the sudden manner in which whole groups of species appear in … formations," and corresponding recognition of "the immutability of species" (or I would say, depending on what level God made the parent stocks at for particular creatures, the immutability of creatures inside the taxonomical levels of genus, or species, or subspecies,) by such old earth creationists as, for example, George "Cuvier" (1769-1832) of Paris who helped established the provincial universities of France; Louis "Agassiz" (1807-1873) of Harvard University, USA; Joachim "Barrande" (1799-1883), a tutor to the grandson of Charles X, sometime King of France; Roderick "Murchison" (1792-1871), the geologist who named the Silurian World; and Adam "Sedgwick" (1785-1873), Professor of Geology at Cambridge University[356].

Rather, Darwin stopped up his ears to the voice of nature, and willfully shut his eyes to the testimony of the visible creation which points to "God" and "his power" (Rom. 1:19,20). Thus both Darwin, and his minion Salter, are examples of those who "professing themselves to be wise," "became fools" (Rom. 1:22). *Now the spiritually and morally debilitating "faith killer" effects upon those who make the fatal embrace of Darwinism, are well known to all creationist observers*, and Salter was no exception. After he started to play around with the Darwinian theory, he went mad and had "frequent bouts of insanity[357]." He became more and more committed to Darwinism, and he became more and more insane. As Salter embraced the God-dishonouring Darwinian theory, he became "as nutty as a fruit-cake." With "Darwinism on the brain," he set aside the sixth commandment, "Thou shalt not kill" (Exod. 20:13); and committed self-murder in 1869, recklessly, irresponsibly, and foolishly, leaping from a bridge to his certain death, and cruelly leaving behind a dependent wife and seven children. The Bible declares that cowardly self-murderers go to hell, for "the fearful" "and murderers" "shall have their part in the lake which burneth with fire and brimstone" (Rev. 21:8); and since a Christian burial should not be given to such a man whose last thought was that of self-murder, "for ye know that no murderer hath eternal life abiding in him" (I John

---

[356] Darwin's *Origin of Species* (1859), chapter 9, "On the imperfection of the Geological Record," section, "On the sudden appearances of whole groups of Allied Species in the lowest known fossiliferous strata;" & chapter 14, "Recapitulation & Conclusion."

[357] James A. Secord's "John W. Salter: The rise and fall of a Victorian palaeontological career," *Archives of Natural History*, 1985, Vol. 1, pp. 61-75 (http://www.euppublishing.com/doi/abs/10.3366/anh.1985.007?journalCode=anh).

3:15), the Anglican 1662 *Book of Common Prayer* says, "The Order for the Burial of the Dead" "is not to be used for any that" "have laid violent hands upon themselves."

The first letter of the Hebrew alphabet is Aleph or A (if untransliterated in Hebrew this is, א), and the second letter of the Hebrew alphabet is Beth or B (if untransliterated in Hebrew this is, בּ). In the underpinning original Hebrew tongue, the first word of the Old Testament in Genesis 1:1 is a compound word, but the first component of this compound word is the preposition, *b*^{e} (if untransliterated in Hebrew this is, בְּ), meaning "In," in the words, "In the beginning God created the heaven and the earth." However, in the *Ten Commandments* of Exodus 20, the First Commandment starts in Exodus 20:2 with the Hebrew letter, Beth or B (if untransliterated in Hebrew this is, בּ), with the word, *'anokiy* (if untransliterated in Hebrew this is, אָנֹכִי[358]), meaning "I," in the words of Exodus 20:2,3, "I am the Lord thy God …, Thou shalt have no other gods before me." According to one highly fictional Jewish tradition found in the *Genesis Rabbah* (*c.* 400-600 A.D.), which is not necessarily given credence by any given Jew, or if it is, is possibly understood by a given Jew in a jocular way rather than a historically literal way, in Genesis 1:1, "The Aleph [or A], being the first letter of the Hebrew Alphabet, demurred at her place being usurped by the letter Beth [or B], which is second to her, at the creation; the history of which commences with the latter instead of with the former. She was, however, quite satisfied when told that in the history of giving the Decalogue, she would be placed at the beginning in the word, *'Anokiy* …[359]."

With this thought of the Hebrew alphabet in mind, I have decided to give each of the worlds itemized in this work a separate letter of the alphabet. At the point of the Divine Inspiration of Holy Scripture (II Tim. 3:16), the three Biblical languages are Hebrew, Aramaic, and Greek, but mainly Hebrew and Greek; and at the point of the Divine Preservation of Holy Scripture (I Peter 1:25), for the purposes of composing the Old and New Testament Received Texts as found in the King James Bible of 1611, the four Biblical languages are Hebrew, Aramaic, Greek, and Latin, but mainly Hebrew, Greek, and Latin. Now whereas the Hebrew alphabet has 22 letters, the Latin alphabet 23 letters, the Greek alphabet 24 letters, and the English alphabet 26; I have hereunder itemized 24 worlds, possibly, though by no means, followed by two uncertain worlds,

---

[358] Hebrew reads from right to left. The long "o" vowel transliterated "o" (the dot in the middle), would more properly be put on the top left of the previous letter Nun or "N" (נֹ), but my computer pallet does not allow me to do this, although this is close enough for our immediate purposes.

[359] *Genesis Rabbah* in Rabbi Samuel Rapaport's *Tales & Maxims from the Midrash*, Sometime Jewish Rabbi at Port Elizabeth & Eastern District of Cape Colony [after 1910 Union of South Africa, called Cape Province or Cape of Good Hope Province, South Africa], Routledge & Sons, London, UK; & Dutton & Co. New York, USA, 1907, p. 57 (http://www.sacred-texts.com/jud/tmm/tmm00.htm).

thus totally 26 worlds. Since Worlds 25 & 26 are presently uncertain since discussion of them relates to the highly speculative issue of whether or not this universe will ever come to an end[360]; I shall use the Greek alphabet for these purposes since it has 24 letters; and I shall then designated the uncertain two worlds at the end, Worlds Aleph and Beth from the Hebrew alphabet.

In the context of the Holy Trinity, all three Divine Persons of the Trinity were involved in creation (Gen. 1:1). Thus in one context one may, like the *Apostles' Creed* and *Nicene Creed*, refer to God the Father as Creator (Mal. 2:10; I Cor. 8:6), saying, "I believe in God the Father Almighty, maker of heaven and earth" (*Apostles' Creed*). And in another context, as in the *Nicene Creed*, one may refer to God the Son as the Creator (John 1:3). And in another context, one may as in the *Nicene Creed*, refer to God the Holy Ghost as "the Lord and giver of life;" for we read of how the "Lord" "sendest forth" his "Spirit," and "they are created" (Ps. 104:24,30). Or in another context, one may refer to the plurality of the three Divine Persons in creation (Gen. 1:2,26), as occurs in the *Nicene Creed* which says, "I believe in one God the Father Almighty, maker of heaven and earth, and of all things visible and invisible: and in one Lord Jesus Christ, the only begotten Son of God, … by whom all things were made … . And I believe in the Holy Ghost, the Lord and giver of life, who proceedeth from the Father and the Son … ." Inside of this wider Trinitarian context, my reference to how "God" the Father "by his Son" "made the worlds" (Heb. 1:2), is relevant to my usage of the Greek alphabet in numbering the worlds. I note that the Old Testament was translated into Greek in the Septuagint Version; and in the New Testament, our Lord and Saviour, Jesus Christ, says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), and so in using these twenty-four letters of the Greek alphabet I wish to thereby also acknowledge that in a given context, one may say that "God" the Father "by his Son" "made the worlds" (Heb. 1:2), and will so make the future worlds. For these purposes at each world, I shall give the name of the Greek letter, then in brackets the Greek capital letter and lower case letter, followed by the equivalent English letter(s). Thus e.g., at the *Temporal Heavenly World*, *infra*, the reference to "Alpha (Greek A / α = A)," means that this is *World Alpha*, and so is named after the first Greek letter which is called, "Alpha," in which capital alpha is "A," and lower case alpha is "α."

Providing we are under the authority of Scripture, and recognize God "created" (Gen. 1:1) these "worlds" which "were framed by the word of God, so that things which are seen were not made of things which do appear" (Heb. 11:3), God has graciously given us men a largely unfettered discretion to study and build up appropriate pictures of the temporal "generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. 2:4). Certainly this requires some level of revision on the basic model of catastrophism and new creations as first put forth with a historically modern geological treatment by the great French Protestant scientist, George Cuvier (1769-1832); and as first developed in 1814 in a gap school model of Gen. 1:1,2 with reference to Cuvier's earlier work, by the British

---

[360] See Volume 1, Part 2, Chapter 20, "Paradise Lost a Local Earth – So Is Paradise Regained a Local Earth?"

Protestant theologian, Thomas Chalmers (1780-1847) of Scotland, *supra*. Therefore e.g., one would no longer say that each geological layer was brought about by a catastrophe ending one world and starting another. Rather, one must now include the data on how depositions are formed; and this revision also includes in it the idea that one world might sometimes be destroyed in slower way over time than Cuvier envisioned, though another world might be very largely destroyed in a quicker way as seen in the ending of the Cretaceous World in 66.4 million B.C. . But this type of revised model of Cuvier's and Chalmer's catastrophism, is still at heart the same big broad-brush old earth creationist Gap School idea of a succession of "worlds" (Heb. 1:2; 11:3) in "generations of the heavens and of the earth when they were created" (Gen. 2:4) in the time-gap between Genesis 1:1 and Genesis 1:2.

Therefore, putting aside some of the finer divisions in these relevant worlds, we here find that on the basis of our contemporary scientific knowledge (as at 2014), we can see the following "big picture" of the generally *United Gap School*.

THE HEAVENLY EONS	THE HEAVENLY EONS	ARCHEOTERRAIC EON
World 1) Alpha (Greek A / α = A). Temporal Heavenly World (from *c.* 14 billion B.C. + / - 4 billion years).	World 2) Beta (Greek B / β = B). Spiritual Heavenly World (Job 1:6; 2:1; 38:4-7; Rev. 12:7-9).	World 3) Gamma (Greek Γ / γ =G). Pregeological World (4.6 billion to 3.96 billion B.C.)

ARCHEOTERRAIC EON	ARCHEOTERRAIC EON
World 4) Delta (Greek Δ / δ = D). Archeozoic World (3.96 to 2.5 billion B.C.)	World 5) Epsilon (Greek E / ε = E). Proterozoic World (2.5 billion to 540 million B.C.)

PALEOZOIC AGE	PALEOZOIC AGE	PALEOZOIC AGE
World 6) Zeta (Greek Z / ζ = Z). Cambrian World (540 to 505 million B.C.)	World 7) Eta (Greek H / η = E). Ordovician World (505 to 438 million B.C.)	World 8) Theta (Greek θ or Θ / θ = Th). Silurian World (438 to 408 million B.C.)

PALEOZOIC AGE	PALEOZOIC AGE	PALEOZOIC AGE
World 9) Iota (Greek I / ι = I). Devonian World (408 to 360 million B.C.)	World 10) Kappa (Greek K / κ = K). Carboniferous World (360 to 286 million B.C.)	World 11) Lambda (Greek λ or Λ / λ = L). Permian World (286 to 245 million B.C.)

MESOZOIC AGE	MESOZOIC AGE	MESOZOIC AGE	CENOZOIC AGE
World 12) Mu (Greek M / μ = M). Triassic World (245 to 208 million B.C.)	World 13) Nu (Greek N / ν = N). Jurassic World (208 to 144 million B.C.)	World 14) Xi (Greek X / ξ = X). Cretaceous World (144 to 66.4 million B.C.)	World 15) Omicron (Greek O / o = O). Tertiary World (66.4 million to 2.6 million B.C.)

CENOZOIC AGE
Quaternary Worlds: World 16) Pi (Greek Π / π = P) the *Early Pleistocene to Late Pleistocene I World* (2.6 million B.C. to *c.* 68,000 B.C.) i.e., the Pleistocene Period from Early Pleistocene to the end of *Late Pleistocene I* (2.6 million B.C., to *c.* 68,000 B.C.). Thus omitting in this Part 2, Chapter 3, section f, the period from the time of Worlds 17 (Rho, Greek P / ρ = R), 18 (Sigma, Greek C or Σ / σ / ς = C or S), & 19 (Tau, Greek T / τ = T) in the *Late Pleistocene II* (starting from the last Ice Age 68,000 B.C. to end of last Ice Age *c.* 8,000 B.C.), & also Worlds 20 (Upsilon, Greek Y / υ = U / Y) and 21 (Phi, Greek Φ / φ = Ph) in the Holocene (last 10,000 years from *c.* 8,000 B.C. to the Second Advent). Certain matters for the periods of Worlds 17, 18, & 19 in the *Late Pleistocene II* and Worlds 20 & 21 in the *Holocene* (last 10,000 years), will be considered in later chapters; as will also the Aper satyr beast originating sometime between *c.* 200,000 to 100,000 B.C.[361]. Reference will also be made to the future post Second Advent Worlds 22 (Chi, Greek X / χ = Ch - as in Christ), 23 (Psi, Greek Ψ / ψ = Ps), & 24 (Omega, Greek Ω / ω = O). And while it is possible that these will be the last of the relevant worlds for our purposes, in connection with the unresolved conjecture about whether or nor the universe will one day end, reference will also be made to the possible speculated future new universe Worlds Aleph (Hebrew א = A) & Beth (Hebrew בּ = B)[362].

While detailed discussion of the above succession of worlds is beyond the scope of this work, it should be understood that finer divisions within them may generally be

[361] E.g., Part 2, Chapter 6, section c, "Soul-talk:" subsection ii, "Distinguishing Satyr Beasts & Man, the Apers & Adamites: A clean cut – like putting a knife through butter."

[362] See Part 2, Chapter 20, "Paradise Lost a Local Earth – So Is Paradise Regained a Local Earth?"

made than those shown above[363]. Let us now consider *Worlds 1 to 16* in the generally *United Gap School*.

In Hebrews 1:1,2 we read that "God" "by his Son" "made the worlds" (plural). The Greek word translated "worlds" in the King James Version (1611) at Heb. 1:2; 11:3; is *aion* (αιων[364]). From it, we derive our English word, "Eon" (or "Aeon"), and it may also be rendered as "ages." Thus through reference to these Scriptures we may also refer to the two grand divisions of the *Heavenly Eons* – both temporal and spiritual (Gen. 1:1; 2:4), and the *Archeoterraic Eon*.

The *Temporal Heavenly World* and *Spiritual Heavenly World* of the Heavenly Eons are the first and second worlds respectively, and since the creation of the *Spiritual Heavenly World* they have co-existed simultaneously. Hence the worlds discussed with respect to the earth, *infra*, are thus not the first of "the worlds … framed by the word of God" *per se* (Heb. 11:3), since there were "worlds" (Heb. 11:3) in "the generations of the heavens" (Gen. 2:4) which preceded the later creation of the earth *c.* 4.6 billion B.C. . However, the temporal and spiritual heavenly worlds have continued on after the creation of the earth. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), these first and second worlds are his *World Alpha* (Greek A / α = A) and *World Beta* (Greek B / β = B) respectively.

This side of our glorification, the *Spiritual Heavenly World* can only be known about by us through the Divine revelation found in the Holy Bible. The words of Genesis 1:1, "In the beginning God created the heaven" or "heavens," and those of Genesis 2:4, "These are the generations of the heavens … when they were created, in the day that the Lord God made … the heavens," include the *Spiritual Heavenly World*. We know this world existed as the abode of angels with access to the throne room of God from sometime between the Big Bang *c.* 14 billion B.C. and the creation of the earth *c.* 4.6 billion B.C. (Job 1:6; 2:1; 38:4-7). But exactly where within this period of about 9½ billion years the *Spiritual Heavenly World* was made is not clear, since EITHER it would be possible to argue that Gen. 1:1, "In the beginning God created the heaven" or "heavens" could mean the spiritual heavenly world of angels was created at the same time as the temporal heaven with the Big Bang in 14 billion B.C.; OR it would be possible to argue that "the generations of the heavens" in Gen. 2:4 could be interpreted to mean that one of the later "generations of the heavens" *before* the earth was made (Job 38:4-7), the spiritual heavenly world of angels was created i.e., sometime between the

---

[363] This chart is largely drawn from *Encyclopaedia Britannica CD99*, *op. cit.*, "Geochronology: The Interpretation & Dating of the Geological Record: Geologic History of the Earth: Cenozoic Era: Holocene Epoch," Table 4.

[364] In both Heb. 1:2 and Heb. 11:3, this is *aionas* (/ αιωνας, accusative plural masculine noun, from *aion* / αιων).

Big Bang in 14 billion B.C. and the creation of the earth from 4.6 billion B.C. . Since Scripture will allow either interpretation, and since we are not given much detail in Scripture on this matter, I think it is presently an open question as to exactly when the spiritual heavenly world of angels was created inside the time frame of being between the time of the Big Bang *c.* 14 billion B.C. and the creation of the earth *c.* 4.6 billion B.C. . We know that the Devil and his angels have now been "cast out" of "heaven" (Rev. 12:7-9). Moreover, since man's fall in Adam (Gen. 2 & 3; Rom. 5:12-14; I Cor. 15:22,45,47,49), heaven is also the abode of the faithful departed souls (II Cor. 5:6,8; Philp. 1:23,24; Heb. 12:23; Rev. 6:9) till the Second Advent; when Christ will come with his angels (Matt. 25:31) and saints (Col. 3:4; I Thess. 3:13), and the redeemed of mankind shall thereafter live on the New Earth (Isa. 66:22; Rev. 21:1).

With regard to both the temporal heaven and spiritual heaven, see Volume 1, Part 1, Chapter 2, "The First of Seven Keys to understanding Gen. 1-11," section 1, "Global or Local 'heaven and earth' in Gen. 1:1?," *supra*. And with regard to the *Temporal Heavenly World*, see Part 2, Chapter 2, "'The creation of the world' (Rom. 1:20): the generally united old earth creationist school," section a, subsection i, "Cosmology (The First Cause): 'In the beginning God created' (Gen. 1:1), the universe & how at the time of the Big Bang God made matter out of nothing at all!," section b, "Teleology (Design):" subsections i, "'God created the heaven and the earth' (Gen. 1:1) & the Anthropic Principle," and iii, "'God created … the earth' (Gen. 1:1): Earth's Solar System," *supra*.

In a Divine Commentary on Genesis 1, we read at 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." The Greek word translated "worlds" in the Authorized Version (1611) at Heb. 1:2; 11:3; is *aion* (αιων[365]). From it, we derive our English word, "Eon" (or "Aeon"), and it may also be rendered as "ages." Thus through reference to these Scriptures we may also refer to the *Archeoterraic Eon* (4.6 billion B.C. to 540 million B.C.) which includes within it three worlds, to wit, the *Pregeological World* (4.6 billion to 3.96 billion B.C.), the *Archeozoic World* (3.96 to 2.5 billion B.C.), and the *Proterozoic World* (2.5 billion to 540 million B.C.). At Genesis 1:1 the Greek Septuagint reads, "In the beginning (*arche* / αρχη, feminine singular dative noun, from *arche*) God made the heaven and earth;" and the Latin Vulgate reads, "In the beginning God created heaven and earth (*terram*, feminine singular accusative noun, from *terra*)." The term "Archeoterraic" comes from the Greek word, *arche* (αρχη) meaning "beginning," in Genesis 1:1 of the Greek Septuagint; and the Latin word, *terra* meaning "earth," in Genesis 1:1 of the Latin Vulgate; and thus it means, "beginning earth." The Greek word "beginning" (*arche* / αρχη) can be used in a relative sense, for example, the Greek Septuagint reads in Ps. 102:25, "In the beginnings (*archas* / αρχας, plural form of *arche* / αρχη[366]) thou, O Lord, didst lay foundation of the earth; and the heavens are the works of thine hands." And so too, for example, with respect to "the

---

[365] In both Heb. 1:2 and Heb. 11:3, this is *aionas* (/ αιωνας, accusative plural masculine noun, from *aion* / αιων).

[366] Greek, *archas* / αρχας, feminine plural accusative noun, from *arche* / αρχη.

beginning of the creation" of the wonderful Edenic world of Gen. 1:2b-2:3, our Lord says, "from the beginning (*arches* / αρχης, from *arche* / αρχη[367]) of the creation" in Gen. 1:2b-2:3 "God made them male and female" (Mark 10:6), so that our Lord and Saviour, Jesus Christ, here teaches creation, not macroevolution. Thus while the *Archeoterraic Eon* is the beginning of the planet earth as found in the words of Genesis 1:1; it is used in a relativistic sense, for there are a succession of "eons," or "ages," or "worlds" referred to in Heb. 1:2; 11:3; with multiple "beginnings" and endings of such eons, ages, and worlds, in "the generations of the heavens and of the earth when they were created, in the" *circa* 14 billion year old "day that the Lord God made the earth and the heavens" (Gen. 2:4)[368].

The *Pregeological World* (4.6 billion to 3.96 billion B.C.) of the Archeoterraic Eon is the third of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4). In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this third world is his *World Gamma* (Greek Γ / γ = G). And it is the first of the "worlds … framed by the word of God" (Heb. 11:3) which deal with "the generations … of the earth" (Gen. 2:4). Isotopic dating is based on radioactive decay i.e., the process in which at a known and constant rate, one atom or isotope is converted into another atom or isotope. On the one hand, based on lead deposits in the Earth, isotopic dating can be used to create a growth curve to extrapolate a date for the Earth of *c.* 4.6 billion B.C. . This date in turn correlates with e.g., isotopic dating of uranium-lead samples from lunar rock and soil which also gives a moon date of *c.* 4.6 billion B.C.; and these in turn correlate with isotopic dates of a number of meteors which have come to earth. But on the other hand, the oldest known rocks of the earth can by isotopic dating be dated to *c.* 3.96 billion B.C. . Making a synthesis of this data, it looks like the earth, moon, and entire solar system came into existence around the same time of *c.* 4.6 billion B.C. . This means that the Earth existed for about 650 million years from *c.* 4.6 billion B.C. to *c.* 3.96 billion B.C., during which no geological record was formed in the Book of Nature, for which reason certain details about the *Pregeological World* are the subject of a good deal of speculation. However, beyond such conjecture, the Book of Nature still gives us some hard and fast record from this largely mysterious world. For instance, in the 1980s a research group from the *Australian National University* in the capital city of Canberra in the Australian Capital Territory, undertook research at Mount Narryer and its environs in Western Australia. In 1983 they discovered zircon grains at Mount Narryer that dated to 4.18 billion B.C., and in 1986 they discovered a zircon conglomerate about 60 kilometres or 37 miles from Mount Narryer which dated to 4.276 billion B.C., and 16

---

[367] Greek, *arches* / αρχης, feminine singular genitive noun, from *arche* / αρχη.

[368] I coined the name *Archeoterraic Eon* as a God honouring and Bible upholding creationist term following prayer and consideration just before, during, and after, what in the *Book of Common Prayer (1662)* is Trinity 6 Sunday, 7 July 2013, *supra*. My usage of both Greek and Latin in a term is not without precedent, e.g., "mosasaurus," is from the Latin, *Mosa*, for the river *Meuse*; and the Greek, *sauros* (σαυρος) for "lizard" or "reptile. Cf. *Tyrannosaurus Rex* from Greek and Latin, *infra*.

other zircon grain samples were found which had about the same ages or were slightly younger. These dates compare to the oldest known rocks discovered, which were at the Great Slave Lake in north-west Canada, and date to 3.96 billion B.C., and thus the commencement of the next world[369].

The *Archeozoic World* or Archean World (3.96 to 2.5 billion B.C.) of the Archeoterraic Eon is the fourth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4). In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this fourth world is his *World Delta* (Greek Δ / δ = D). And it is the first of the "worlds … framed by the word of God" (Heb. 11:3) which geologists can study at a level of greater detail in the Book of Nature. As further discussed at the *Tertiary World* (66.4 million B.C. to 2.6 million B.C.) of the Cenozoic Age, *infra*, the concept of there being a "first" or "beginning" world in the geological layers of the earth, was first recognized in 1760 by the creationist, Giovanni Arduino (1714-1795) of Italy, whose work divided earth's rocks into three broad ages, *Primary*, *Secondary*, and *Tertiary*. While older rocks in older geological layers have now been found which predate his "Primary" age, and his threefold division was ultimately found to be an inadequate explanation of earth's geology, the salient point remains that the concept of a "first" or "beginning" world in earth's geological layers is a creationist category of thought dating from the mid 18th century. The word "Primary" comes from the Latin, *primarius*, meaning "the first rank;" and this creationist concept of a "first" or beginning geological layer was gradually developed by later geologists, so that building on Arduino's concept that there must be a "first" or "beginning" geological layer, more than a hundred years later, the American geologist, James Dana (d. 1895), first used the term "Archeozoic" for this first geological age in 1872[370]. The term "Archeozoic" comes from the Greek words, *arche* (αρχη), meaning "first place" or "a beginning;" and *zoe* (ζωη), meaning "life." E.g., the Greek *arche* (αρχη[371]), is found in the Greek Septuagint at Genesis 1:1 which reads, "In the beginning (*arche* / αρχη) God made the heaven and the earth;" and the Greek *zoe* (ζωη[372]), is found in the Greek Septuagint at Gen. 1:30, which refers to animals from the much later Late Pleistocene II era (*c.* 68,000-8,000 B.C.) of Eden as

---

[369] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, "Geochronology: The Interpretation & Dating of the Geological record: Geological History of the Earth: The Pregeological Period;" & "Geochronology: The Interpretation & Dating of the Geological record: Relative & Absolute Dating: Absolute Dating: Principles of Isotopic Dating." Lead deposits used for dating earth are Lead-206 & Lead-207. Zircon is a silicate mineral, zirconium silicate ($ZrSiO^4$).

[370] Dana, J.W., *Corals & Coral Islands*, Dodd & Mead, New York, USA, 1872, Appendix, p. 373.

[371] Given as a root word in its feminine singular nominative noun form.

[372] Given as a root word in its feminine singular nominative noun form.

having "the breath of life (*zoe* / ζωη[373]). As discussed at the *Archeoterraic Eon*, *supra*, Genesis 1:1 covers the beginnings of multiple worlds (Gen. 2:4; Heb. 1:2; 11:3), and the Greek word "beginning" (*arche* / αρχη) can be used in a relative sense (Ps. 102:25, LXX; Mark 10:6). Thus while the *Pregeological World* (4.6 billion to 3.96 billion B.C.) of the Archeoterraic Eon is the absolute beginning of the planet earth as found in the words of Gen. 1:1; nevertheless, in this relativistic sense, from the time from which geologists can study earth's history at a level of greater detail, about 650 million years after its beginning, one can call this the *Archeozoic World* of the Archeoterraic Eon.

The *Archeozoic World* is divided into Early, Middle, and Late Periods. "Archeozoic" means "ancient life," and this world contains early forms of life in bacteria and blue-green algae from *c.* 3.5 billion B.C. . The Creator's *Archeozoic World* was a world of dramatic volcanic eruptions. Igneous rocks are glassy or crystalline rocks which are formed from molten earth as they cool and solidify. Metamorphism occurs when in conjunction with heat and pressure an igneous rock becomes a metamorphic rock. Metamorphosed igneous rocks from the Archeozoic World are found on all of Earth's continents[374]. "The glory of the Lord shall endure for ever: the Lord shall rejoice in his works. He looketh upon the earth, and it trembleth; he toucheth the hills, and they smoke" (Ps. 104:31,32).

The *Proterozoic World* (2.5 billion to 540 million B.C.) of the Archeoterraic Eon is the fifth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this fifth world is his *World Epsilon* (Greek E / ε = E). The term "Proterozoic" was first used by American geologist, Samuel Emmons (d. 1911) in 1888, and thereafter by American geologist, Charles Van Hise (d. 1918) in 1892. It comes from the Greek words, *proteros* (προτερος), meaning "before" or "former;" and *zoe* (ζωη), meaning "life;" for this Archeoterraic Eon's *Proterozoic World* comes just "before" or "pre" the Cambrian explosion in the following *Cambrian World*. For example, the Greek Septuagint (LXX) of inter-testamental times contains both the Apocrypha and the Old Testament. Concerning these "other Books" of the Apocrypha, "as Hierome," that is, the ancient Latin writing church father and doctor, St. Jerome (d. 420), "saith," "the Church doth read …; but yet doth it not apply them to establish any doctrine" (Article 6, Anglican *Thirty-Nine Articles*). We read in the uninspired and non-canonical Apocrypha in the Book of Sirach (or Ecclesiasticus), "Wisdom hath been created before (*proteros*[375]) all things" (Sirach 1:4, LXX Apocrypha); and we read in the

---

[373] Greek, *zoes* / ζωης, feminine singular genitive noun, from *zoe* / ζωη.

[374] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Archean eon;" "Igneous rock;" "Metamorphism."

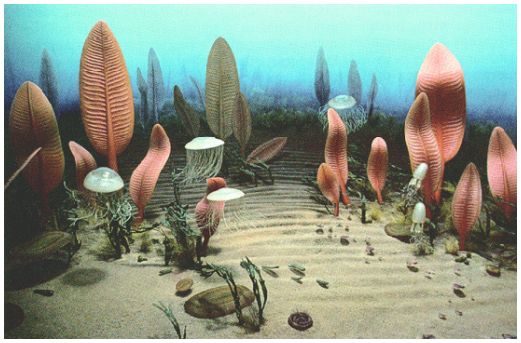
[375] Greek, *protera* (/ προτερα, feminine singular nominative adjective, from *proteros-a-on* / προτερος-α-ον).

inspired and canonical Old Testament in the Book of Isaiah, "Remember the former (*proteros*[376]) things of old: for I am God, and there is none other …" (Isa. 46:9, LXX).

The *Proterozoic World* is divided into the Early Period (2.5 billion to 1.6 billion B.C.), Middle Period (1.6 billion B.C. to 900 million B.C.), and Late Period (900 million B.C. to 540 million B.C.). Rocks from the *Proterozoic World* have been located on all of Earth's continents, and they bear testimony to Almighty God's creation of life as entombed within them are e.g., fossil remains of bacteria and blue-green algae, forms of which the Lord appears to have brought over from the previous *Archeozoic World*. The Creator's *Proterozoic World* rocks are also important sources for such metallic ores as: gold, copper, iron, nickel, and uranium. "Thus saith the Lord … . I will give thee the treasures of darkness, and hidden riches of secret places, that thou mayest know that I, the Lord, … am … God" (Isa. 45:1,3).

> *Before c. 1835 it was still possible to allow as a possibility on the incomplete knowledge of geology for a young earth, (albeit with ever increasing difficulty and the qualification from c. 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier in 1811 & 1813 and Buckland in 1820 considered the data required an old earth). The concept of there being a succession of worlds in the earth's geological layers was first recognized in 1760 by the young earth creationist, Giovanni Arduino (d. 1795). Though his work dividing earth's rocks into three broad ages of Primary, Secondary, and Tertiary was ultimately revised as seen in, e.g., the Proterozoic World.*

A Rocky Coast in the Proterozoic World (2.5 billion to 540 million B.C.)[377].



Underwater Vendian Life of the Proterozoic World *c.* 850- 540 million B.C. in the Russian Federation[378].

---

[376] Greek, *protera* (/ προτερα, neuter plural accusative adjective, from *proteros-a-on* / προτερος-α-ον).

[377] "Proterozoic Eon" http://www.google.com.au/imgres?imgurl=http://scienceforkids.kidipede.com/geology/eras/pictures/rockycoast.jpg&imgrefurl=http://scienceforkids.kidipede.com/geology/eras/pr

In a Divine Commentary on Genesis 1, we read at 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." The Greek word translated "worlds" in the Authorized Version (1611) at Heb. 1:2; 11:3; is *aion* (αιων[379]). From it, we derive our English word, "Eon" (or "Aeon"), and it may also be rendered as "ages." Thus through reference to these Scriptures we may also refer to the three grand geological divisions known as the *Paleozoic Age* (540 million to 245 million B.C.), *Mesozoic Age* (245 million to 66.4 million B.C.), and *Cenozoic Age* (66.4 million B.C. to the Second Advent).

The *Paleozoic Age* (540 million to 245 million B.C.) contains a succession of six "worlds" (Heb. 11:3) with the *Cambrian World*, *Ordovician World*, *Silurian World*, *Devonian World*, *Carboniferous World*, and *Permean World*. It is divided into the Early Paleozoic (540 million to 408 million B.C.) and Late Paleozic (408 million to 245 million B.C., and the geological sequence of the Early Paleozoic (540 million to 408 million B.C.). The word, "Paleozoic," comes from the Greek words, *palaios* (παλαιος), meaning "old;" and *zoe* (ζωη), meaning "life." The Greek *palaios* (παλαιος) is derived from *palai* (παλαι). E.g., we read in Hebrews 1:1,2, "God who at sundry times and in diverse manners spake in time past (*palai* / παλαι, an adverb) unto the fathers by the prophets, hath in these last days spoken unto us by his Son, whom he hath appointed heir of all things, by whom also he made the worlds." And since we are here told of a succession of "worlds" made by the Son of God, we would do well to contemplate the words of "the Lord" (Isa. 48:1) in Isa. 48:5, which as found in the Greek Septuagint read, "And I told thee of old (*palai* / παλαι, an adverb[380]; or *palaia* / παλαια, an adjective[381]) what should

---

oterozoic.htm&h=179&w=300&sz=14&tbnid=IiNHaIxBPwvXAM:&tbnh=61&tbnw=103&prev=/search%3Fq%3Dproterozoic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=proterozoic+images&usg=__W9Rux5zTNM3CKYdZxVf2eb0pJ4E=&docid=Ec2NpXbs3dQ2UM&sa=X&ei=c2LBUc7QJ4aqkAXAx4DICA&ved=0CFUQ9QEwDQ&dur=172.

[378] A depiction of "Vendian Life" http://www.google.com.au/imgres?imgurl=http://www.geology.wisc.edu/homepages/g100s2/public_html/Geologic_Time/L1_Vendian_Life.jpg&imgrefurl=http://www.geology.wisc.edu/homepages/g100s2/public_html/history_of_life.htm&h=360&w=550&sz=172&tbnid=s9xRJNtHZgNevM:&tbnh=91&tbnw=139&prev=/search%3Fq%3Dproterozoic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=proterozoic+images&usg=__mjNrwsHbYRBezWp_RDJ02rsJQ30=&docid=V57-V9lLX5ouGM&sa=X&ei=c2LBUc7QJ4aqkAXAx4DICA&ved=0CDIQ9QEwAg&dur=4562.

[379] In both Heb. 1:2 and Heb. 11:3, this is *aionas* (/ αιωνας, accusative plural masculine noun, from *aion* / αιων).

[380] So found in the *Catena* (Catena Nicephori, 11th century, a Biblical Commentary by Nicetas, sometime a Greek Orthodox Deacon at Hagia Sophia,

be before it came upon thee; I made it know to thee, lest thou shouldest say, My idols have done it for me." The *Paleozoic Age* (540 million to 245 million B.C.) ended with a cataclysmic mass extinction near the end of the *Permean World* (286 to 245 million B.C.); reminding us that only a fool would say, "all things continue as they were from the beginning of the creation" (II Peter 3:4), and that the same God who ended this *Paleozoic Age* with a great cataclysm, will be ending the present age with a great cataclysm at the Second Advent on "the day of judgment and perdition of ungodly men" (II Peter 3:7). In the words of the *Apostles' Creed*, "I believe in God the Father Almighty, maker of heaven and earth; and in Jesus Christ his only Son our Lord, who … sitteth on the right hand of God the Father Almighty; from thence he shall come to judge the quick and the dead. I believe in … the resurrection of the body, and the life everlasting. Amen[382]."

The *Cambrian World* (540 to 505 million B.C.) of the Paleozoic Age is the sixth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this sixth world is his *World Zeta* (Greek Z / ζ = Z). The word, "Cambrian" is derived from the Latin, *Cambria*, and is a variation of *Cymru* which is Welsh for "Wales." The *Cambrian World* was discovered by the work of old earth creationist Gap Schoolman, Adam Sedgwick (1785-1873), the Professor of Geology at Cambridge University, who named it "Cambrian" in 1835 from this Latin word for Wales, with reference to the Cambria region of North Wales.

The *Cambrian World* is divided into the Early Period (540 million to 520 million B.C.), Middle Period (520 million B.C. to 512 million B.C.), and Late Period (512 million B.C. to 505 million B.C.). Rocks from the *Cambrian World* have entombed within them the Creator's "Cambrian Explosion" in which he created varied and abundant marine life forms. These Cambrian rocks generally seem to have been deposited in watery conditions in, or near, shallow water that had come onto the land masses. In this *Cambrian World*, the largest continent, Gondwana, basically comprised of what today is a large portion of southern Europe, the Middle East, India, Africa, Australia, South America, and Antarctica. Another continent, Laurentia, basically comprised of what today is Greenland and North America; and for most, if not all of the *Cambrian World*, it was at the Equator. A small continent of this world was Baltica, which basically comprised of what today is northern Europe and Scandinavia, and it was

---

Constantinople, and later Bishop of Heraclea); and also in *Codex Sinaiticus* (4th century, British Library, London, UK) (*Septuagint*, Rahlfs-Hanhart, 2006, Germany).

[381] Greek, feminine singular nominative adjective, from *palaios-a-on* / παλαιος-α-ον). So found in the Septuagint of the ancient church Greek writer, Lucian of Antioch (d. 312); and also in *Codex Vaticanus* (4th century, Rome, Vatican City State) (*Septuagint*, Rahlfs-Hanhart, 2006, Germany).

[382] Anglican *Book of Common Prayer (1662)*.

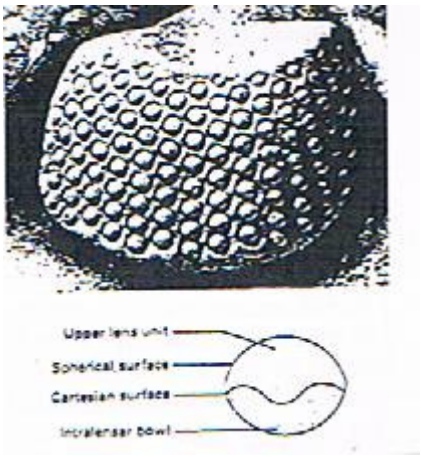
in the middle to higher latitudes of Earth's Southern Hemisphere. There were also some other smaller land masses. The *Cambrian World* saw some relatively low level volcanic activity; and a barren lunar-looking dry land upon which the Lord God had created no plants or animals. The absence of glacial deposits from the *Cambrian World* indicates that it was generally hotter than the Earth is now. Marine fossils from this world show no terrestrial or fresh water fauna or flora were created by God, and no vertebrate (or backbone) animals i.e., invertebrate. But the vibrant sea life left mineralized shells and skeletons. During this time, in addition to various algae and alga like forms of life, the Lord God made such marine creatures as annelids (segmented marine worms), brachiopods (or lamp shells, these dwell at the bottom of the sea-floor and superficially look something like bivalve mollusks), chordates (at some point in their life-cycle they have e.g., a stiff, dorsal supporting rod, a tail, and gill slits), ctenophores (or comb jellies, so called because they have vertical foliage combs over their surface), echinoderms (with a five part radial symmetry), graptolites (floating marine creatures with a finger-nail like outer covering), molluscs (or mollusks, usually with a calcium carbonate shell), and sponges (with a porous skeleton of a bony and needlelike structure).

The Creator's most abundant creature in this *Cambrian World* was the trilobite, and hence the *Cambrian World* has sometimes been called, the *Age of Trilobites*[383]. The trilobite had a three-rounded projection and three segmented form (see picture below), and hence "Trilobite" is a compound word of "tri" – from the Latin *tres* or *tria*, or Greek *treis*, meaning "three," and Greek *lobos* meaning "lobe" i.e., having "three lobes." The sudden appearance of such varied and abundant life during the *Cambrian World* demonstrates fiat creation of parent stocks at the taxonomical level of genus or below by the Lord God of heaven and earth. This *Cambrian World* is a powerful testimony to the creation of creatures at the taxonomical level of genus or below, as opposed to the macroevolutionary Darwinian theory, or any other theory. For example, in this *Age of Trilobites*, the trilobites appear in the Book of Nature's geological layers abruptly and fully formed as fiat creations from the hand of Almighty God. As further discussed in Part 2, Chapter 4, section c, *infra*, Darwin claimed, "It is scarcely possible to avoid comparing the eye to a telescope … . But may not this … be presumptuous? Have we any right to assume that the Creator works by intellectual powers like those of man? … In living bodies, variation will cause the slight alterations, generation will multiply them almost infinitely, and natural selection will pick out with unerring skill each improvement. Let this process go on for millions on millions of years; and during each year on millions of individuals of many kinds; and may we not believe that a living optical instrument might thus be formed as superior to one of glass, as the works of the Creator are to those of man?[384]" But for an animal to have any useful eyesight requires a series of complex components working together, and their irreducible complexity requires creation, not macroevolution. Contrary to the claims of Darwin's theory of macroevolution, the fossil record bears record to such creation in the trilobite eye.

---

[383] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Cambrian Period."

[384] Darwin's *Origin of Species*, chapter 6, "Difficulties On Theory," section "Organs of extreme perfection and complication."



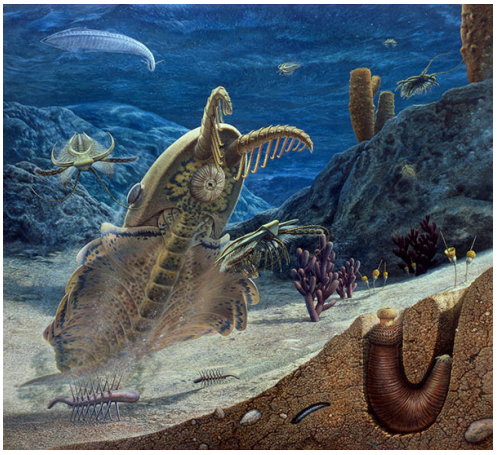
In the above diagram of a trilobite eye from the *Cambrian World*[385], the "upper lens unit" on the "spherical surface" in the top part, coupled with the "cartesian surface" on the "intralensar" bowl in the top part, bespeaks an even greater complexity of these parts of the eye; all of which, like the trilobites themselves, appear abruptly, from nowhere, in the fossil record. The most natural interpretation for the *Age of Trilobites* in the *Cambrian World* (540 to 505 million B.C.) is thus fiat creation of these creatures by Almighty God. However, secularist "scientists" who have a religious belief in Methodological Atheism or Methodological Deism, as a consequence of their religious belief that either there is no God (Atheism), or if there is, he did not act with creation miracles in the origin of species (Deism[386]), refuse to recognize such supernatural activity due to the bigotry of their religious belief. "Professing themselves to be wise, they became fools" (Rom. 1:22). But for those with eyes to see, the fossil record evidence from the *Cambrian World*, such as these trilobites, leads us to proclaim with the Psalmist: "the Lord" "gathereth the waters of the sea together as an heap: he layeth up the depth in storehouses. Let all the earth fear the Lord: let all the inhabitants of the world stand in awe of him. For he spake, and it was done; he commanded, and it stood fast" (Ps. 33:6-9).

---

[385] *Perspectives on Science & Christian Faith*, Vol. 50, 1998, p. 255

[386] Some of those following such Methodological Deism, then have a Dispensationalist type category of thought, in which they say God later acted Theistically with e.g., the Divine revelation of the Bible. Such are the inconsistencies of men with one foot in the world, and the other foot in the Christian camp. What saith our Lord and Saviour, Jesus Christ? "No man can serve two masters" (Matt. 6:24).

The Cambrian World (540-505 million B.C.) was discovered & named by old earth creationist Gap Schoolman, Adam Sedgwick (1785-1873).
It is part of the Early Paleozoic Age (540-408 million B.C.) which was first established as a geological sequence by the old earth creationist, Roderick Murchison (1792-1871).



Burgess Shale Scene from The Cambrian World[387].

Trilobites in the shallow sea of The Cambrian World[388].

---

387 "Cambrian: Melbourne Museum," http://www.google.com.au/imgres?imgurl=http://museumvictoria.com.au/pages/17087/ImageGallery/1cambrian-pic-35321.jpg&imgrefurl=http://museumvictoria.com.au/melbournemuseum/discoverycentre/600-million-years/timeline/cambrian/&h=547&w=600&sz=114&tbnid=XWcwKdNBxL97sM:&tbnh=97&tbnw=106&prev=/search%3Fq%3Dcambrian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=cambrian+images&usg=__heXUMpinVdJN3qhhcfpNbwamxKc=&docid=kgkVIBQlRn_UcM&sa=X&ei=PX_BUapphY2QBfTVgYAO&ved=0CCwQ9QEwAA&dur=3641.

388 "Cambrian Life More," "History of Life," http://www.google.com.au/imgres?imgurl=http://www.geology.wisc.edu/homepages/g100s2/public_html/Geologic_Time/L3_Cambrian_Life_More.jpg&imgrefurl=http://www.geology.wisc.edu/homepages/g100s2/public_html/history_of_life.htm&h=475&w=350&sz=80&tbnid=o3IUdXj-s6p9UM:&tbnh=89&tbnw=66&prev=/search%3Fq%3Dcambrian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=cambrian+images&usg=__I9nYvALdj8zjJZM0pCH4VN5fN9g=&docid=V57-V9lLX5ouGM&sa=X&ei=PX_BUapphY2QBfTVgYAO&ved=0CFYQ9QEwDQ&dur=8016.

The *Ordovician World* (505 to 438 million B.C.) of the Paleozoic Age is the seventh of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[389]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this seventh world is his *World Eta* (Greek H / η = E).

The *Ordovician World* is divided into the Early Period (505 million to 478 million B.C., subdivided into the Arengian & Tremadocian sub-periods), Middle Period (478 million B.C. to 458 million B.C., subdivided into the Llanuirnian & Llandeilan sub-periods), and Late Period (458 million B.C. to 438 million B.C., subdivided into the Cardocian & Ashgillian sub-periods). Lapworth's work in the late 19th century on rocks from the *Ordovician World* helped to resolve an area of uncertainty between the old earth creationist, Sir Roderick Murchison, who thought this section's fossils were probably from the lower Silurian World, and the old earth creationist, Adam Sedgwick, who thought this section's fossils were probably from the Upper Cambrian World. Charles Lapworth (1842-1920) undertook pioneering work in the Southern Uplands of Scotland when he was a school teacher or schoolmaster for eleven years at St. Peter's Scottish Episcopal School at Galashiels in south-east Scotland; and then in 1875 he worked as an assistant at Madras College, St. Andrew's, Scotland, before becoming Professor of Geology in 1881 at Mason's College which later became Birmingham University in England. Lapworth undertook a much greater detailed study of the area of uncertainty between the *Cambrian World* and *Silurian World*.

In doing so, Lapworth greatly benefited from the work of the French old earth creationist, Joachim Barrande (1799-1883), who undertook extensive study on the *Silurian World* in the Prague Basin of Bohemia in Czech, and in 1851 demonstrated a distinctive "second" and "third" succession of animal life in what had been regarded as "Silurian[390]." The geological work of "Barrande" is also cited on several occasions by Darwin in his *Origin of Species* (1859), and Darwin refers to "palaeontologists" such as "Barrande," and "geologists" such as "Murchison," and "Sedgwick" as examples of old earth creationists who maintained "the immutability of species" (or I would say, depending on what level God made the parent stocks at for particular creatures, the

---

[389] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Ordovician Period;" "Mass Extinction Summary of first five major extinctions" (http://www.global-mindshift.com/discover/Memebase/MassExtinction.pdf); & "Earth's five mass extinction events" by John Cook (2010 A.D.) (http://www.skepticalscience.com/Earths-five-mass-extinction-events.html).

[390] *Encyclopaedia Britannica CD99*, *op. cit.*, "Geochronology: The interpretation & dating of the geological record: Study of the rock record: Completion of the Phanerozoic time scale;" & "Geochronology: The interpretation & dating of the geological record: Geological history of the earth: Paleozoic Period: Silurian Period."

immutability of creatures inside the taxonomical levels of genus, or species, or subspecies,) as seen in their reading of the geological record showing "the sudden manner in which whole groups of species appear in … formations." But Darwin also says that the catastrophism of "Murchison" and "Barrande" is more modest than some earlier creationist catastrophists in that they did not consider that "all the inhabitants of the earth" had "been swept away at successive periods by catastrophes" i.e., the catastrophism of such creationists was more limited in scope that some earlier catastrophists[391]. Like Murchison (d. 1871) and Sedgwick (d. 1873), Barrande (d. 1883) remained an old earth creationist following the annunciation of the Darwin-Wallace Theory of Natural Selection in 1858, and its elucidation in Darwin's *Origin of Species* in 1859. Barrande remained committed to the basic creationist model of Cuvier i.e., a succession of new creations following catastrophes, so that in the two dozen years from 1859 till 1883, "in science; he remained a pupil … of Cuvier till his death, and, therefore, a natural opposer of … the theory of [macro]evolution[392]."

Thus Lapworth looked at the issues raised in the work of the creationists Murchison and Sedgwick, and greatly benefited from the work of the creationist Barrande. Then in 1879 he announced that research now indicated one could discern a separate world, the *Ordovician World*, which came after the *Cambrian World* that Sedgwick thought these fossils probably belonged to, and before the *Silurian World* that Murchison thought these fossils probably belonged to. Lapworth's own work of relevance was on rocks from the Arenig Mountains on the border of England and Wales and eastward into the Bala district of North Wales in the United Kingdom. Hence the word, "Ordovician," is derived from the Latin, *Ordovices*, the name of an ancient Celtic British tribe in North Wales.

The *Cambrian World* or *Age of Trilobites* ended with the catastrophe of mass extinction of the trilobites, and even though a relatively small percentage of them were brought over by the Creator into the *Ordovician World*, their radical reduction acts as a catastrophic marker ending the *Cambrian World* and starting the *Ordovician World* in *circa* 505 million B.C. . In addition to new forms of sea-floor lamp shells (or brachiopods, *supra*) and graptolites (floating marine creatures with a finger-nail like outer covering), the Creator made a number of new marine species in this world with a number of other marine creatures with no vertebrate (or backbone) i.e., invertebrates. These included: bryozoans (e.g., usually less than 1 millimetre or 1/25th of an inch; with an external skeleton and tentacles), crinoids (usually these have five or more feathery arms

---

[391] Darwin's *Origin of Species* (1859), chapter 9, "On the imperfection of the Geological Record," section, "On the sudden appearances of whole groups of Allied Species …" (emphasis mine) (Barrande & Murchison, earlier citing some of Murchison's work on "the Silurian system"); chapter 10, on Barrande, see for instance, "On the Geological Succession of Organic Beings:" introductory section; section "On Extinction" section "On the Forms of Life changing almost simultaneously throughout the World," & section "On the Affinities of extinct species to each other … ."

[392] Horný, R. & Turek, V., "Joachim Barrande (1799-1883) – His life, work & heritage to world paleontology" (http://www.trilobit.biz/joachim.html).

on a cup-shaped body, tentacles with open grooves, and with small hair-like projections they sweep food from the water into their mouth), tabulate corals (coral with tabulae i.e., interior platforms; & lack of vertical walls; these creatures existed through to the Jurassic World), and horncorals (or tetracorals, or rugosa; the individual corals built by the coral creature were horn-like in shape; and existed through to the Permian World). The era also saw bivalve molluscs near shores; nautiloids (elongated & stream-lined marine organisms, nautiloid shells can be found in the earlier Late Cambrian World, sometimes known as cephalopods) in shallow sections of the warm seas (picture, *infra*); and jawless armoured fish (ostracoderms) near the shore of tropical waters. Almighty God signalled that this *Ordovician World* was coming to a close by a great catastrophe near its end, when between 50% and 60% of all marine and land species were destroyed, with abundant biodiversity not returning for about another 25 million years. But in another characteristic of the Creator which is also evident in the ushering out of one world, and ushering in of another world, in a number of instances, the *Ordovician World* was a case of this world showing a Creator "which bringeth forth out of his treasure things new and old" (Matt. 13:52).

> *The Ordovican World (505-438 million B.C.) is part of the Early Paleozoic Age (540-408 million B.C.) which was first established as a geological sequence by the old earth creationist, Sir Roderick Murchison (1792-1871).*
>
> *Greatly benefiting from the work of old earth creationist, Joachim Barrande (d. 1883), the disagreement between old earth creationists, Roderick Murchison (d. 1871), who thought this section's fossils were probably from the lower Silurian World, and old earth creationist, Adam Sedgwick (d. 1873), who thought this section's fossils were probably from the Upper Cambrian World, was finally resolved by schoolmaster, Charles Lapworth (d. 1920). Whilst a school teacher at St. Peter's Scottish Episcopal School at Galashiels in south-east Scotland, he undertook more detailed research in the Scottish Uplands resulting in the realization that this was a distinctive world, to wit, the Ordovician World.*

Fossil of a Nautiloid from the *Ordovician World*[393].

The Nautiloids or Cephalopods of the *Ordovician World*[394].

[393] Nautiloids are also called Lutites. From Middle Ordovician World; specimen about 2.54 centremetres or 1 inch; from Songtao, Guizhou Province, China: http://www.google.com.au/imgres?imgurl=http://www.fossilmall.com/EDCOPE_Enterpr

The *Silurian World* (438 to 408 million B.C.) of the Paleozoic Age is the eighth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[395]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this eighth world is his *World Theta* (Greek θ or Θ / θ = Th).

The *Silurian World* is divided into the Early Period (438 million to 421 million B.C., subdivided into the Llandoverian & Wenlockian sub-periods), and Late Period (421 million B.C. to 408 million B.C., subdivided into the Ludlovian & Pridolian sub-periods). Its upper boundary is at Klonk in Czech, and its lower boundary is at Dobb's Linn (near Moffat) in Scotland's Southern Uplands. In North America Silurian rocks stand exposed starting in the Appalachian Mountains[396], and going over to the Midwest[397], and are especially prominent in the region of the Great Lakes[398]. Old earth creationist, William Buckland, suggested to old earth creationist, Roderick Murchison that it might be worth investigating certain well preserved strata in South Wales to see what the Book of Nature read at that chapter. After responding positively to this suggestion, the *Silurian World*

---

ises/ammonites/ammo58/AAF381A.jpg&imgrefurl=http://www.fossilmall.com/EDCOPE_Enterprises/ammonites/ammo58/Ammonites58.htm&h=392&w=600&sz=50&tbnid=vkoEu1Z4L5rCEM:&tbnh=80&tbnw=122&prev=/search%3Fq%3Dnautiloids%2Bordovician%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=nautiloids+ordovician+images&usg=__2jdvExfngg96wZl7HMUpOWHwmgg=&docid=eKGqSIKFcykiRM&sa=X&ei=0l6yUd39LMnwlAXL_IHAAg&ved=0CEIQ9QEwBw&dur=0

[394] "The Age of Cephalpods" (nautiloids), http://www.google.com.au/imgres?imgurl=http://ferrebeekeeper.files.wordpress.com/2010/11/ordovician.jpg&imgrefurl=http://ferrebeekeeper.wordpress.com/2010/11/29/the-age-of-cephalopods/&h=612&w=843&sz=103&tbnid=gDDNAGs-0gj1BM:&tbnh=89&tbnw=123&prev=/search%3Fq%3Dordovician%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=ordovician+images&usg=__o6cyou1JqnkWLJ-9IZbhXvIE--M=&docid=vwTYv4-hXb20pM&sa=X&ei=IoLBUdyLIsbhkgXGyIGwCw&ved=0CDwQ9QEwBQ&dur=3172

[395] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Silurian Period."

[396] The Appalachian Mountains stretch from Newfoundland in Canada, through eastern USA, and south to central Alabama, USA.

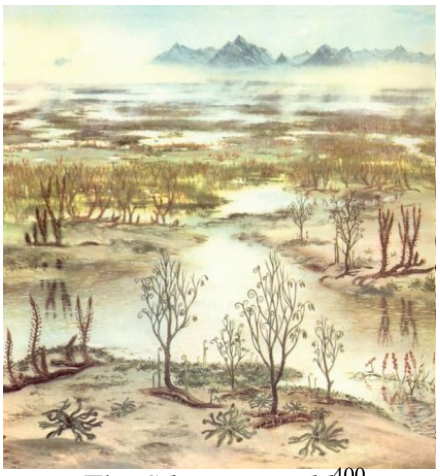
[397] The Midwest of the USA is: Ohio, Michigan, Indiana, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, & North Dakota.

[398] The Great Lakes of North America consist of Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario.

was then discovered by the work of old earth creationist, Roderick Impey Murchison (1792-1871), who named it "Silurian" in 1835, from the Latin *Silures*, the name of an ancient British tribe (see Volume 1, Part 1, Chapter 8, "The Seventh of Seven Keys to understanding Gen. 1-11," at section c, "Consideration of violations of the 3rd commandment, 9th commandment, and propagation of schismatic heresies, by those who refuse to 'consider the work of God'{Eccl. 7:13}," *supra*). The *Silurian World* saw the Creator creating the first jawed fish, and the first plants on the land. This world also shows graptolites (floating marine creatures with a finger-nail like outer covering); the monograptids (picture, *infra*) - a single row branch with an elaborate covering, these went extinct in the early *Devonian World* and they can be used to correlate Silurian rocks from different parts of the world (the most common one is monograptus). The *Silurian World* also included: corals, conodonts (a tooth like fossil between 0.2 to 6 millimetres long, or 1/125th & 30/125ths of an inch long), crinoids *supra*, molluscs *supra*, sea-floor lamp shells (or brachiopods, *supra*), and stromatoporoids (corals generally preferring water less than 30 metres or 16½ fathoms deep). "To everything there is a season, and a time to every purpose under the heaven;" "a time to plant" (Eccl. 3:1,2). Now "speak to the earth, and it shall teach thee: the fishes of the sea shall declare unto thee. Who knoweth not in all these that the hand of the Lord hath wrought this?" (Job 12:8,9).

The Silurian World was discovered & named by old earth creationist, Sir Roderick Impey Murchison (d. 1871).

Rock formation from the *Silurian World* containing numerous monograptids (each single row branch in this fossil rock is a monograptid)[399].



The *Silurian World*[400].

The *Silurian World*[401].

---

[399] http://commons.wikimedia.org/wiki/File:Monograptus_sp.4_-_Silurico.JPG

[400] "Silurian Time Period," http://www.google.com.au/imgres?imgurl=http://clccharter.org/clayton1/Silurian%2520preiod/I10-68-Silurian.jpg&imgrefurl=http://clccharter.org/clayton1/Silurian%2520preiod/silurianpage.html&h=450&w=420&sz=50&tbnid=gV6exhTc4nvoPM:&tbnh=96&tbnw=90&prev=/search%3Fq%3Dsilurian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=silurian+images&usg=__oGtnijq4i9jjEL18SBmJc_vVw-Y=&docid=z76wL4SQGVfjVM&sa=X&ei=4YTBUcThGM3llAWY_4HYBQ&ved=0CFMQ9QEwDA&dur=1734.

[401] "Silurian Time Period" http://www.google.com.au/imgres?imgurl=http://clccharter.org/clayton1/Silurian%2520preiod/I10-29-

The *Devonian World* (408 to 360 million B.C.) of the Paleozoic Age is the ninth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[402]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this ninth world is his *World Iota* (Greek I / ι = I).

The *Devonian World* is divided into the Early Period (408 million to 387 million B.C., subdivided into the Lochkovian, Pragian, & Emsian sub-periods), Middle Period (387 million B.C. to 374 million B.C., subdivided into the Eifelian & Givetian sub-periods), and Late Period (374 million B.C. to 360 million B.C., subdivided into the Frasnian & Famennian sub-periods). The word, "Devonian," comes from the Latin, *Devonia* for Devonshire, and Devonian rocks are found in marine deposits in Devon, and in land deposits in the north of Devon, in England, UK. The *Devonian World* was first established in geology in 1839 following its discovery by the old earth creationists, Roderick Impey Murchison and Adam Sedgwick. A year in the *Devonian World* consisted of about 400 days, with each day being about 21 hours in length; and this had a minor effect on tides. In the *Devonian World* the southern hemisphere contained a massive continent, and other land masses were located in equatorial parts of the globe. The North American and European Continents collided in the Early Devonian Period resulting in certain mountain building, resulting in the Caledonian mountain belt; and the Middle Devonian Period saw the Acadian mountain building in the north Appalachia of what is now eastern USA. There was also major tectonic plate movements in eastern Australia, East Asia, northern and western North America, and western South America. Volcanic explosions along the ocean ridge fissures were related to the flooding of continents along their margins, so that by the Late Devonian Period much more of the earth's continental land mass was flooded by sea water than it is today. The *Devonian World* saw a colourfully varied flora and fauna. E.g., at the Creator's hand there was a diversification of molluscs, bivalve lamp shells (or brachiopods, *supra*), and conodonts (a tooth like fossil, *supra*). Corals were abundant, but the Creator reduced the overall

---

Silurian.jpg&imgrefurl=http://clccharter.org/clayton1/Silurian%2520preiod/silurianpage.html&h=400&w=584&sz=83&tbnid=kMsQ2CyxEC29jM:&tbnh=92&tbnw=135&prev=/search%3Fq%3Dsilurian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=silurian+images&usg=__wCirSl-91jpuBcanEuo-jjfppNc=&docid=z76wL4SQGVfjVM&sa=X&ei=4YTBUcThGM3llAWY_4HYBQ&ved=0CDIQ9QEwAg&dur=266

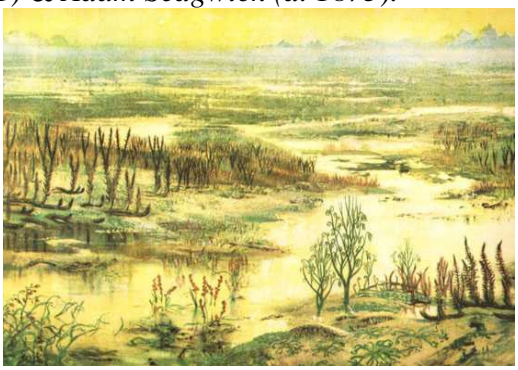
[402] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Devonian Period;" "Mass Extinction Summary of first five major extinctions" (http://www.global-mindshift.com/discover/Memebase/MassExtinction.pdf); & "Earth's five mass extinction events" by John Cook (2010 A.D.) (http://www.skepticalscience.com/Earths-five-mass-extinction-events.html).

number of trilobites, catastrophically destroying all of them except for one breed (God kept the trilobite proetaceans into the Early Carboniferous World).

He who by his "mighty hand and" "outstretched arm" (Deut. 26:8) had formerly made the *Cambrian World* the *Age of Trilobites*, now made the *Devonian World* the *Age of Fishes*. The Creator now made Agnatha class jawless fish in heavily armoured varieties; together with lungfish, and shark like fish. Near the end of the *Devonian World*, the Lord created four-footed amphibians who could move between an aquatic and a land life existence. At the Creator's hand, there was also a diversification of vascular plants i.e., plants with a specialized supporting and water conducting tissue. The first forests were created from ferns and seed plants, e.g., the Gilboa Forest in what is now north-east USA. Possibly, though not definitely, in connection with a deepening of the shallow shelf seas and an associated destruction of reefs and associated fauna, and possibly, though not definitely, in connection with oxygen deficient conditions after a major transgression and regression of ocean waters that occurred at this time; near the end of the Devonian, he who says, "I form the light, and create darkness: I make peace, and create evil" (Isa. 45:7), unleashed a catastrophic destruction upon large numbers of marine invertebrates which went extinct; and he especially targeted for destruction creatures connected to reef environments. Thus at the close of this world, as many as about 70% of species were destroyed in a great catastrophe. Thus he wrote a closing chapter in the geological history of the *Devonian World*, that angels knew of at the time, and that some millions of years later men might learn of by finding this marker in the Book of Nature, and thus know one of God's "worlds" (Heb. 1:2; 11:3) was coming to a close, and another about to begin. "The Lord is in his holy temple, the Lord's throne is in heaven" (Ps. 11:4). In his heavenly temple, the angels whose creation is included in, though not exhausted by, the words of Genesis 1:1, "In the beginning God created the heaven;" and who had been present when earth was made (Job 38:7), were in existence when the first forests were now created. "The voice of the Lord … discovereth the forests: and in his temple doth every one speak of his glory. The Lord sitteth upon the flood: yea, the Lord sitteth King for ever" (Ps. 29:9,10).

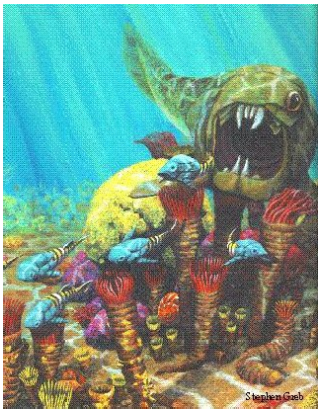
The Devonian World was first discovered by the old earth creationists, Roderick Impey Murchison (d. 1871) & Adam Sedgwick (d. 1873).

The Devonian Land World[403].



The Devonian Land World[404].

The Devonian Sea World[405].



The Devonian Sea World[406].

---

[403] Image provided for the "Nature Prehistoric Life," "Devonian" BBC, http://www.google.com.au/imgres?imgurl=http://ichef.bbci.co.uk/naturelibrary/images/ic/credit/640x395/d/de/devonian/devonian_1.jpg&imgrefurl=http://www.bbc.co.uk/nature/history_of_the_earth/Devonian&h=395&w=640&sz=67&tbnid=A9G5aqnt1G7GOM:&tbnh=84&tbnw=136&prev=/search%3Fq%3Ddevonian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=devonian+images&usg=__onw4_kz9jTcD6AJUlpq5mVd3EnU=&docid=sA0qJQ7n4ph3VM&sa=X&ei=8-K4UfG8CMWElQWY-oHYDQ&ved=0CDIQ9QEwAg&dur=156

[404] Image provided for the "The Early Devonian," http://www.google.com.au/imgres?imgurl=http://palaeos.com/paleozoic/devonian/images/early-dev.jpg&imgrefurl=http://palaeos.com/paleozoic/devonian/earlydev.html&h=386&w=557&sz=32&tbnid=zajFswognS2eFM:&tbnh=94&tbnw=136&prev=/search%3Fq%3Ddevonian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=devonian+images&usg=__MsqE0CGjFKlDCx9yajcdtKpe2ZI=&docid=T_zBExV5Eg-ImM&sa=X&ei=Mua4UdC2O8rckAWk_IGACA&ved=0CEwQ9QEwCg&dur=203

The *Carboniferous World* (360 to 286 million B.C.) of the Paleozoic Age is the tenth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[407]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this tenth world is his *World Kappa* (Greek K / κ = K).

The *Carboniferous World* is divided into the Early Period (360 million to 320 million B.C., subdivided into the Tournaisian, Visean, & Serpukhovian sub-periods; all of which are represented in North America in the Mississippian Early Period since these strata can all be found in Mississippi, USA), and Late Period (320 million B.C. to 286 million B.C., subdivided into the Bashkirian, Moscovian, & Gzelian Kasimovian sub-periods; all of which are represented in North America in the Pennsylvanian Late Period since these strata can all be found in Pennsylvania, USA). The *Carboniferous World* was first established in geology in 1822 following its discovery in the United Kingdom of Great Britain and Ireland (since 1922, the United Kingdom of Great Britain and Northern Ireland) by creationists William Daniel Conybeare and William Phillips in *Outlines of the Geology of England and Wales* (1822). William Conybeare (1787-1857) was a creationist[408]; for example, he described Lamarck's theory of macroevolution (by

---

[405] Image provided for the "Devonian Period," http://www.google.com.au/imgres?imgurl=http://encyclopediaurantia.org/images/pra248.jpg&imgrefurl=http://2012birds.wikispaces.com/Devonian%2BPeriod&h=1117&w=1440&sz=335&tbnid=wihvdE7U_BUenM:&tbnh=102&tbnw=131&prev=/search%3Fq%3Ddevonian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=devonian+images&usg=__HjsOqh48RCE_lJ00QWdWnsBnlAI=&docid=YgpLHRMC0Pfr4M&sa=X&ei=JeS4UdqsNYrPlAWUhYH4DQ&ved=0CEIQ9QEwBw&dur=2563

[406] The "Devonian Period," Kentucky Geological Society, USA http://www.google.com.au/imgres?imgurl=http://www.uky.edu/KGS/fossils/images/devosea.jpg&imgrefurl=http://www.uky.edu/KGS/fossils/devonian.htm&h=410&w=319&sz=64&tbnid=tMr75GxJLTsPXM:&tbnh=98&tbnw=76&prev=/search%3Fq%3Ddevonian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=devonian+images&usg=__If_k74gthbcOJ64Vr4IFMeCKhkk=&docid=0uJxmb_f06rODM&sa=X&ei=Wee4UcSCNor1kQXh74GADw&ved=0CF8Q9QEwEA&dur=719

[407] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Carboniferous Period;" & "Geochronology, The Interpretation & Dating of the Geological Record: Geological History of the Earth: Carboniferous Period: Carboniferous Life;" at both "Amphibians & Early Reptiles" and "Fishes."

[408] See Mortenson, T., "The Historical Development of the Old-Earth Geological Time-Scale," 2007 (http://www.answersingenesis.org/articles/aid/v2/n1/old-earth-time-

transmutation) as, "monstrous[409];" but at a time before *c.* 1835 when it was still possible to allow as one possibility on the incomplete knowledge of geology for a young earth, (albeit with ever increasing difficulty and the qualification from *c.* 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier in 1811 & 1813 and Buckland in 1820 considered the data required an old earth), in 1822 Conybeare was non-committal on the issue of an old earth or a young earth, and he allowed for either possibility being correct. He was a graduate (1808) of Christ Church College, Oxford University, where he studied with fellow old earth creationist, William Buckland. William Conybeare was an Anglican clergyman who was the *Church of England* Vicar of St. Mary's Axminster in England (1836-1844), and then *Church of England* Dean of Llandaff in Wales from 1845 (during the era of the *United Church of England and Ireland* from 1801-1871)[410].

"Carboniferous" is a compound word from "carbon" which is derived from the Latin, *carbo* meaning "charcoal" or "coal;" and "ferous" from the Latin *fer* meaning *produce*; and so the *Carboniferous World* was so named because it was a *coal producing* world with the presence of coal in many of its strata between the Old Red Sandstone of its predecessor *Devonian World* and the New Red Sandstone of its successor *Permian World*. During the *Carboniferous World* tectonic plate movement drew the continents closer together in the southern part of the Earth toward the region of the equator. This included the super-continent of Gondwana (comprising of Africa, Antarctica, Australia, India, the Middle East, and South America), and Laurussia (comprising mainly of Greenland, North America, & Northern Europe) which moved towards Gondwana's northern boundary in the Early *Carboniferous World*; and in a collision of continents, by the Late *Carboniferous World* most of Laurussia had collided with Gondwana and fused together in the Hercynian Belt (Western Europe for 3,000 kilometres or 1,860 miles including Portugal, Ireland, England, France, Spain, Germany, & Czech,) and Appalachians of North America, *supra*. But China joined with South-East Asia was one continent, and Siberia another continent, and these two continents were in high altitudes of the Northern Hemisphere. On the Gondwana continent, there was a prolonged Ice Age at the south polar centre which was located in what today is the area of southern Africa. This reduced sea levels, although when the ice from the Ice Age melted away higher sea levels returned. In both the northern and southern continents there were then widespread swamps, and on these, vegetation grew lush in *Carboniferous World* forests. The Creator made more complex plants, and had them thrive in a more complex assembly of forests. The debris of these lush and widespread forests, and the repetition

---

scale) (Conybeare old earth); & "William Conybeare," *CreationWiki* (http://creationwiki.org/William_Conybeare) (Conybeare a creationist).

[409] *Ibid.*, citing "William Conybeare" (http://www.strangescience.net/conybeare.htm).

[410] *Ibid.* & "William Conybeare (Geologist)," *Wikipedia* (2013) (http://en.wikipedia.org/wiki/William_Conybeare).

of debris from the death of the forest vegetation followed by new forest growth in these swamps, was a defining characteristic of the *Carboniferous World* and the reason for the widespread coal formation over the globe that came from this era. But the Creator then put a geological marker in time indicating the termination of this *Carboniferous World* of 360 to 286 million B.C. with the coming of an increasingly dryer climate. The Lord brought over from the *Devonian World* a rich diversity of fish in both salt water and fresh water environments, although by a catastrophe helping to mark the early days of the Early *Carboniferous World*, the armoured jaw fish known as "arthodires" were marked out for a catastrophic destruction and went extinct. This world also contained invertebrate (no backbone) crinoids, *supra* (see Mushroom Crinoid picture, *infra*). The *Carboniferous World* also saw Almighty God creating vertebrate (or backbone) animals; and also amphibians which were both diverse and widespread over the earth, some of which were as large as 2 metres or 6 feet. For the first time, His Divine Majesty, the Lord Jehovah, King of the Cosmos, created reptiles, and these rapidly went into the suitable habitats the Lord had prepared for them. In the Early *Carboniferous World* these were less than 30 centremetres or 1 foot long, and possessed a backbone; but in the Late *Carboniferous World* there were more diverse and larger varieties introduced by the Creator; and these have been classified as either "labrinthodonts" – so named because of the hard tissue behind a tooth's enamel found in these creatures teeth; or "lepospondyls" – small serpent-like or salamander-like forms.

The rich diversity of fish in the *Carboniferous World*, together with the creation of reptiles including some small serpent-like forms, came from the hand of a mighty Trinitarian God: Father, Son, and Holy Ghost. Many hundreds of years later, the Second Divine Person in the Godhead, namely, "the Son of God" (John 1:34), "was made flesh, and dwelt among us" (John 1:14), for "God was manifest in the flesh" in the person of Jesus Christ (I Tim. 3:16), being fully God and fully man. And he who distinguished between fish and serpent-like reptiles in his creations of the *Carboniferous World* would now make a similar distinction when he asked men, "what man is there of you, whom if his son … ask a fish, will … give him a serpent?" (Matt. 7:9,10). For he who created different creatures, distinguished between different species, for he taught "creation" and not macroevolution (see Mark 10:6 with respect to "the creation" of man). Moreover, the Creator's *Carboniferous World* is an important source for coal, which in time man would use for "burning coals" (Lev. 16:12; Prov. 26:21), for example, we read in John 18:18 of how certain persons "had made a fire of coals; for it was cold: and they warmed themselves." "Thus saith the Lord … . I will give thee the treasures of darkness, and hidden riches of secret places, that thou mayest know that I, the Lord, … am … God" (Isa. 45:1,3).

Before c. 1835 it was still possible to allow for the possibility of a young earth (albeit with ever increasing difficulty and the qualification from c. 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier in 1811 & 1813 and Buckland in 1820 considered the data required an old earth). The Carboniferous World was first discovered by creationists William Daniel Conybeare & William Phillips, & documented in "Outlines of the Geology of England and Wales" (1822). Creationist, Dean William Conybeare, was an Anglican clergyman who when he wrote in 1822 was non-committal on either a young earth or old earth.

A Carboniferous World's Swampy Forest[411].

A Carboniferous World's Mushroom Crinoid, a North American marine Invertebrate, *c.* 345 million B.C.[412].

---

411 "Four Square Miles of Carboniferous Forest," http://www.google.com.au/imgres?imgurl=http://www.mnh.si.edu/highlight/riola/images/calhoun.jpg&imgrefurl=http://www.mnh.si.edu/highlight/riola/&h=280&w=500&sz=111&tbnid=QhR236xQum8j9M:&tbnh=68&tbnw=122&prev=/search%3Fq%3Dcarboniferous%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=carboniferous+images&usg=__fuJS_rNxXLxHxsD5_lBihdGR3aI=&docid=rxeNY7DD9q9lGM&sa=X&ei=OrC7UYH-CajmiAeXnoCoBQ&ved=0CEwQ9QEwCg&dur=4407

412 The Mushroom Crinoid, or *Agaricocrinus Americanus*, from the Mississippian Early Period or the Carboniferous World, found in Indiana, Kentucky, and Tennessee, USA, these date from about 345 million B.C., http://www.google.com.au/imgres?imgurl=https://upload.wikimedia.org/wikipedia/commons/e/e3/Agaricocrinus_americanus_Carboniferous_Indiana.jpg&imgrefurl=https://commons.wikimedia.org/wiki/File:Agaricocrinus_americanus_Carboniferous_Indiana.jpg&h=1564&w=1559&sz=2222&tbnid=WHWCnfpWLOYNWM:&tbnh=101&tbnw=101&prev=/search%3Fq%3Dcarboniferous%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=carboniferous+images&usg=__b61httWEpU3GJ3rx5m-o2UGofyc=&docid=XrQxk0mFOq0dDM&sa=X&ei=OrC7UYH-CajmiAeXnoCoBQ&ved=0CFYQ9QEwDQ&dur=1718

The *Permian World* (286 to 245 million B.C.) of the Paleozoic Age is the eleventh of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[413]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this eleventh world is his *World Lambda* (Greek λ or Λ / λ = L).

The *Permian World* is divided into the Early Period (286 million to 258 million B.C., subdivided into the Asselian, Sakmarian, Artinskian, & Kungurian sub-periods), and Late Period (258 million B.C. to 245 million B.C., subdivided into the Ufimian, Kazanian, & Tartarian sub-periods). The *Permian World* was discovered by the old earth creationist, Roderick Impey Murchison (1792-1871) who named it "Permian" in 1841 with reference to the Perm region of the Ural Mountains in Russia, since the rocks from this area contain a very good fossil record of this world. These rocks are now used as the standard reference points for the *Permian World*; and indeed the very formation of the Ural Mountains themselves transpired during the course of this world. The rocks of this world characteristically have a lot of red land-laid sediments in them, as well as salts that are formed in an acid environment[414].

In the *Permian World*, by *circa* 245 million B.C., the continent of Gondwana (comprising of Africa, Antarctica, Australia, India, and South America), joined with the continent of Laurasia (comprising mainly of Greenland, North America, Europe, & Asia), to form a supercontinent known as Pangaea which stretched north to south from pole to pole on the globe inside a thin belt of about 60° longitude. This collision of continents further contributed to mountain building episodes in both the Hercynian mountain belts of Europe and Asia, as well as the Appalachian Mountain belt of North America[415]. At the east end of Pangaea, the former continents of Gondwana and Laurasia were separated by the Tethys Sea; and the rest of the globe was covered by a super-ocean called, Panthalassa. Pangaea went from pole to pole, generally uninterrupted through all the different climate zones of the earth. Mainly in the southern area of what had been Gondwana, Ice Age conditions largely carried over from the preceding *Carboniferous World*; but in most parts of Pangaea it was hot and dry. Hence by the time of the Late *Permian World*, in a number of tropical and subtropical regions, deserts were widespread.

---

[413] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Permian Period;" "Mass Extinction Summary of first five major extinctions" (http://www.global-mindshift.com/discover/Memebase/MassExtinction.pdf); & "Earth's five mass extinction events" by John Cook (2010 A.D.) (http://www.skepticalscience.com/Earths-five-mass-extinction-events.html).

[414] Technically called, "evaporites," these salts are formed in an acidic environment through a sequence of chemical precipitation.

[415] Technically, such mountain building episodes are called, "Orogenies" (hence "Orogenic").

The rock sequences of this world indicates the earth's climate became milder and went through alternating warmer and cooler periods. Mineral deposits of the *Permian World* include coal, copper ore, and petroleum. The Creator made more diverse forms of a number of animals found in the preceding *Carboniferous World*, such as the marine invertebrates (no backbone), ammonoids (certain external straight or coiled chambered shelled creatures), sea-floor lamp shells (or brachiopods, *supra*), bryozoans, *supra*, bivalve molluscs, and foraminiferans (a certain unicellular organism). This world also had thriving sea water and freshwater fish. Among the reptiles was the dimetrodon (see picture below). The Creator also created more diverse vertebrate (back bone) reptiles, with three distinct groups in cotylosaurs (a small aquatic reptile with a slender long jaw who ate fish), pelycosaurs (with higher nervous system arch than a cotylosaur, most had abdominal ribs), and therapsids (back part of the head with double rounded end bones, and much enlarged teeth bones). Land plants better adapted to the drier land conditions were also introduced by the Creator into this world; although in the colder climate of southern Gondwana the Creator instead introduced the Glossopteris plant (after its discovery in 1824, regarded as a fern; however, showing what is sometimes the difficulty of interpreting a fossil, certain structures associated with its leaves have now been thought to be possibly, though not definitely, seed bearing capsules, and it is now generally regarded as a woody plant that reproduces via seed[416]).

God declares in the much later Late Pleistocene II (*c.* 68,000-8,000 B.C.) cataclysm of Gen. 1:2 and much later six day creation of Gen. 1:2b-2:3, that *he can create and he destroy*. This same God has shown this characteristic many times in the geological record with respect to his destruction of one world, and creation of another. Near the end of the *Permean World* we again see this, as many life-forms were destroyed in a mass extinction; which ended not just the *Permean World* but wider *Paleozoic Age* (Cambrian World, Ordovician World, Silurian World, Devonian World, Carboniferous World, & Permean World). In the Southern Hemisphere, the Glossopteris flora was annihilated in Gondwana; although in the Northern Hemisphere the Lord preserved the coniferous forests (comprising mainly of cone-bearing and needle or scale leaved evergreen trees). The blast of the Lord severely reduced the numbers of ammonoids *supra* and bryozoans *supra*, and obliterated into extinction the fusulinids (single celled creatures something like amoebas) and trilobites *supra*. About 75% of vertebrates were sent to their extinction; and between 80% and 95% of all marine life was sent to their extinction; as the Creator placed a clear and unmistakable catastrophic marker at the end of the *Permian World*. Though angels looked on, Satan would one day rebel against *this holy God who can create and who can destroy*, so that it would be said of "Lucifer," "thou shalt be brought down to hell, to the side of the pit" (Isa. 14:15). And though men can study the geological record and see the cataclysmic destruction of this *Permean World* by the same God who would thereafter make another of his "worlds" (Heb. 11:3); many of them would still fail to heed the lesson of the character of this mighty God *who can create and who can destroy*, thinking instead that "all things continue as they were from the beginning of the creation," and so they would fail to recognize that this same God has "the heaven and the earth, which are now, by the same word" "kept in store,

---

[416] Technically called "a gymnosperm."

reserved unto fire against the day of judgment and perdition of ungodly men. But beloved, be not ignorant of this one thing, that one day is with the Lord as a thousand years, and a thousand years as one day" (II Peter 3:4,7); for "the high and lofty One" "inhabiteth eternity, whose name is Holy" (Isa. 57:15). *What an awesome God! Glory be to the Father, and to the Son: and to the Holy Ghost. Amen.*

The Permian World was discovered & named by old earth creationist, Roderick Impey Murchison (d. 1871).

Permian World's Dimotroden Reptile[417].

Permian World's and *Paleozoic Age's* catastrophic end with a mass extinction[418].

---

[417] Dimetrodon from the Permian, National Geographic http://www.google.com.au/imgres?imgurl=http://images.nationalgeographic.com/wpf/media-live/photos/000/009/cache/dimetrodon_921_600x450.jpg&imgrefurl=http://science.nationalgeographic.com/science/photos/permian-period/&h=450&w=600&sz=66&tbnid=9DACgH5U23lSnM:&tbnh=98&tbnw=130&prev=/search%3Fq%3Dpermian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=permian+images&usg=__bG5ih5Qeh3WM9_d4Ego5rK6s2jM=&docid=DS6MfZFDAxQSBM&sa=X&ei=ST68UeqSMqbBiQfD94G4AQ&ved=0CDkQ9QEwBA&dur=1938

[418] Permian Mass Extinction, Christ Butler, BBC, http://www.google.com.au/imgres?imgurl=http://ichef.bbci.co.uk/naturelibrary/images/ic/credit/640x395/p/pe/permian-triassic_extinction_event/permian-triassic_extinction_event_1.jpg&imgrefurl=http://www.bbc.co.uk/nature/extinction_events/Permian%25E2%2580%2593Triassic_extinction_event&h=395&w=640&sz=71&tbnid=5tS2J6VXRZ2xOM:&tbnh=85&tbnw=138&prev=/search%3Fq%3Dpermian%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=permian+images&usg=__peRXYxwxBg0i5B0Dp00kYbuyrwU=&docid=5kFW-TBqG7OaYM&sa=X&ei=ST68UeqSMqbBiQfD94G4AQ&ved=0CEkQ9QEwCQ&dur=2063

In a Divine Commentary on Genesis 1, we read at 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." The Greek word translated "worlds" in the Authorized Version (1611) at Heb. 1:2; 11:3; is *aion* (αιων[419]). From it, we derive our English word, "Eon" (or "Aeon"), and so it may also be rendered as "ages." Thus through reference to these Scriptures we may also refer to the three grand geological divisions known as the *Paleozoic Age* (540 million to 245 million B.C.), *Mesozoic Age* (245 million to 66.4 million B.C.), and *Cenozoic Age* (66.4 million B.C. to the Second Advent).

The *Mesozoic Age* (245 million to 66.4 million B.C.), contains a succession of three "worlds" (Heb. 11:3) in the *Triassic World*, *Jurassic World*, and *Cretaceous World*. The word, "*Mesozoic*," comes from the Greek words, *mesos* (μεσος), meaning "middle;" and *zoe* (ζωη), meaning "life." Coming after the *Paleozoic Age* (540 million to 245 million B.C.), and before the *Cenozoic Age* (66.4 million B.C. to the Second Advent), it is the second of three ages, and thus called the "middle" or "mesozoic age." The Greek word from which is derived the name of this age, *mesos* (μεσος), is found in the Gospel of St. Matthew, where our Lord and Saviour, Jesus Christ, in a Parable referring to the Day of Judgment at his Second Coming says, "And at midnight ('mid' = Greek *mesos*[420]) there was a cry made, Behold, the bridegroom cometh; go ye out to meet him." This is a particularly apt similar usage of Greek *mesos* for "mid" or "middle," when we remember that the *Mesozoic Age* (245 million to 66.4 million B.C.) ended with a cataclysmic mass extinction at the end of the *Cretaceous World* (144 million to 66.4 million B.C.); reminding us that only a fool would say, "all things continue as they were from the beginning of the creation" (II Peter 3:4). For the same God who ended this *Mesozoic Age* with a great cataclysm, will be ending the present age with a great cataclysm at the Second Advent, and he warns men that "the day of the Lord will come as a thief in the night; in the which the heavens shall pass away with a great noise, and the elements shall melt with fervent heat, the earth also and the works that are therein shall be burned up. Seeing then that all these things shall be dissolved, what manner of persons ought ye to be in all holy conversation and godliness?" (II Peter 3:10,11). In the words of the *Nicene Creed*, "I believe in one God the Father Almighty, maker of heaven and earth, … and in one Lord Jesus Christ, the only begotten Son of God, … he … sitteth on the right hand of the Father. And he shall come again with glory to judge both the quick and the dead: whose kingdom shall have no end … . And I look for the resurrection of the dead, and the life of the world to come. Amen[421]."

---

[419] In both Heb. 1:2 and Heb. 11:3, this is *aionas* (/ αιωνας, accusative plural masculine noun, from *aion* / αιων).

[420] Greek, *meses*; a feminine singular genitive adjective, from *mesos-e-on* / μεσος-η-ον).

[421] Anglican *Book of Common Prayer (1662)*.

The *Triassic World* (245 million to 208 million B.C.) of the Mesozoic Age is the twelfth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[422]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this twelfth world is his *World Mu* (Greek M / μ = M).

The *Triassic World* is divided into the Early Period (245 million to 240 million B.C., or Scythian Period), Middle Period (240 million B.C. to 230 million B.C., subdivided into the Anisian & Ladinian sub-periods), and Late Period (230 million B.C. to 208 million B.C., subdivided into the Carnian & Norian sub-periods). The *Triassic World* was discovered and named in 1834 by the German geologist, Friedrich August von Alberti (1795-1878). The term, "Triassic" comes from the Latin, *trias*, meaning "three" or a "triad." It refers to *three* geological layers comprising of a lower non-marine layer of red sediment (known as Bunter Sandstone), a middle marine layer of limestone, sandstone, and shale (known as Muschelkalk Limestone), and an upper non-marine layer similar to the lower layer (known as Keuper Marls & Clays).

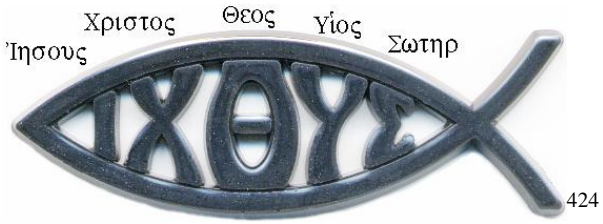
During the Early Triassic both the Ural Mountains of Russia and the Appalachian mountains of eastern and southern North America went through their final mountain building episodes. And during the Middle Triassic, there were also much smaller mountain building episodes in south-west Japan; followed by Late Triassic mountain building episodes in China. And near the end of the *Triassic World*, the supercontinent of Pangea which was formed in the preceding *Permian World*, became subject to continental rifting along the Tethys Sea - part of the way between Gondwana and Laurasia, as well as along a number of the constituent continents of Gondwana. Thus the process was started for this supercontinent "to become unstuck" during later periods of the Mesozoic Age (which contained the Triassic World, Jurassic World, & Cretaceous World). Igneous rocks are glassy or crystalline rocks which are formed from molten earth as they cool and solidify; and relatively few of these are found among the sedimentary rocks of the *Triassic World* e.g., in the western interior of North America the sedimentary rocks include red beds of sandstone and shale which are interbedded with limestone "tongues" produced from water covering the earth in this region. Limestones from the *Triassic World* are now found as outcrops in the Alps of Europe, Asia Minor, and Central Asia (the Himalayas & Pakistan); and some river deposits of the Late Triassic show volcanic ash.

The fossil record from the *Triassic World* tells of a mighty Creator who brought some species over from the preceding *Permian World*, but also created a large number of

---

[422] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Triassic Period;" "Mass Extinction Summary of first five major extinctions" (http://www.global-mindshift.com/discover/Memebase/MassExtinction.pdf); & "Earth's five mass extinction events" by John Cook (2010 A.D.) (http://www.skepticalscience.com/Earths-five-mass-extinction-events.html).

new species in both water and land. For instance, in the seas some ammonoids (certain shelled creatures) and bivalve molluscs were brought over by the Lord from the great cataclysmic extinction at the end of the *Permian World*; and new algae (the coccolithophores) and corals (the scleractinians) were made for the *Triassic World*. From the hand of a mighty Creator came forth new vertebrate (or backbone) animals. For instance, in the seas the Lord made large marine reptiles such as the dolphin shaped ichthyosaurs (aquatic reptiles with a dorsal fin on a porpoise like body, paddle like limbs, an often elongated and beak like snout), which were first described in geology by the creationist and Anglican clergyman, William Conybeare (d. 1857), *supra*, in his book, *Ichthyosaurus* (1821). The word, "Ichthyosaurus," is a compound word from "ichthyo" meaning "fish," from the Greek, *ichthus* (ιχθυς), for "fish;" and Greek *sauros* (σαυρος) meaning "lizard" or "reptile." Early Christians used the first part of this compound word, Greek, *ichthus* (ιχθυς), so that a fish was used as a symbol of Christianity with *ichthus* (ιχθυς) as an acronym for, "*Iesous* (Ιησους, 'Jesus') *Christos* (Χριστος, 'Christ') *Theou* (θεου, 'of God' = "God's") *Yios* (Υιος, 'Son') *Soter* (Σωτηρ, Saviour; or *sozei* / σωζει = saves[423])."



[424]

For "Jesus Christ" was "crucified" and "raised from the dead;" "neither is there salvation in any other: for there is none other name under heaven given among men, whereby we must be saved" (Acts 4:10,12).

---

[423] The ancient tradition referred to by St. Austin is "*Soter* (Σωτηρ, Saviour)" (St. Augustine's *City of God*, 18:23). But as a young man in his 20s, I was taught this as "saves (Greek, *sozei*, 'he saves')," although due to prioritizations within my time constraints, I have not researched this matter any further, i.e., I do not know if there is a wider history to this alternative, or if in fact "saves (Greek, *sozei*)," was simply a local modern adaptation made at a local parish church level inside the Low Church Evangelical Anglican Diocese of Sydney.

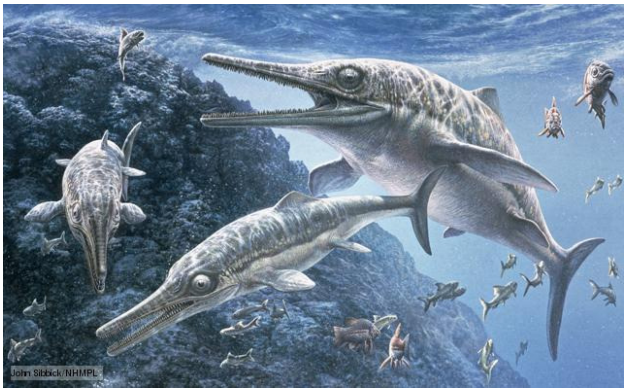
[424] "Ichthus" (http://www.google.com.au/imgres?imgurl=http://philippians-1-20.us/ichthus.jpg&imgrefurl=http://philippians-1-20.us/ichthus.htm&h=207&w=537&sz=21&tbnid=CHxVKlbiOeUzUM:&tbnh=46&tbnw=120&prev=/search%3Fq%3Dichthus%2Bfish%2Bsymbol%26tbm%3Disch%26tbo%3Du&zoom=1&q=ichthus+fish+symbol&usg=__ZFwiUZG-nDCxDLyw_pdamGPaS7I=&docid=sdkLW3EAF4_dDM&sa=X&ei=naLTUdenCOOoiAeEsIHIDw&ved=0CD8Q9QEwAw&dur=187).

In addition to the *Ichthyosaurus* or "fish-reptile" of the *Triassic World*, the Lord also brought forth the long-necked, nothosaurs (aquatic reptiles with a long and slender body), and turtle like placodonts (similar to, but more compact body, than nothosaurs). And on the land of the *Triassic World*, the Lord brought over from the *Permian World* the amphibian labyrinthodont which varied in size to be as large as an alligator or as small as a salamander (both labyrinthodontia – with an arch vertebrae, & lepospondyli – with a husk vertebrae). By the late Triassic, *he who can create and he who can destroy*, removed one group of mammals, the therapsids, *supra*, and created a new group of mammals which were small, shrew like creatures which ate both plants and animals i.e., they were omnivores. Throughout the supercontinent of Pangea were diverse varieties of woody plants which reproduce from seed[425], including conifer (with seeds and pollen on separate cone-shaped structures with either papery or hard spiral scales), cycad (palm like plants), and ginkgo (which have the shape of a pyramid); and "way down south" in southern Gondwana, the flora included fern like plants (of the genus, Pteridosperm).

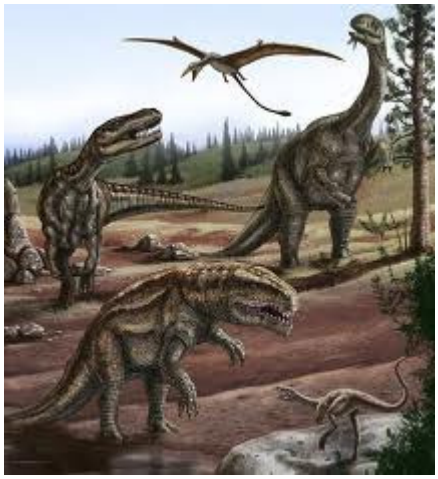
As the *Triassic World* came to its close around 208 million B.C., the "lofty One that inhabiteth eternity" (Isa. 57:15), "he that sitteth upon the circle of the earth" (Isa. 40:22); he who is majestic in his power both to create and to destroy, now prepared to release a cataclysm upon the earth to mark of the ending of his *Triassic World.* The Trinitarian God: Father, Son, and Holy Ghost, who hundreds of millions of years later would warn fallen men, "Be wise now therefore, O ye kings: be instructed, ye judges of the earth. Serve the Lord with fear, and rejoice with trembling. Kiss the Son, lest he be angry, and ye perish from the way, when his wrath is kindled but a little" (Ps. 2:10-12); even through he who is "without" "beginning of days," for he is "the Son of God" (Heb. 7:3), "by whom" "God" "made the worlds" (Heb. 1:1,2); now released a further cataclysm to mark of the ending of one world, the *Triassic World*, and beginning of the next, the *Jurassic World*. In the seas, with greater ease than that of a man wiping his right nostril, the Lord destroyed around 50% of all species; and on the land, with greater ease than that of a man wiping his left nostril, the Lord obliterated around 80% of the four-legged creatures. "Great" "is" "the Lord," "and greatly to be praised" (Ps. 96:4). "Blessed be the name of the Lord," even, "for evermore"! (Ps. 113:2). "Amen, and Amen" (Ps. 41:13). "Even so, Amen" (Rev. 1:7).

[425] Technically called "a gymnosperm."

In the Triassic World the Lord made large marine reptiles such as the dolphin shaped ichthyosaurs which were first described by the creationist & Anglican clergyman, William Conybeare (d. 1857), in his book, Ichthyosaurus (1821).



Triassic World sea. The dolphin like Ichthyosaurs first described by creationist, William Conybeare[426].



Triassic World land and air creatures[427].

The *Jurassic World* (208 million to 144 million B.C.) of the Mesozoic Age is the thirteenth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[428]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and

---

[426] "Ichthyosaurs," BBC, http://www.google.com.au/imgres?imgurl=http://ichef.bbci.co.uk/naturelibrary/images/ic/credit/640x395/i/ic/ichthyosaur/ichthyosaur_1.jpg&imgrefurl=http://www.bbc.co.uk/nature/life/Ichthyosaur&h=395&w=640&sz=70&tbnid=6WkVqzHkzWIBRM:&tbnh=90&tbnw=146&prev=/search%3Fq%3Dtriassic%2Bichthyosaur%26tbm%3Disch%26tbo%3Du&zoom=1&q=triassic+ichthyosaur&usg=__4G8fors-aKHPQ4bHLmiPFIsxKQs=&docid=KvK6UaU16IjcHM&sa=X&ei=InfCUaPsH8mCiQeO54HYCg&ved=0CEYQ9QEwBA&dur=4000.

[427] "Triassic Landscape," http://www.google.com.au/imgres?imgurl=http://community.imaginefx.com/forums/storage/6/339506/Triassic-Artwork-final-low-res.jpg&imgrefurl=http://community.imaginefx.com/forums/thread/339506.aspx&h=832&w=761&sz=281&tbnid=YV2LzAW2y8ol7M:&tbnh=88&tbnw=80&prev=/search%3Fq%3Dtriassic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=triassic+images&usg=__kZWakhzjkHBxgIWOQMsp8mgjKdc=&docid=qpp9q_YfaqZKiM&sa=X&ei=-3fCUZTYL8-QiQeT44DoBQ&ved=0CFwQ9QEwDw&dur=0.

[428] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Jurassic Period."

for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this thirteenth world is his *World Nu* (Greek N / ν = N).

The *Jurassic World* is divided into the Early Period (208 million to 187 million B.C., subdivided into Hettangian, Sinemurian, Pliensbachian, & Torcian sub-periods), Middle Period (187 million B.C. to 163 million B.C., subdivided into Aalenian, Bajocian, Bathonian, & Callovian sub-periods), and Late Period (163 million B.C. to 144 million B.C., subdivided into the Oxfordian, Kimmeridgian, & Tithonian sub-periods). The English word, "Jurassic," come from "*Jurassique*" in the Latin language of French. The Jurassic rocks were first identified by the creationist[429], Alexander von Humboldt (1769-1859) of Germany in 1799 as the "Jura Limestone." Humboldt was the son of an army officer raised in Reformed Protestant Christianity, his mother being of a French Protestant Huguenot line which fled Roman Catholic France following the *Revocation of the Edict of Nantes* in 1685[430]. After von Humboldt had first identified the "Jura Limestone;" the Jurassic rocks were then named after the marine Jura Limestone that stands exposed in the "Jura Mountains" of the European Alps between France and Switzerland by the Frenchman, Alexandre Bronginart (d. 1857), *supra*. Then the "Jurassic System" was so named by the German, Christian Leopold von Buch (d. 1853) in 1839. All three men are thus relevant to a proper understanding for the naming of the *Jurassic World*[431]. Study of the *Jurassic World* early interested geologists, e.g., writing in 1822, the creationist writers, Conybeare & Phillips' refer in *Outlines of the Geology of England and Wales*, to "observation on the … two principle varieties of … jura limestone" in "the Alps," by the creationist, "Professor Buckland" of Oxford University[432].

Continuing on from the end of the former *Triassic World*, in the Early *Jurassic World* the supercontinent of Pangea was subject to continental rifting and started "to become unstuck." By the Middle *Jurassic World* the North American continent had

---

[429] Von Humboldt, A., *Views of Nature, or Contemplations on the Sublime Phenomena of Creation*, 1849, Translated by E.C. Otté & Henry Bohn, Published by Henry G. Bohn, London, UK, 1850. (Copy held in Sydney at University of New South Wales, shelf mark K500 / 47, kept in Stack.)

[430] *Encyclopaedia Britannica CD99*, *op. cit.*, "Humboldt, Alexander von."

[431] There are some different views as to who the Jurassic should be regarded as being named by, e.g., one could argue Humboldt's naming of the Jura Limestone is the relevant point; but it is possible to argue for Bronginart (see "Jurassic," at http://paleobiology.si.edu/geotime/main/jurassic1.html), or von Buch (see "Jurassic," at http://www.seorf.ohiou.edu/~tstork/compass.rose/earth.history.05/The%20Jurassic%20Period.htm). I consider all three men are relevant to the story of its naming.

[432] Conybeare & Phillips' *Outlines of the Geology of England and Wales*, *op. cit.*, p. 168.

started to pull away from Africa and Eurasia, and so the Atlantic Ocean started to open up. By the Late Jurassic the southern constituent parts of Pangea also started to break away to form independent continents as Africa and South America went their own separate ways, and the Indian subcontinent became independent from the continental union of Antarctica and Australia. Erstwhile, back in North America, mountain building episodes started occurring in the western part of that continent due to plate tectonic activity as the North American tectonic plate started to collide with islands off its west coast. Jurassic continental deposits of e.g., coal, are found in Asia. Marine deposits from the *Jurassic World* include both deep water ocean limestones, as well as shallow water reefs in North America, east Africa, Europe, and west Australia; and these limestones vary in grade between sandstones and shales.

Fossils from the *Jurassic World* reveal that Ammonites flourished. Ammonites had an external straight or coiled chambered shell whose multiple chambers were joined by a porous tube, in which the last chamber had either two lime plates or a horny plate to protect it; they had a wrinkled partition in the shell, and were complex structures with external raised markings. The Lord first made Ammonites in the *Devonian World*, and he retained them for his holy pleasure in the *Carboniferous World*, *Permian World*, *Triassic World*, *Jurassic World*, and *Cretaceous World*. In ancient Roman times, the Latin writer, Pliny the Elder (23-79 A.D.) in his work, *Natural History*, Book 37:40:167, refers to Ammonite fossils he had come across as Latin, *Ammonis Cornu,* i.e., "Horn of Ammon," in reference to the pagan Egyptian god, Ammon, who was typically depicted wearing ram horns. Especially at Siwa in the western desert region of Egypt, the cult of Ammon was linked with that of the pagan Roman god, Jupiter, and so this pagan god is also known as Jupiter-Ammon. When the Apostle Paul preached at "Lycaonia," he there encountered a pagan "priest of Jupiter" (Acts 14:11,13); and he preached the gospel at Ephesus, "saying that they be no gods, which are made with hands" (Acts 19:26), and this included what "the Ephesians" took to be an "image with fell down from Jupiter" (Acts 19:35). Such idolatry in connection with Jupiter, or Jupiter-Ammon, or Ammon, is an example of how men "worshipped and served the creature more than the Creator, who is blessed for ever. Amen" (Rom. 1:25). For in the first century Roman World, men who looked at, for example, fossils of Ammonites, could and should have recognized in the remains of these extinct creatures, the entombed evidence of a mighty Creator. Both then and now, rather than glorying in the creature, they should have gloried in the Creator. For not doing so, such men are "without excuse," because "the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead" (Rom. 1:20). Thus by contrast with such idolaters, the old earth creationist Gap Schoolman, William Buckland (1784-1856), was an Anglican Canon at Christ Church Oxford, and a Professor at Oxford University in England, who recognized the Protestant Christian God of the Bible as the God of creation who had made the Ammonites and all other creatures. I thank God I have been privileged to visit the Buckland Collection at Oxford University which forms the core of the geological collection of the *Oxford University Museum* (also known as the Oxford University Natural History Museum), inspecting it in October 2003, March 2006, and October 2012. Among other things, it includes some Ammonites from the *Jurassic World* of 208 million to 144 million B.C. .

The Jurassic rocks were first identified by the creationist, Alexander von Humboldt (1769-1859) of Germany in 1799 as the "Jura Limestone." The son of an army officer, Humboldt was raised in Reformed Protestant Christianity, his mother being of a French Protestant Huguenot line which fled Roman Catholic France following the Revocation of the Edict of Nantes in 1685.

Gavin at the William Buckland geological Collection Showcase, *Oxford University Museum* Oxford, England, UK, in October 2003.

Ammonites from the *Jurassic World* in the old earth creationist Gap Schoolman & Anglican clergyman, William Buckland's Collection. A Professor of Oxford (d. 1856), his geological collection forms the core of the *Oxford University Museum's* collection. October, 2003.

The fossils in this chapter of the Book of Nature's section on "Worlds" of the "Son" of "God" (Heb. 1:1,2), entitled, "*The Jurassic World*," also testifies to a number of new creatures which came forth from the hand of the mighty Creator, as yet another of his "worlds were framed by the word of God, so that things which are seen were not made of things which do appear" (Heb. 11:3). For example, the Lord made some free floating marine organisms, (the coccolithophores), that would in time be taken by the Creator over into his next world, the *Cretaceous World*, where they would become a more ecologically significant life-form. Many parts of this world had sponge or coral reefs, and fish were found in the seas. A number of marine habitats were also dominated by reptiles e.g., the Lord made plesiosaurs, and these long-legged reptiles with paddle-shaped limbs something like modern day turtles or seals, swum near the surface of the water. E.g., *Plesiosaurus* (or *Plesiosaur*, plural, *Plesiosauri*) which he brought over from the previous *Triassic World* (245 million to 208 million B.C.), and which he retained for his pleasure till the end of the *Cretaceous World* (66.4 million B.C.). The word, "Plesiosaurus," is Latin, from the Greek, *plesios* (πλησιος) meaning "near;" and Greek, *sauros* (σαυρος) meaning "lizard" or "reptile" i.e., a "near lizard." The *Plesiosaurus* was named in the creationist tradition by William Conybeare (1787-1857), *supra*, and Henry de la Beche (1796-1855). Sir Henry Thomas De La Beche was a geologist who founded the Geological Survey of Great Britain. Following his work in Cornwall and Devon which for the first time described the detail of the Jurassic World (208-144 million B.C.) and Cretaceous World (144-66.4 million B.C.), he organized the

Geological Survey in 1835[433]. The term "near reptile" was meant to indicate that *Plesiosaurus* was *nearer to a lizard* than was *Ichthyosaurus*, who had been earlier found in the same strata of rock, and named by creationist, William Conybeare, *supra*. *Plesiosaurus* was about 4.5 metres or 15 feet long, with sharp teeth in its jaws and an almost solid palate, its nostrils went back to near its eyes, its head was on a long flexible neck, joining to a flat and broad body, with a fairly short tail. Near the end of the *Jurassic World*, he who had made the plesiosaur, also made the great plesiosaur. And the Lord also brought over from the previous *Triassic World*, his dolphin like Ichthyosaurs, *supra*.

On earth's land, the Creator's *Jurassic World* (208 million to 144 million B.C.) had thriving conifer trees (cone-bearing and needle or scale leaved evergreen trees), cycads (palm like woody plants), ferns, and mosses; and there were some flowering plants. And in the open firmament of the heaven, the Lord made flying reptiles, such as the *Pterosaurs*, a flying reptile about the size of a sparrow. The word "Pterosaurs," comes from the Greek, *pteron* (πτερον), meaning "wing;" and Greek, *sauros* (σαυρος) meaning "lizard" or "reptile" i.e., a "winged reptile." The first fossil of a pterosaur was found in 1784 by the Italian, Cosimo Collini, who thought it was a sea creature. But it was first more correctly recognized to be a flying creature by old earth creationist and French Protestant Christian, George Cuvier (d. 1832), who in 1809 coined the name, *Pterodactyl*, although this name has since been limited to a suborder of *Pterosaurs* found in both the Late *Jurassic World* and following *Cretaceous World*, *infra*. The *Pterosaurs* were created by His Divine Majesty, the Lord God Almighty, in the *Jurassic World*, though Jehovah retained them for his royal pleasure by bringing them over into his *Cretaceous World* (144 million to 66.4 million B.C.). The Lord's *Pterosaurs* glided upon air currents, obeying through instinct the Lord's commands by which he generally regulated the supernatural uniformity of his *Jurassic World*. Near the end of the *Jurassic World*, Almighty God also made a bird known as, *Archaeopteryx*. Opening the Book of Nature to the section on the *Jurassic World* and the *Archaeopteryx* bird, we learn that fossils of this bird from the Solenhofen Limestone Formation in Bavaria, Germany, show clear impressions of this creature's skeleton, together with feathers. Some of them were as large as a small chicken, though others smaller.

The Lord has sometimes used a common basic pattern for certain creatures, a fact which is a pointer that should teach men of a monotheistic Creator; though ungodly and profane men of the Lamarckian or Darwinian theories of macroevolution, have abused this truth to claim "an evolutionary link" between these diverse species, as "professing themselves to be wise, they became fools" (Rom. 1:22). The Lord who also first made tiny shrew-like mammals near the end of the *Triassic World*, continued to make some similar creatures in the *Jurassic World*. The Creator had made a number of reptiles afore; but now, in his *Jurassic World*, the "Lord strong and mighty" (Ps. 24:8), brought forth the dinosaur. And so it was that on the dry land, the Lord's reptilian dinosaurs roamed around and dominated many of earth's land habitats. God created carnivore theropod dinosaurs on land, which varied in size from the small, chicken sized

---

[433] *Encyclopaedia Britannica CD99*, *op. cit.*, "Beche, Sir Henry Thomas De La."

Compsognathus, which would have weighed about 1 to 2 kilograms or 2 to 4 pounds; up to the huge *Tyrannosaurus*, which would have weighed at least about 6.1 metric tons or 6 tons (British imperial long ton) or 6.2 short tons (USA short ton). E.g., the *Megalosaurus* with some dagger-like teeth in its lower jaw was a carnivorous theropod discovered in the early nineteenth century. He was one of the first discovered dinosaurs, being found by old earth creationist Gap Schoolman, William Buckland; and he was the first dinosaur to have a full account written about him when this was also done by Buckland (d. 1856)[434]. The English word, "dinosaur," is from the Latin, *dinosaurus*; which comes from the Greek, *deinos* (δεινος) meaning "terrible;" and Greek *sauros* (σαυρος) meaning "lizard" or "reptile." The word, "Megalosaurus," comes from the Greek, *megas* (μεγας) meaning "great;" and Greek *sauros* (σαυρος) meaning "lizard" or "reptile" (see picture at Dinosaur Park, *infra*). God also made the large four-legged vegetarian sauropod dinosaurs in both shallow water habitats and on land, with those on land eating vegetation from tall trees, much like the modern day giraffe; and while they varied in size, the biggest of the sauropod dinosaurs was *Brachiosaurus*, who weighed about 180 metric tons or 177 long tons (British imperial long ton) or 184 short tons (USA short ton), and was about 30 metres or 33 yards in length. "O give thanks unto the Lord," even "to him who alone doeth great wonders" (Ps. 136:1,4).

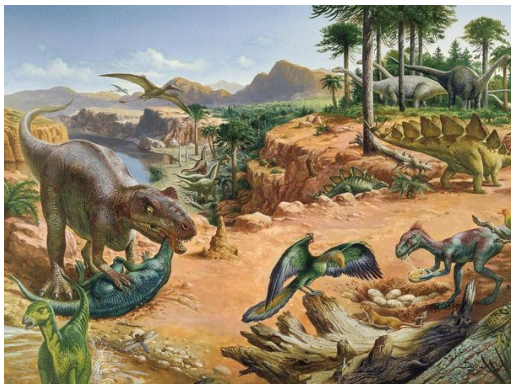
Gavin in front of a model of a Megalosaurus Dinosaur from the Jurassic World (208 million to 144 million B.C.) in *c.* 175 million B.C., at Crystal Palace Dinosaur Park, London, UK, Dec. 2005, the oldest Dinosaur Park in the world opened in 1854 A.D. . This dinosaur's bones were discovered in 1824 at Stonesfield, and he was named *Megalosaurus* (Greek, "great lizard") by old earth creationist Gap Schoolman, William Buckland (d. 1856) of Oxford University, who wrote the first full account of any dinosaur.

---

[434] Cf. e.g., *Encyclopaedia Britannica CD99*, *op. cit.*, "Megalosaur."

The *Jurassic World's* Landscape[435].

Europasaurus Dinosaur of the Late Jurassic[436].



Life in the *Jurassic World*[437].

---

435 "Jurassic Period," BBC, http://www.google.com.au/imgres?imgurl=http://ichef.bbci.co.uk/naturelibrary/images/ic/credit/640x395/j/ju/jurassic/jurassic_1.jpg&imgrefurl=http://www.bbc.co.uk/nature/history_of_the_earth/Jurassic&h=395&w=640&sz=91&tbnid=pnHY3HOZhk2KeM:&tbnh=73&tbnw=119&prev=/search%3Fq%3Djurassic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=jurassic+images&usg=__Ahic8Af6_RyywIVX7kZvMD3LZYo=&docid=z7t4iS19kuMJrM&sa=X&ei=1njCUYWIN-TQiAfZ6YCoAg&ved=0CDwQ9QEwBQ&dur=1860.

436 "Europasaurus," http://www.google.com.au/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/thumb/1/1c/Europasaurus_holgeri_Scene_2.jpg/260px-Europasaurus_holgeri_Scene_2.jpg&imgrefurl=http://en.wikipedia.org/wiki/Jurassic&h=195&w=260&sz=16&tbnid=Y8JfApJkU8D8ZM:&tbnh=96&tbnw=128&prev=/search%3Fq%3Djurassic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=jurassic+images&usg=__O2FFi-GuinNJ2pXx4RYZK_4wQfw=&docid=pCCZWKLqnsUAVM&sa=X&ei=1njCUYWIN-TQiAfZ6YCoAg&ved=0CCwQ9QEwAA&dur=235.

The *Cretaceous World* (144 million to 66.4 million B.C.) of the Mesozoic Age is the fourteenth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[438]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this fourteenth world is his *World Xi* (Greek X / ξ = X).

The *Cretaceous World* is divided into the Early Period (144 million to 97.5 million B.C., subdivided into the Berriasian, Valanginian, Hauterivian, Barremian, Aptian, & Albian sub-periods), and Late Period (97.5 million B.C. to 66.4 million B.C., subdivided into Cenomanian, Turonian, Coniancian, Santonian, Campanian, & Maastrichtian sub-periods). Between 1840 and 1852, it was subdivided by the old earth creationist, Alcide d'Orbigney (1802-1857), who from 1853 was the first Chairman of Paleontology at the *Museum of Natural History* (*Muséum d'Histoire Naturelle*) in Paris, France. He strongly opposed the macroevolutionary theory of Lamarck, and was firmly committed to creationism on the broad creation model of the great Protestant Frenchman and paleontologist, George Cuvier (d. 1832).

D'Orbigney's subdivisions of the *Cretaceous World* were based on what he saw as distinct "stages" marked by the cataclysmic loss of one type of animal and its replacement by new animal creations[439]. This was part of his wider Cuvier derived

---

[437] "Jurassic," National Geographic, http://www.google.com.au/imgres?imgurl=http://images.nationalgeographic.com/wpf/media-live/photos/000/010/cache/jurassic-landscape_1028_600x450.jpg&imgrefurl=http://science.nationalgeographic.com/science/photos/jurassic-period/&h=450&w=600&sz=81&tbnid=5b8k8Pq4B2I9lM:&tbnh=94&tbnw=125&prev=/search%3Fq%3Djurassic%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=jurassic+images&usg=__74eMRLT9KpaTchwOSwJ6c3QFQp8=&docid=eGHbN48dxb3o9M&sa=X&ei=1njCUYWIN-TQiAfZ6YCoAg&ved=0CC8Q9QEwAQ&dur=8172.

[438] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Cretaceous Period;" "mosasaur," "tyrannosaur," "Mass Extinction Summary of first five major extinctions" (http://www.global-mindshift.com/discover/Memebase/MassExtinction.pdf); & "Earth's five mass extinction events" by John Cook (2010 A.D.) (http://www.skepticalscience.com/Earths-five-mass-extinction-events.html).

[439] Davis A. Young & Ralph Stearley, *The Bible, Rocks and Time: Geological Evidence for the Age of the Earth*, Intervarsity Press, Downers Green, Illinois, USA, USA, 2008, pp. 109-110; referring to d'Orbigney's *Paléontologie Française* (published in several volumes 1840-1846) and *Cours Élémentaire de Paléontologie et de Géologie Stratigraphiques* (3 volumes, Victor Mason, Paris, France, 1849-1852). (http://books.google.com.au/books?id=TRKtFWlSrRsC&pg=PA110&lpg=PA110&dq=john+phillips+1800-

concept of catastrophisms and new creations in which he made a global division of six broad periods ("terrains"), subdivided into 27 "stages," most of which continue in geological use[440]. E.g., of the above subdivisions of the *Cretaceous World*, four of them are from d'Orbigney's subdivisions, namely, the Aptian (119-113 million B.C.), named after Apt in Vaucluse, south-east France in 1840; the Albian (113-97.5 million B.C.), named after the Aube River in north central France in 1842; the Cenomanian (97.5-91 million B.C.), named from the Latin name for the French city of Le Mans in north-west France in 1847; and the Turonian (91-88.5 million B.C.), named after the French city of Tours in west central France in 1842. The Turonian named after Tours, reminds us of St. Martin of Tours (d. 478), who in the 1662 Anglican Protestant *Book of Common Prayer* is remembered with black letter days on both 11 Nov. (St. Martin) and 4 July (Translation of St. Martin, 397, from Cande where he died, to Tours in 478); as is also Britius, a student of Martin of Tours, and his successor as Bishop of Tours (13 Nov.). And from the Aptian named after the city of Apt in Vaucluse, we are reminded that in 1793 one of the constituent components of Vaucluse was the Roman Catholic Papal State of Comtat Venaissin, which included Avignon, the home of the Roman Papacy from 1309 to 1377; and we are thus further reminded of how various editions of *Foxe's Book of Martyrs* tell us of the brave and godly proto-Protestant Waldensians, and brave and godly Protestant confessors and martyrs who were persecuted for their faith by Romanists in France, e.g., in the Massacre of St. Bartholomew's Day at Paris in 1572, or in the events following the Revocation of the Edict of Nantes in 1685[441].

The *Cretaceous World* was named in 1822, *infra*, with reference to the Latin word, *cretaceus* from *creta*, which depending on context may refer to *clay or chalk*, but in this context, refers to *chalk* (calcium carbonate)[442]. On the one hand, most *Cretaceous World* rocks are not chalks; but on the other hand, most chalks were

---

1874+creation+evolution&source=bl&ots=ryMSlF_Nkw&sig=YW_cUZAURf8aIO8rAdqQUSNT_ws&hl=en&sa=X&ei=aVTXUfrRKOfOiAef_IHwAQ&ved=0CC8Q6AEwAQ#v=onepage&q=john%20phillips%201800-1874%20creation%20evolution&f=false).

[440] *Ibid.*, referring to d'Orbigney's wider global division in *Prodrome de Paléontologique Stratigraphique Universelle* (3 volumes, Victor Mason, Paris, France, 1849-1852); & "Alcide d'Orbigney (1802-1857)" (http://www.nhm.ac.uk/research-curation/research/projects/dorbigny/dOrbhistory.html). But he sometimes overstated the percentage of species killed in one world, and understated the number brought over from one world to the next (see my comments on Archdeacon John Pratt at Chapter 5, d, "A scientific critique of the Global Earth Gap School's global pre-Adamite flood & following global six day creation," *infra*).

[441] E.g., Foxe's *Book of Martyrs*, 1563, Revised Folio Ed., 1684; Third Ed. by Bramley-Moore, W., Cassell, Patter, and Galpin, London, 1867, pp. 56-83, 126-134, 601-666; Foxe's *Book of Martyrs*, as edited by William Forbush in 1926, abridged edition of 2004, Hendrickson, Massachusetts, USA, pp. 57-76.

[442] Latin, *cretaceus*, is a masculine singular nominative adjective from *creta*.

deposited during the *Cretaceous World* and hence the propriety of this name. Early work on the Chalk formation was undertaken by the creationist writers, Conybeare & Phillips' in *Outlines of the Geology of England and Wales* in 1822, who e.g., refer to how "Professor Buckland saw at Sir Joseph Banks's an amulet, found among the ruins of Babylon, evidently cut from a chalk flint[443]." This work was published in the same year of 1822 that the *Cretaceous World* was named, *infra*, and so in it, Conybeare & Phillips' simply refer to the *Cretaceous* as "The Chalk Formation," or "The Chalk," sometimes subdivided into "Upper Chalk" and "Lower Chalk," or "Chalk with Flints," or "Chalk Marle." As documented by Conybeare & Phillips', such chalk deposits are e.g., found on *the white cliffs of Dover* in England, as their early geological work included a chapter on the "Cliffs East and West of Dover." They say, "A natural section of the chalk is presented by the Cliffs extending from Dover about eight miles [or thirteen kilometres] eastward towards Deal, and five miles [or eight kilometres] towards Folkstone;" and they make reference to chalk deposits in an area that includes e.g., "the cliff at Dover Castle," "Shakespeare's Cliff," and "St. Margaret's Bay."

Thus *the white cliffs of Dover*, found e.g., on the sea-side at what Conybeare & Phillips' call, "The hill on which Dover Castle stands," have early been studied by geologists as a site of importance in understanding the *Cretaceous World*. And *the white cliffs of Dover* are also a site of importance to the 1660 Restoration. The 1662 Anglican *Book of Common Prayer* which is a fruit of the 1660 Restoration, is basically Cranmer's 1552 Protestant prayer book, restored as a symbol of Protestantism in 1559 following the bad and sad days of the Roman Catholic Queen, Bloody Mary; whose persecution of Cranmer and other Protestants is recorded both in the first paragraph of the 1559 Act of *Primo Elizabethae* traditionally printed in the front of the 1662 prayer book; and also in more detail in *Foxe's Book of Martyrs*. Thus in good Protestant form, *The Preface* of the 1662 prayer book first cheerfully refers to "several Princes of blessed memory since the Reformation." But it then turns sadly to what it calls the "unhappy confusions" of the Interregnum's republican Puritan revolutionary years in the British Isles of the 1640s and 1650s; and then returns to a cheerful Anglican note in saying that there followed under King Charles II, "His Majesty's happy Restoration" in 1660. Thus on 26 May 1660, King Charles II landed at the chalk-walled *white cliffs of Dover*, and three days later on his birthday of 29 May, he entered London in great triumph. Thereafter this event was remembered on 29 May, or in more recent centuries in an alternative tradition found at the *Royal Chelsea* in London, UK, on the first or second Thursday in June. It is remembered under various names, such as *Royal Oak Day* or *Oak Apple Day*, in order to remember God's miraculous protection of Charles II when he hid in an oak tree at Boscobel in England, as Puritan revolutionary Roundhead soldiers ran around searching for him, in order that they might do to him that which had been done to his father, Charles I, whom they martyred in 1649. Thus *the white cliffs of Dover* whose chalk comes from the *Cretaceous World* are indissolubly tied up with the Restoration of the monarchy in 1660. From 1662 to 1859, the *Book of Common Prayer (1662)* included in it three annual Offices since removed, one of which celebrated *Royal Oak Day*. This

---

[443] Conybeare & Phillips' *Outlines of the Geology of England and Wales*, *op. cit.*, p. 67.

Anglican Office or Service, recognized the supernatural or miraculous providence of God in the Restoration and thus one prayer included the words, "O Almighty God, … who … by thy miraculous providence didst deliver us by restoring … King Charles the Second, … we … give thee thanks … through Jesus Christ our only Saviour and Redeemer, to whom, with thee, O Father, and the Holy Ghost, be all glory in the Church throughout all ages, world without end. Amen[444]."

Therefore Anglican Protestant Christianity has traditionally recognized the "miraculous providence" of "Almighty God" in "restoring" "King Charles the Second," who in 1660 landed at the chalk-walled *white cliffs of Dover*. Yet the world from which most chalks deposits come from, such as the *white cliffs of Dover*, namely the *Cretaceous World*, and which existed long afore this world as one of the Lord's "worlds" (Heb. 1:2; 11:3) which he "that inhabiteth eternity" (Isa. 57:15) made from 144 million to 66.4 million B.C., acts to far more generally point us to the "miraculous providence" of "Almighty God" in various creation miracles.

Thus the Lord's characteristic practice of bringing over some, but not all, life-forms from one world to the next; and his characteristic usage of both selective catastrophism and new creations, are once again evident in his *Cretaceous World*. For example, in the sea of the *Cretaceous World*, there was the Lord's retention of ammonites, *supra*; bivalve mollusks, *supra*; belemnites (nautiloids / cephalopods, *supra*, with a large internal shell, first created in the *Carboniferous World* about 345 million B.C.); and sea-floor lamp shells (or brachiopods, *supra*). In the Cretaceous seas, the Lord's characteristic usage of *variation upon a common design theme*, was also seen with various bony fish he made near the end of this world.

The Creator also thinned out the number of his Ichthyosaurs, possibly by introducing competition for sea food through the creation of his new type of aquatic lizard, the mosasaurus (or mosasaur). The word, "mosasaurus," is from the Latin, *Mosa*, meaning the river *Meuse* in north-west Europe near which it was first found; and Greek, *sauros* (σαυρος) meaning "lizard" or "reptile." At a time before the bad and sad rise of macroevolutionary theories such as those of, for instance, Lamarck (1809), Geoffroy (1825 & 1830), or Darwin & Wallace (1858), in which all men were creationists, in 1764 on the Meuse River at Maastricht in Holland, Dutch quarrymen discovered the first *Mosasaurus*. The mosasaurs fed upon ammonites, cuttlefish, and fish in the Late *Cretaceous World*; and with large skulls and long snouts, the Lord used a similar skull design on them as what he would later use on the modern monitors. Their jaws bone had many cone-shaped and slightly backward curving teeth, with each tooth design placed in individual sockets. It is notable that their jawbones were jointed near their point of mid-length, and connected in front just by ligaments, as one also sees the Creator using this same jointed design feature in advanced monitors. It meant that the mosasaur could not only open his mouth by lowering his lower jaw, but he could also extend his lower jaws sideways when he was feeding on larger prey. With a backbone containing over 100

---

[444] Office for the Restoration of the Royal Family (29 May), Anglican *Book of Common Prayer (1662, revised Office of 1664-1859).*

vertebrae, the mosasaur had a serpent like body, with front and back paddles; and he had a long, slightly down curved tail. Though most mosasaurs were relatively small being under 2 metres or 7 feet long, some of God's mosasaurs were "monster mosasaurs" exceeding 9 metres or 30 feet in length.

In the air, the Lord's *Pterosaurs*, a flying reptile about the size of a sparrow, first created in the *Jurassic World*, *supra*, dominated the air as they continued to fly high in the sky. On land, under the Creator's hand, flowering plants in connection with various insects and bees made by God became widespread in the Late *Cretaceous World*. Animal life was reptilian. Among dinosaurs, the Lord's characteristic practice of bringing over some, but not all, life-forms from one world to the next; was seen in both the four-legged vegetarian sauropod dinosaurs and the carnivore theropod dinosaurs which were brought over from the *Jurassic World*, *supra*. And the Lord's characteristic usage of *variation upon a common design theme*, was also seen in a variety of new dinosaurs he created for his pleasure. As a creationist marker manifesting the reality of monotheism via common design pattern, Almighty God made some new types of "bird-hipped" dinosaurs[445], so named because when designing these vegetarian creatures, the Creator used the same basic hip-bone arrangement he used for birds, so that like birds, some species of these dinosaurs could walk on two legs. This group of "bird-hipped" dinosaurs included e.g., ankylosaurs, which were heavily armoured; ceratopsids, which had horns; and duck-billed dinosaurs (the hadrosaurs & iguanodons).

Under the Providence of God, the *Cretaceous World* was "a moving world" with respect to its continental formations. In the Early *Cretaceous World* the African continent was joined with the South American continent; and the Antarctic Continent and Australian Continent were joined together, although the Indian sub-continent had broken away from these two continents and was slowly drifting northward on a collision course with the Asian continent. So too, the North American continent had broken away from the African continent, although North America still remained attached to western Europe. From Spain in western Europe, the deep blue Tethys Sea extended in an easterly direction all the way across to southern Asia on the Asian continent. Hence even though the global climate of the *Cretaceous World* was warmer around the Equator than it is in today's world, the northern landmasses were "on the move" away from the warmth of Equatorial regions. And with continents "on the move," in the mid-Cretaceous period, the South American Continent split from Africa in a westward direction; and the North American continent did likewise as it started to detach itself from western Europe and go west. This "go west" movement meant that by the time of the following *Tertiary World*, the Atlantic Ocean was stretched open all the way up to the Arctic Ocean. From the time of the Late *Cretaceous World*, the North American continent saw the formation of Rocky Mountains, in the Laramide mountain building episodes; and similar exciting episodes of mountain building occurred in the Pacific Ocean belt. First, New Zealand became independent from the union of the Australian and Antarctic continents; and then, Australia also moved to become independent from Antarctica. The African continent pushed north against the European continent, squeezing closed the Tethys Sea, and

---

[445] Technically called, "ornithischian dinosaurs."

starting the crushing process of mountain building episodes that would eventually give rise to the high rise of the Alpine Mountains in the following *Tertiary World*.

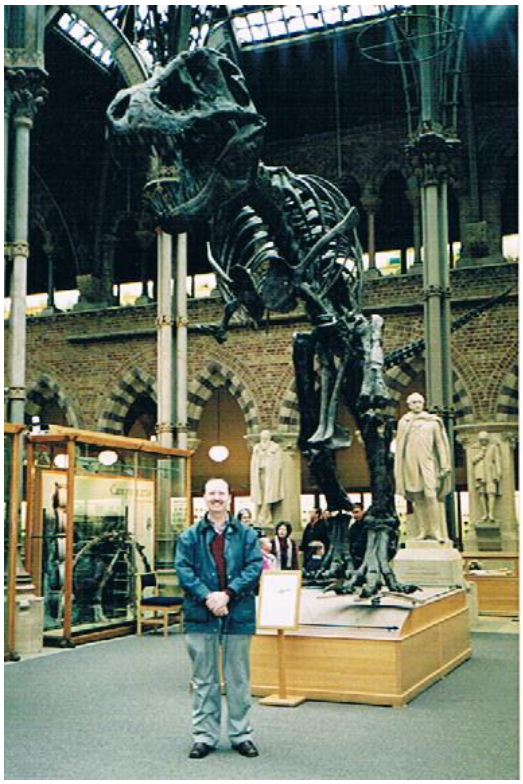
As the Lord tended to his creation, both sustaining supernaturalist uniformity by his miraculous power (Ps. 119:90,91), and also consistent with this supernaturalist uniformity, sometimes performing non-uniformity miracles in his *Cretaceous World*, the sea started to roll over the continents from the time of the Early *Cretaceous World*. Thus were laid down in the both the deep blue seas as well as the shallow waters of northern Europe, the Mediterranean, and parts of the Pacific Ocean, both limestone and marine clay. More commonly that in the preceding *Jurassic World*, in Africa, Australia, Central Asia, Europe, and South America, various non-marine deposits were laid down e.g., clastic deposits (such as clay, mud, and sand), sandstones, and shales. During the Late Cretaceous, the seas rolled out their billowing waves to the maximum extent of ocean expansion; and thus marine deposits covered a far larger part of the Late *Cretaceous World* than they did at any other time in the great *Mesozoic Age* (245 million to 66.4 million B.C.). The Late *Cretaceous World* saw the extensive chalk deposits in the earth's deep water, that would in time give rise to this geological world's name as the *Cretaceous World*. For instance, very large chalk deposits were laid down in eastern Russia, Europe, the Gulf Coast of North America, and Western Australia. And simultaneously with this great chalk (Latin, *cretaceus* from *creta*,) laying event; there was probably an atmospheric decrease in carbon dioxide, and if so, this would have lowered temperatures all over the planet earth.

The largest carnivorous dinosaur of the *Cretaceous World* was the *Tyrannosaurus Rex*. The Scriptures teach that "beasts" "praise the name of the Lord" (Ps. 148:10,13), through obedience to God's laws by simply following their instincts. The name of *Tyrannosaurus Rex* comes from the Greek, *tyrannos* (τυραννος) meaning "tyrant" or "master" or "monarch" (cf. *tyrannos* in Prov. 8:16, Greek Septuagint / LXX, for Hebrew *nadiyb* = "nobles" in AV); the Greek *sauros* (σαυρος) meaning "lizard" or "reptile" (cf. Greek *saura* in Lev. 11:30, LXX[446], for Hebrew *chometh* = "snail" in AV, but can mean some kind of "lizard" or "reptile"); and Latin *rex* meaning "king" (cf. Latin *rex* in Prov. 8:15, Latin Vulgate, for Hebrew *melek* = "kings" in AV). *Tyrannosaurus Rex* is also known in an abbreviation of his name as simply, "T-Rex." He is found in the fossil recorded in the Late *Cretaceous World* in North America and East Asia from 97.5 million B.C. to 66.4 million B.C. . Frequently he is found with geological deposits also containing a giant horned dinosaur (cetatopsian), and so he most probably killed the giant horned dinosaur as his prey. The Lord made him with a skull which was large in relation to his body; and gave him serrated edged teeth which were most efficient for cutting and slicing; with his large, sharp teeth being up to 15 centremetres or 6 inches long. These were matched by strong muscles used for biting or chewing. Looking at his body, he had two forelimbs which he could have used as hooks to grip his struggling prey; and he had a long tail to counterbalance his posture. The Lord created this powerful killer

---

[446] The masculine noun form, *sauros* = the feminine noun form, *saura* (Liddell and Scott's *A Greek-English Lexicon*, *op. cit.*, p. 1586).

creature to walk on two legs, with powerful hind limbs, so that if a *Tyrannosaurus Rex* stood upright on his hind legs he was about 6.5 metres or 21 feet tall. Weighing in at about 8.1 metric tons or 8 tons (British imperial long ton) or 8.3 short tons (USA short ton); his skull was more than 1.3 metres or 4 feet long; and overall he was more than 14 metres or 47 feet long.



Gavin in front of the ferocious looking skeleton of the *Tyrannosaurus Rex* dinosaur, abbreviated as "T-Rex." This was the largest carnivorous dinosaur of the *Cretaceous World* (144 million to 66.4 million B.C.), and his skeleton is found in both North America and East Asia (97.5 million to 66.4 million B.C.). Photo at *Oxford University Museum*, Oxford, England, UK, in a collection developed around the core geological collection of old earth creationist Gap Schoolman & Anglican clergyman, William Buckland (d. 1856) of Oxford University, March 2006.

The end of the Lord's *Cretaceous World* in 66.4 million B.C. contains a powerful warning message. Paradoxically, knowledge of this message was lost on some of those who early studied the *Cretaceous World*. For example, a Belgian geologist who imbibed of the errors of macroevolutionary theory via the influence of e.g., Lamarck (1809), to wit, Jean d'Omalius d'Halloy (1783-1875), who first used the term, "Cretaceous" for this era in 1822. At the time, this deluded macroevolutionist geologist was clearly influenced by the macroevolutionists Lamarck (d. 1829) and Geoffroy Saint-Hilaire (d. 1844).

Darwin refers favourably to him in the "Historical Sketch" of his third edition of *Origin of Species* (1859 & 1861), saying, "In 1846 … M. J. d'Omalius d'Halloy published in … [a] short paper … his opinions that … new species have been produced by descent with modification," rather "than that they have been separately created: the author first promulgated this opinion in 1831." Although d'Omalius d'Halloy later rejected Darwinian macroevolution in favour of a "vital" force theistic macroevolution[447]; and so he was some kind of Lamarckian revisionist theistic macroevolutionist; and he was also something like the later Henry Bergson (d. 1941) who argued for a theistic macroevolutionary "vital impulse[448]."

Labouring under the influence of macroevolutionary thought, in his closing chapter of *Origin of Species* (1859), Darwin ruled out "special creations" by "the Creator," and with it any possibility of catastrophism ever destroying life. He claimed as *his anti-old earth creationist knock down argument the idea* that, "species are produced and exterminated by slowly acting and still existing causes, and not by miraculous acts of creation and by catastrophes." Thus Darwin denied the old earth creationist model of "the immutability of species" (or I would say, depending on what level God made the parent stocks at for particular creatures, the immutability of creatures inside the taxonomical levels of genus, or species, or subspecies,) which he earlier says is used by old earth creationists who see this creationist pattern in "the sudden manner in which whole groups of species appear in … formations," e.g., the "palaeontologists" "Cuvier" (d. 1832), "Agassiz" (d. 1873), and "Barrande" (d. 1883), or the "geologists" "Murchison" (d. 1871) and "Sedgwick" (d. 1873)[449]. "As all the living forms of life are the lineal descendants of those which lived long before the Silurian epoch" (438-408 million years ago), "we may feel certain that the ordinary succession by generation has never once been broken, and that no cataclysm has desolated the whole world. Hence we may look with some confidence to a secure future of equally appreciable length. And as natural selection works solely by and for the good of each being all corporeal and mental endowments will tend to progress towards perfection[450]."

Darwin's basic view is one form of the type of thing the holy Apostle, St. Peter, warns about in II Peter 3:3,4, "there shall come in the last days scoffers, walking after their own lusts, and saying, Where is the promise of his coming?" i.e., Christ's Second

---

[447] Tobey, R.C., "Omalius, d'Halloy, Jean Baptist Julien, D," in "Complete Dictionary of Scientific Biography" (2008) (http://www.encyclopedia.com/doc/1G2-2830903227.html).

[448] Bergson, H., *Creative Evolution*, 1911, translated by A. Mitchell; Reprint: Greenwood Press, Connecticut, 1975, e.g., pp. 109-117;273-274.

[449] Darwin's *Origin of Species* (1859), chapter 14, "Recapitulation & Conclusion;" & chapter 9, "On the imperfection of the Geological Record," section, "On the sudden appearances of whole groups of Allied Species … ."

[450] *Ibid.*, chapter 14, "Recapitulation & Conclusion" (emphasis mine).

Coming, "for since the fathers" of man "fell asleep" i.e., from the time that the first men lived and died, "all things continue as they were from the beginning of the creation" of man. While in the *Cretaceous World* we are considering an era long before the creation of man, the basic concern of II Peter 3:3,4 is nevertheless clearly present in Darwin's claims of Lyell's type of anti-supernaturalist uniformitarianism, which regards supernatural miracles as being outside of this anti-supernaturalist uniformitarianism and therefore never occurring; as opposed to old earth creationist supernaturalist uniformitarianism which regards supernatural miracles as being inside of this supernaturalist uniformitarianism and on the evidence of the geological layers clearly sometimes occurring. Thus the basic argument of these "scoffers" referred to by the holy Apostle, St. Peter (II Peter 3:3), is that there has never been a major cataclysm from God terminating life in the past; and so there will never be a major cataclysm from God terminating life in the future, such as would occur with the Second Coming when in the words of the *Nicene Creed*, the "Lord Jesus Christ, … who … sitteth on the right hand of the Father … shall come again with glory to judge both the quick and the dead: whose kingdom shall have no end[451]" (e.g., Matt. 25:31-46; 26:64; Acts 10:42; 17:31).

Yet when we consider the end of the *Cretaceous World*, we see how wrong was Darwin with his so called "transmutation of species" theory[452], and associated claims of macroevolution as an unbroken line of improvement via natural selection which will "tend to progress" various "species" ever going up and onward "towards perfection[453]." For the Creator whose "invisible things … from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse" who deny his Creatorship and, for instance, make an idolatrous "image" (Rom. 1:20,23); even "the Lord," who "maketh all the stones of the altar as chalkstones that are beaten in sunder," so "the" idolatrous "groves and images shall not stand up" (Isa. 27:3,9); even he who "In that day … shall slay the dragon that is in the sea" (Isa. 27:1; cf. Rev. 12:9); once again demonstrated at the end of the *Cretaceous World* and start of the following *Tertiary World*, that *he can create, and he destroy*. For we once again find that the Book of Nature was in broad terms read aright with the creationist model of creationism and catastrophism by old earth creationists such as, for example, the French Protestant geologist, George Cuvier (d. 1832), or the English Protestant geologists, William Buckland (d. 1856) and Adam Sedgwick (d. 1873).

For at the end of *Cretaceous World* in *circa* 66.4 million B.C., the Lord showed that *he can destroy* as he destroyed about 50% of all species, including all dinosaurs, such as *Tyrannosaurus Rex*, whose skeleton alone is enough to still excite dramatic imaginations in human beings who behold it about 66.4 million years later; all these were

---

[451] Anglican *Book of Common Prayer (1662*).

[452] Darwin's *Origin of Species* (1859), chapter 9, "On the imperfection of the Geological Record," section, "On the sudden appearances of whole groups of Allied Species … ."

[453] *Ibid.*, chapter 14, "Recapitulation & Conclusion" (emphasis mine).

destroyed in a great catastrophe. Virtually all of the larger land animals were wiped out; marine life was decimated; plant life was hard hit; and global temperatures were about 6º to 14º Celsius, or 11º to 25º Fahrenheit higher. Sea levels rose to about 300 metres or about 1,000 feet higher than they are currently, and the mighty oceans swept in to flood about 40% of the earth's continents in a great deluge. But the Lord did not simply show that *he can destroy* a world, lest any should foolishly conclude that so great a catastrophic destruction were some "natural" event, such as a comet or asteroid hitting the earth by freak accident; although, it remains possible that His Divine Majesty, the Lord Jehovah, hurled by his mighty hand such a comet or asteroid at the earth, with an associated cloud of dust enveloping the earth. Rather, the Lord also showed that *he can create*, for in the next world of the *Tertiary World* that he thereafter made, entirely new and different species were created by him, such as mammals, *infra*. Now what atheistic "fool" (Ps. 14:1) could fail to see in the mammals of the *Tertiary World* the creation of an entirely new creature in a different taxonomical genus? Surely only one of those who "professing themselves to be wise, … became fools" (Rom. 1:22).

The lesson from the cataclysmic destruction of the *Cretaceous World* and associated end of the *Mesozoic Age* is: *crash, bang, vacancy, all went up in smoke. Wow! What a God!* And while in characteristic form, the Lord brought some of the creatures over from the old world; the lesson from the creation of new life forms clearly unrelated to those from the old *Cretaceous World* of the *Mesozoic Age*, which he created in the new *Tertiary World* of the *Cenozoic Age* such as mammals, which appear suddenly and well formed in the fossil record of this new world, is: Behold the "eternal power" of "the Creator," for "the invisible things of him from the creation of the world are clearly seen" (Rom. 1:20,25). *Wow! What a God!*

And the lesson from this for the future, is that despite the claims of "scoffers, walking after their own lusts, and saying, Where is the promise of his coming? For … all things continue as they were from the beginning of the creation;" that in fact, "the heavens and the earth, which are now in existence, by the" "word of God" "are kept in store, reserved unto fire against the day of judgment and perdition of ungodly men." For "the day of the Lord will come as a thief in the night; in the which the heavens shall pass away with a great noise, and the elements shall melt with fervent heat, the earth also and the works that are therein shall be burned up. Seeing then that all these things shall be dissolved, what manner of persons ought ye to be in all holy conversation and godliness. Looking for and earnestly desiring the coming of the day of God, wherein the heavens being on fire shall be dissolved, and the elements shall melt with fervent heat? Nevertheless we, according to his promise, look for new heavens and a new earth, wherein dwelleth righteousness" (II Peter 3:3-5,7,11-13, changing in II Peter 3:12 the AV's "hasting [unto]" to the contextually more accurate, "earnestly desiring," Greek, *speudo*[454]).

---

[454] Greek, *speudontas*, "hasting" / "hastening," or "earnestly desiring," masculine plural accusative, active present participle, from *speudo*.

For the Lord characteristically brings over some species from an old world he destroys into a new world that he makes, and he says he will bring over into his new world of the "new heavens and a new earth" (II Peter 3:13), those who with saving faith, accept "through faith," the "grace" of God whereby men are "saved" in the "redemption through" the "blood" of Christ for "the forgiveness of sins" (Eph. 1:7; 2:8), who died and was "raised" from the dead" by "God" "the Father," who "set him at his own right hand in the heavenly places" (Eph. 1:17,20). "And he shall come again with glory to judge both the quick and the dead: whose kingdom shall have no end" (*Nicene Creed*)[455].

This saving faith is the true meaning of the words of the *Apostles' Creed*, "I believe in God the Father Almighty, maker of heaven and earth: and in Jesus Christ his only Son our Lord …;" and the words of the *Nicene Creed*, "I believe in one God the Father Almighty, maker of heaven and earth, and of all things visible and invisible: and in one Lord Jesus Christ, the only begotten Son of God … ." Thus we find that in Article 8 of the Anglican *Thirty-Nine Articles*, that these two creeds, together with the *Athanasian Creed*, are rightly upheld. But at the time of the Reformation it was recognized that the message of the *Apostles' & Nicene Creeds*, "I believe … in Jesus Christ," had been religiously perverted by the Roman Catholic Church (and some other apostate Churches e.g., the Eastern Orthodox, with their primatial sees at "Jerusalem, Alexandria, and Antioch," which like "the Church of Rome" also "erred," Article 19, 39 Articles). Thus whereas the "I believe … in Jesus Christ" of the *Apostles' & Nicene Creeds* rightly looks to the Gospel of saving faith with justification by faith (John 3:16; 9:35-38; 121:27; 20:31; Rom. 1:16,17; Eph. 2:1-9), and this had been religiously perverted; it was for this reason that at the time of the Reformation these same *Thirty-Nine Articles* then continued to more accurately expound such matters in e.g., Articles 10-14. For the same God who characteristically brings over some creatures from one world to the next, will bring over from this present world to the next world of the new heavens and new earth (Isa. 66:22; Rev. 21:1), only those who are "redeemed" "by" the "blood" of the "Lamb" who was "slain" (Rev. 5:8,9), who have saving "faith" (Rev. 14:12) in Christ through the message of "the everlasting gospel" (Rev. 14:6).

---

[455] Anglican *Book of Common Prayer (1662)*.

Four of the Cretaceous World's subdivisions were named by the old earth creationist, Alcide d'Orbigney (d. 1857), the: Aptian, Albian, Cenomanian, & Turonian.

Pteranadon bird in the Late *Cretaceous World* (97.5-66.4 million B.C.), flying in the open firmament of heaven in North America *c.* 88-84 million B.C.[456].

Pterodactyl bird of the *Cretaceous World* flying in the open firmament of heaven *c.* 120 million B.C[457]. The first fossil of a pterosaur was found in 1784 and thought to be a sea creature; but it was first recognized to be a flying creature by old earth creationist, George Cuvier (d. 1832), who in 1809 coined the name, *Pterodactyl*, although this name has since been limited to a suborder of *Pterosaurs* found in both the Late *Jurassic World* and following *Cretaceous World*.

---

[456] "Pterodactyl Pictures," (http://www.google.com.au/imgres?imgurl=http://0.tqn.com/d/dinosaurs/1/0/6/C/-/-/pteranodonSD.jpg&imgrefurl=http://dinosaurs.about.com/od/dinosaurpictures/ig/Pterodactyl-Pictures/Pteranodon.-2Fn.htm&h=360&w=540&sz=39&tbnid=yINnLnLvibxV_M:&tbnh=88&tbnw=132&prev=/search%3Fq%3Dpterodactyl%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=pterodactyl+images&usg=__InuMWXnUcZ3SiKoo0qMxlISawr4=&docid=IbGbKPIgFelcUM&sa=X&ei=D5TCUYfrPLGWiQfQkoGQDA&ved=0CDwQ9QEwBQ&dur=641).

[457] Pterodactyl bird from China (http://www.google.com.au/imgres?imgurl=http://www.dailygalaxy.com/photos/uncategorized/2008/02/12/pterodactyl_2.jpg&imgrefurl=http://www.dailygalaxy.com/my_weblog/2008/02/miniature-flyin.html&h=450&w=600&sz=46&tbnid=n4mdJGM9aq0KPM:&tbnh=100&tbnw=133&prev=/search%3Fq%3Dpterodactyl%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=pterodactyl+images&usg=__fwzmYd2OtOkWOsnXnWBy-olSN9E=&docid=iNToMwO-U-UxvM&sa=X&ei=D5TCUYfrPLGWiQfQkoGQDA&ved=0CCwQ9QEwAA&dur=5328).

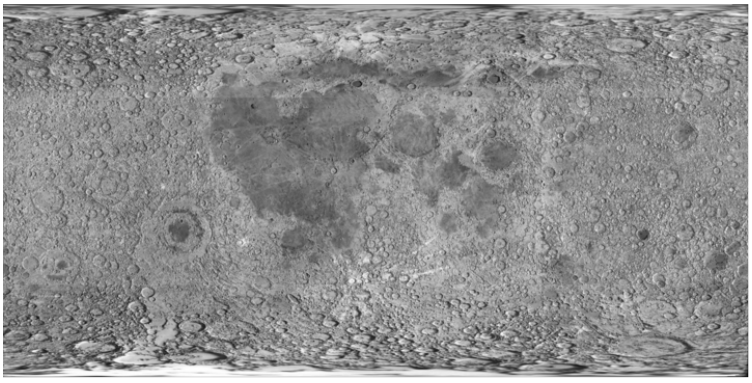
The *Cenozoic Age* (Greek, "recent life") (66.4 million B.C. to the Second Advent) is one of three grand divisions in the geological layers of the earth, *infra*, and it starts with the *Tertiary World*. The *Tertiary World* (66.4 million to 2.6 million B.C.) of the Cenozoic Age is the fifteenth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[458]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this fifteenth world is his *World Omicron* (Greek O / o = O).

There was a period into the early nineteenth century where it was still possible to allow for the possibility of a young earth on the incomplete knowledge of geology, (albeit with ever increasing difficulty and the qualification from *c.* 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier in 1811 & 1813 and Buckland in 1820 considered the data required an old earth), but this ceased to be possible by *c.* 1835, (and indeed one might also reasonably argue for a slightly earlier date than *c.* 1835,) as by this time the evidence was overwhelmingly strong in favour of an old earth. But before this time, the concept of there being a "first" or "beginning" world in the geological layers of the earth, was first recognized by creationists in the late eighteenth century, following the work of the young earth creationist, Giovanni Arduino (1714-1795) of Italy, who in 1760 divided earth's rocks into three broad ages, *Primary*, *Secondary*, and *Tertiary*. In his threefold division of earth's rocks, the first were the *Primary* or Primitive: basalts, granites, and schists, found in the core of Europe's high mountains; the *Secondary* group of fossils were mainly limestones and shales, found in northern Italy; and then the remaining youngest rocks were the *Tertiary*. This threefold division was misinterpreted by a number of Arduino's young earth creationist contemporaries who thought that the earth was less than 10,000 years old, and that it had been formerly covered by the waters of a global flood in Noah's time. These young earth creationists wrongly equated Arduino's *Primary* rocks with a pre-Noachian global flood era; the *Secondary* rocks with a Noachian global flood era; and the *Tertiary* rocks with a post Noachian global flood era. Then as knowledge of Earth's geology grew, in 1810, the Frenchman Alexander (Alexandre) Brongniart (1770-1847) additionally added the sedimentary deposits found in the Paris Basin to the *Tertiary* period. In his study of the Paris Basin, Brongniart worked with old earth creationist, George Cuvier, who in his *Essay on the Theory of the Earth* (1813) proposed that new species were created by God after periodic catastrophes (which he thought were floods). And in 1829 this threefold division was expanded by Jules Desnoyers to a fourfold division with the *Quaternary* period, *infra*.

---

[458] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Tertiary Period," "Cenozoic Era," "Diatryma," "Birds: Major Bird Orders: Gruiforms …" (includes Gastornithidae bird); & "Paraphysornis," *Wikipedia* (http://en.wikipedia.org/wiki/Paraphysornis).

While subsequent geological work has greatly enhanced our picture of earth's geological layers since Arduino's early work in 1760, geology has wisely retained his nomenclature of "Tertiary" for the Cenozoic Age's *Tertiary World* (66.4 million B.C. to 2.6 million B.C.[459]) and Desnoyer's connected "Quaternary" for the *Quaternary Worlds* (2.6 million B.C. to the Second Advent); although it has now revised and built upon Arduino's early work, and replaced his *Primary* and *Secondary* with *Paleozoic* (Greek, "old life") and *Mesozoic* (Greek, "middle life") respectively, as well as discovering worlds anterior to the *Paleozoic Age*. The creationist Arduino's term, "Tertiary," comes from the Latin, *tertiarius*, for something containing three (Latin, *tertius*) parts. In honour of this creationist whose pacesetting work resulted in the naming of the Earth's *Tertiary* geological layer, a ridge on the moon was named after Arduino in 1976.



The *Dorsum Arduino* is a wrinkle–ridge on the moon named in 1976 after Giovanni Arduino, the creationist who named the *Tertiary* layer in 1760[460].

For most of the history of the *Tertiary World* (66.4 million to 2.6 million B.C., subdivides into the Paleocene, Eocene, Oligocene, Miocene, and Pliocene sub-periods)[461], the earth's continents roughly approximated those of contemporary times.

---

[459] On my usage of 2.6 million B.C., rather than as some, 1.6 million B.C., for the ending of the Tertiary and start of the Pleistocene, see the Pleistocene World, *infra*.

[460] Located at 24°54'N 35°48'W 24.9°N 35.8°W in the border region of Oceanus Procellarum and Mare Imbrium, it is 107 kilometres or 67 miles long. (*Wikipedia*, "Dorsum Arduino," http://en.wikipedia.org/wiki/Dorsum_Arduino; citing http://tools.wmflabs.org/geohack/geohack.php?pagename=Dorsum_Arduino&params=24.9_N_35.8_W_globe:Moon).

[461] It is sometimes divided by European geologists into an earlier period approximating the Paleocene, Eocene, Oligocene sub-periods (66.4 million to 23.7 million B.C.) called the "Paleogene (Greek, 'ancient born') Period," on the basis of the similarity of European marine fossils; and into a later period (23.7 million to 2.6 million B.C.) called the "Neogene (Greek, 'new born') Period," approximating the Miocene, and Pliocene sub-periods, once again on the basis of the similarity of European marine

But "he" who "causeth his wind to blow, and the waters flow," even "the Lord" (Ps. 147:12,18) "which made heaven, and earth, the sea, and all that therein is" (Ps. 146:6); at times made land arise and waters subside, so that various land bridges sometimes came into existence betwixt the continents, in order that the Lord might control the movement of certain marine animals and plants. "Blessed be the name of the Lord" (Ps. 113:2).

And most of the contemporary major mountain belts and ranges were formed during the *Tertiary World*, either partly or entirely, by mountain building episodes, such as the lofty Alps of Europe, *infra*, the Andes and Rocky Mountains of North America, the Atlas Mountains of North Africa from which we get our word, "atlas," *infra*, and the Himalayas of Central Asia with the world's highest peak of Mount Everest presently rising to 29,028 feet or 8,848 metres high. The processes used by the Lord in these mountain building episodes were slow and gradual, connected with tectonic plate activity involving the collision of continental plates[462]. The creationist, Alexander von Humboldt (d. 1859), noted that "in Africa … the only spot covered with perpetual snow is the western portion of Mount Atlas[463]."

---

fossils. But this terminology is not generally used by e.g., North American geologists; and nor do I support this alternative to the usage of Arduino's "Tertiary" for this World.

[462] See "Orogeny," *Wikipedia* (2013) (http://en.wikipedia.org/wiki/Orogeny).

[463] Von Humboldt, A., *Views of Nature, or Contemplations on the Sublime Phenomena of Creation*, *op. cit.*, p. 9.

Snow capped Atlas Mtns in background visible from the Atlas Mtns, near Ourika, Morocco, North Africa, Dec. 2012.

Gavin at Ourika with Atlas Mountains from Tertiary World behind him, near Marrakesh, Morocco, North Africa, Dec. 2012.

Gavin with back-pack at Innsbruck in western Austria, with the snow capped Alps behind him, March / April 2002.

Innsbruck in Austria on the mouth of the Sill River in the Eastern Alps of Europe formed in the Tertiary World. March / April 2002.

Hindsight is a wonderful thing, and with the benefit of hindsight we now know from further scientific research that it was an incorrect theory of mountain building that was theorized by the old earth creationist and French geologist, Elie de Beaumont (1798-1874), who in 1829 and 1852 put forth a theory about contemporary mountain ranges originating by slow cooling and shrinking of the earth resulting in cataclysmic upheavals[464]. However, "Let us not throw the baby out with the bathwater." In the first

[464] "Jean-Baptist Eli de Beaumont," *Wikipedia*, citing Beaumont's paper to the Academy of Sciences (1829) & *Notice sur le systeme des montagnes* (3 volumes, 1852) (http://en.wikipedia.org/wiki/Jean-Baptiste_%C3%89lie_de_Beaumont); Schmidt, O., *The doctrine of descent and Darwinism*. London: Henry S. King & Co. 2nd edition, p. 130 in "Darwin Online" (http://darwin-online.org.uk/content/frameset?itemID=F1916&viewtype=text&pageseq=1); & *Encyclopaedia Britannica CD99*, *op. cit.*, "Beaumont, (Jean-Baptist-Armand-Louis-Leonce) Elie de."

place, a balanced view of this old earth creationist must recognize that his work in producing a great geological map of France was a valuable contribution to the science of geology. And so not without justification, a 10,200 foot or 3,109 high metre mountain was named in his honour as the *Mount Elie de Beaumont* in Westland National Park, on the west coast of New Zealand's south island.

And in the second place, it is clear from both the Divine revelation (Gen. 1:1), as seen, e.g., in the creation of the Edenic World's fish and birds in a period of less than 24 hours (Gen. 1:20-23), or the creation of man in a period of less than 24 hours (Gen. 1:24-31), that God creates creatures rapidly. And this same lesson is also evident from the Book of Nature as seen in the sudden appearance of genetically rich parent stocks of animals in the fossil record of different worlds, created at the taxonomical level of genus or below, with a capacity to microevolve within their genus at the lower taxonomical levels of species and subspecies. However, there is nothing in the Word of God to suggest that the formation of mountains is done by the Lord at this type of speed. Indeed, it is notable that in Psalm 90 in the context of the "Lord" having "brought forth" "the mountains" and "formed the earth and the world" that we are reminded that "God" is "from everlasting to everlasting," and for him "a thousand years" are "as yesterday" or as "a watch in the night" (Ps. 90:1,2,4). Hence the implication is that God may have "formed" "the mountains," "the earth," and "the world" as we now have them, over what for man would seem a vast period of time, but which for God who "inhabiteth eternity" (Is. 57:15) would be just like what for a man would be a 24 hour day, or less.

Therefore, in harmony with the old earth creationist overview of Elie de Beaumont, albeit on a different creationist model than the creationist, de Beaumont, we can recognize both a primary cause of the Creator in the end causes of "mountains" "brought forth" by the "Lord" (Ps. 90:1,2), and secondary causes in his usage of processes connected with plate tectonics, to see in the slow process of mountain building episodes a supernaturally guided and produced catastrophe, produced by "the master of the slow burn." God's character in this respect can also be seen in the way he can run hell as "the master of the slow burn" (Luke 16:23-25); to which must be made the qualification, that at other times, he is also "the master of the fast burn" (Gen. 18 & 19), and so he can also run hell on "the high burn" (Luke 12:47,48); just like at other times he creates things more quickly than he did these slowly produced mountains. For, O "Lord," "before the mountains were brought forth," "from everlasting to everlasting, thou art God." "For a thousand years in thy sight are but as yesterday when it is past, and as a watch in the night" (Ps. 90:1,2,4). And thus when we behold "the ancient mountains" (Deut. 33:15) or the "old … earth" (Ps. 102:25), we are right to see in, for example, the "mountains," the "fulfilling" of "his word" (Ps. 148:8,9). "For he spake, and it was done; he commanded, and it stood fast" (Ps. 33:9); "O ye righteous," "Praise the Lord" (Ps. 33:1,2).

Mt. Elie de Beaumont in New Zealand, was named after old earth creationist, Elie de Beaumont of France (1798-1874)[465].

He who can create and he who can destroy, clearly marked out the *Tertiary World* (66.4 million to 2.6 million B.C.) as a new and distinctive world. Gone e.g., were the dinosaurs, and giant reptiles of the sea, such as the ichthyosaurs; and the ammonites were also removed from this new world. But as seen in the geological record as recognized from the time of Cuvier on, albeit with some revision as to the percentage extent of extinctions at the end of a given world; and as recognized by schoolmen in the generally *United Gap School*; in his characteristic way of cataclysms and new creations signaling one of his succession of new "worlds" (Heb. 1:2; 11:3), the Lord also created new

---

[465] Picture 1: "Mt. Elie De Beaumont …," (http://www.google.com.au/imgres?imgurl=http://www.trentw.net/Portfolio/General-Photography/i-PZ8V932/0/L/Mt%2520Elie%2520De%2520Beaumont%2520Trent_a7897p0a-L.jpg&imgrefurl=http://www.trentw.net/Portfolio/General-Photography/5980356_9nnspc/373377443_PZ8V932&h=532&w=800&sz=148&tbnid=VXwWXCec_hWbqM:&tbnh=88&tbnw=132&prev=/search%3Fq%3Delie%2Bde%2Bbeaumont%2Bmountain%2Bnew%2Bzealand%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=elie+de+beaumont+mountain+new+zealand+images&usg=__mQZ-kfEZa7O38Xtio7ar3QKu4K8=&docid=6wjRIEjY3d-uLM&itg=1&sa=X&ei=u8DlUauoIInmiAefvIGgDg&ved=0CCwQ9QEwAA&dur=63); & Picture 2: "New Zealand Climbing - Guided Ascents, Popular Peaks," (http://www.google.com.au/imgres?imgurl=http://www.alpinerecreation.com/images/climb/ascents_elie.jpg&imgrefurl=http://www.alpinerecreation.com/otherpeaks.html&h=245&w=326&sz=24&tbnid=QqgLB5bGpNh6sM:&tbnh=91&tbnw=121&prev=/search%3Fq%3Delie%2Bde%2Bbeaumont%2Bmountain%2Bnew%2Bzealand%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=elie+de+beaumont+mountain+new+zealand+images&usg=__6g0z14Msrfb3NOUH03PvuA3SQ1g=&docid=qd1X9A10ZUqXFM&sa=X&ei=u8DlUauoIInmiAefvIGgDg&ved=0CDIQ9QEwAg&dur=47).

creatures at the taxonomical level of genus or below in his *Tertiary World*, including far more bird species than he had in the previous worlds of earth.

Thus the Lord who made a rich array of birds in his *Tertiary World*, and this included some giant flightless birds. In terms of size, he had birds such as galliforms of the Eocene which could be big or small. They were chicken-like birds in that they had short, strong feet designed for scratching, and feathers on rounded wings, these birds could be quite small at about 13 centremetres or ⅓ foot long or quite big at about 2 metres or 6½ feet long. And later in the *Tertiary World*, the Lord created the Paraphysornis bird, which around 23 million B.C. was one of the so called "terror birds" that roamed the area of modern day Brazil in South America, and *Paraphysornis Brasiliensis* had a skull of 60 centremetres or 2 foot, and was about 2 metres or 6½ feet long (see picture, *infra*). And also in South America in the Miocene (23.7 million to 5.3 million B.C.), the Lord made a group of large headed big birds of the *Phororhacos* genus, which were about 1.5 metres or 5 feet tall, with strong legs, and a powerful beak. Or at the start of the *Tertiary World* in the Paleocene (66.4 million to 57.8 million B.C.), about 60 million B.C., the Lord made the Gastornithidae bird which varied in height between about 1.75 and 2 meters or 5½ to 6½ feet. After the remains of such a Gastornithidae bird called *Gastornis* were discovered in 1855 near Paris in France, this sensational find caused understandably great excitement. And in the Eocene (57.8-36.6 million B.C.) the Lord made the Diatryma bird, which is found in the geological layers of the early Eocene in both Europe and North America. The Diatryma bird could be *c.* 2.25 metres or 7⅓ feet tall, once again with strong large legs that appear to have made it a fast runner, and a large strong beak, this meant it was a powerful predator that most likely fed on small mammals. Thus this earlier part of the *Tertiary World* contained some giant birds (see picture, *infra*). "Great is our Lord, and of great power" (Ps. 147:5). "Great is the Lord, and" he is "greatly to be praised" (Ps. 48:1).

During the mid *Tertiary World*, the Lord created not only many mammal species, he also planted a number of new grasses. This thus facilitated an ecological system of various grazing mammals to live and thrive. The Lord also simultaneously made various matching flowering plants[466] and insects, such as: beetles[467]; ants, bees, and wasps[468]; and butterflies and moths[469]; although in harmony with his known patterns of creation, he sometimes makes a genetically rich parent stock of a particular genus, species, or subspecies e.g., butterflies, and then allows their adaptation via microevolution to various environments either through the process of natural selection microevolution or God guided Theistic microevolution. Of course, recognition of *the law of natural selection* in such instances of microevolution within a genus resulting in subspeciation or speciation

---

[466] Technically known as "angiosperms."

[467] Technically known as "coleoptera."

[468] Technically known as "hymenoptera."

[469] Technically known as "lepidoptera."

acts inside *the laws of genetics*, and so should not be confused with the preposterous abuse of microevolution examples in the claims of the absurd Darwinian theory of macroevolution which wrongly extrapolates from such microevolution within a genus a capacity for animals macroevolve beyond their genus, which would require the addition of new genetic material and new genetic information, for which there is no known natural process, and no documented case. (See Part 2, Chapter 4, section b, subsection vi, "Where creationists may differ: Subspeciation & Speciation …," *infra*.)

In the latter part of the *Tertiary World*, the Lord created bipedal monkey or ape creatures. There was *Sahelanthropus tcheadensis* (*c.* 7 to 6 million B.C., Central Africa), whose discovery in 2002 has thrown Darwinian evolutionists into consternation, because its facial anatomy is more similar to *Satyrus Bestiarius Habilis* (Handy Satyr Beast, *c.* 2.33-1.4 million B.C., found in Africa) (see the *Early Pleistocene to Late Pleistocene I World*, *infra*), that is *Australopithecus* (Southern Monkey / Ape, *c.* 4-5 million - *c.* 1.6 million B.C., found in Africa). This makes their long vaunted claim of macroevolution from *Australopithecus* to *Satyrus Bestiarius Habilis* look *even more silly* than it otherwise would (and it looks exceedingly silly even without the addition of this matter). But "there are none so blind as those who will not see," and so a number of these Darwinian macroevolutionists are now claiming for *Sahelanthropus tcheadensis* the status they formerly claimed for *Australopithecus*, and he has also been absurdly called "Toumai Man," whereas he might be better called, "Toumai Monkey" ("Toumai" means "hope of life" in the local tongue). Likewise, bipedal monkeys or apes have been found with *Orrorin Tugenensis* (*c.* 7 to 6 million B.C., Central Africa) discovered in 2002; and *Ardipithecus Ramidus* (5.8 to 5.2 million B.C., Ethiopia, Africa) discovered in 2001[470].

These discoveries complement the longer known bipedal monkey or ape known as *Australopithecus* (Southern Monkey / Ape, *c.* 4-5 million - *c.* 1.6 million B.C., found in Africa), first discovered in South Africa by Raymond Dart in 1924; although in 1995 there was the discovery of what is now the earliest found bipedal Australopithecine in *Australopithecus Anamensis* (*c.* 4.2-3.9 million B.C., Kenya, Africa)[471]. More generally, the best known example of *Australopithecus* is the one that has been called, "Lucy." Macroevolutionists such as Donald Johanson (b. 1943) of the *Institute of Human Origins* in Berkeley, California, USA, who was one of the co-discoverers of "Lucy," claim this skeleton "comes closer to representing … the missing link than any other fossil we had ever found in Africa." While creationists are agreed that these were animals, a

---

[470] Ross & Rana, *Who Was Adam?*, *op. cit.*, pp. 32,38-39,56,148,149,151,160. *Sahelanthropus tcheadensis* is referred to by Ross & Rana as "hominid" (*Ibid.*, pp. 32,148), as is also *Orrorin Tugenensis* (*Ibid.*, p. 166); and *Satyrus Bestiarius Habilis* (Handy Satyr Beast, *c.* 2.33-1.4 million B.C., found in Africa) is referred to as "*Homo habilis*" (*Ibid.*, p. 149). This is the result of non-thought through terminology by Ross & Rana, neither of whom actually regard these creatures as "humans" (Latin, *homo*).

[471] Ross & Rana, *Who Was Adam?*, *op. cit.*, pp. 159-160.

difference of perception exists between those who see them as some kind of satyr beast (under various names) and those who do not.

Thus creationist writer John Morris (b. 1946) of the *Institute for Creation Research*, has said, "Lucy was very chimpanzee like. She stood 3 foot 6 inches [or 107 centremetres] tall, had a chimp size brain and chimp teeth. She was a chimp. The only features that even hint towards human" type characteristics "were her hips and knee joints and these give a hint toward erect posture. But even these are very controversial[472]." By contrast, creationist writers Ross (b. 1945) & Rana (b. 1963) refer to "apelike Australopithecines" but reject the view of those whose "regard" "Australopithecines" "to be apes;" instead distinguishing them "as bipedal apes, distinct from chimpanzees," and thus some form of satyr beast (although like Morris, they do not use the terminology of a "satyr beast"). They refer to the large brain size of *Australopithecus* (380-450 cubic centremetres) which is slightly larger than a chimpanzee brain (300-400 cubic centremetres), and consider both the skull and pelvis, as well as its lower limbs all indicate that it could walk erect[473]. However, I consider that its designation of *Australopithecus* meaning "Southern Monkey" or "Southern Ape" is reflective of its overall characteristics, and on the presently available data I would favour the view that *Australopithecus* is best conceptualized simply as a bi-pedal monkey or ape, and NOT as a satyr beast since it lacks sufficient man-like characteristics due to the fact that its bipedalism can be related to tree climbing, as with the modern orangutan which has a less poignant form of such bipedalism in the from of an *arm assisted* bipedalism, *infra*. But either way, the perceptions of both of these type of creationists clearly sees *Australopithecus* as an animal. Therefore what certain macroevolutionists are fantasizing to be a "missing link," is simply an animal primate that may have walked upright in some contexts. Thus *Australopithecus* (or Australopithecines) was simply a primate animal, and not a macroevolutionary "missing link" from apes or monkeys to man.

With respect to all these bipedal monkeys or apes, namely, *Sahelanthropus tcheadensis* (*c.* 7 to 6 million B.C., Central Africa), *Orrorin Tugenensis* (*c.* 7 to 6 million

---

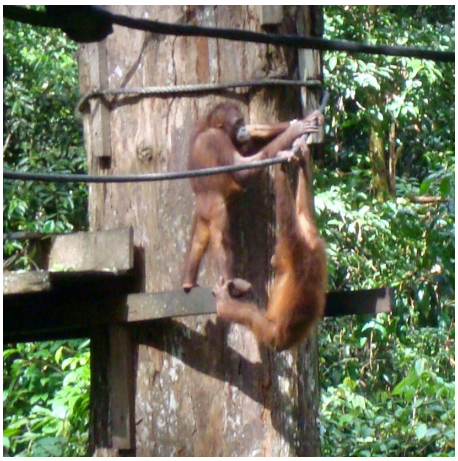
[472] "Ancient Man: What Do We Know About Our Ancient Ancestors?," *Ancient Secrets of the Bible*, DVD (Digital Video Disc), A Grizzly Adams Production, USA, 2009 (http://www.grizzlyadams.com). The *Institute for Creation Research* is a young earth creationist organization that John Morris took over the presidency of from his father, Henry Morris (1918-2006), coauthor of Whitcomb & Morris's *The Genesis Flood* (1961). But this DVD also includes favourable quotation of old earth creationist Gap Schoolman, Arthur Custance (1910-1985), and so is to some extent looking to a wider creationist support base among both old and young earth creationists. And certainly there are important points of intersecting agreement between both old and young earth creationists which should not be forgotten amidst their diversity.

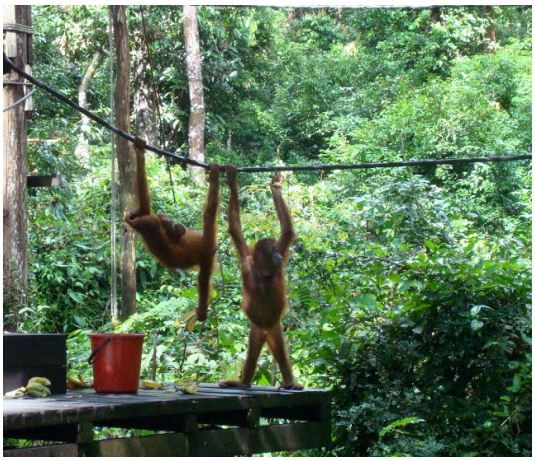
[473] Ross & Rana (old earth creationists), *Who Was Adam?*, *op. cit.*, pp. 25, 28, 33 (the terminology they here use is not that of a "satyr beast" but a "hominid," which they understand to be "animals" that "have features that resemble humans," *Ibid.*, pp. 29,83).

B.C., Central Africa), *Ardipithecus Ramidus* (5.8 to 5.2 million B.C., Ethiopia, Africa), and *Australopithecus* (*c.* 4-5 million - *c.* 1.6 million B.C., found in Africa); or any other similar type bipedal monkeys or apes that may or may not be found in the future, I think macroevolutionists are reading far too much into the fact that they were bipedal, for many animals are bipedal e.g., ostriches, emus, and some extinct dinosaurs. Thus being bipedal is certainly not a unique characteristic of man. Indeed it is notable that a study in 2007 of orangutan apes in Sumatra, Indonesia, found that this ape uses four legs when he is walking on larger more stable branches, and when he comes to slightly smaller branches he swings under them, *but he is bipedal and walks on two legs with a straight posture when standing on multiple flexible branches which are under about 4 centremetres or 1½ inches in diameter*, in which instances he uses his arms for both balancing and additional support. This allows an orangutan ape to get close up to a tree canopy's edge so that he can then either cross over to another tree or access fruit[474]. Certainly this *arm assisted* bipedalism is not as poignant a form of bipedalism as the *independent of arm assistance* bipedalism of *Australopithecus et al*, but it may simply mean that *Sahelanthropus tcheadensis*, *Australopithecus*, *et al* were more poignantly adapted for this same type of tree climbing bipedalism which allowed them to climb better on smaller branches. Thus far from being some kind of "missing link" to man as claimed in the fantasies of macroevolutionary theory, the evidence indicates that these creatures were simply a monkey or ape, with some similar tree climbing traits to the modern orangutan ape.

Hence in the following photographs taken by my brother, Peter McGrath (b. 1957) of New South Wales, Australia, when he was on a trip to north-east Borneo, Malaysia, in January 2011; we see how the orangutan also sometimes exhibits a form of bipedalism with the assistance of his arms.

[474] Thorpe, S.K., Holder, R.L., & Crompton, R. H., *Science*, Vol. 316 (5829), pp. 1238-1331; referred to in "Australopithecus," *Wikipedia* (http://en.wikipedia.org/wiki/Australopithecus).





Like e.g., *Australopithecus*, the Sumatran Orangutan is sometimes bipedal[475].

The *Tertiary World* may be divided into five sub-periods, the Paleocene, Eocene, Oligocene, Miocene, and Pliocene. E.g., the Eocene, Miocene, and Pliocene sub-periods were determined on the basis of the overall percentage of species found in each sub-period which may still be found in the oceans and seas of contemporary times.

Or let us consider in greater detail e.g., the Oligocene which was named by the old earth creationist, Heinrich Ernst von Beyrich (1815-1896). Writing about 10 years after the death of Heinrich von Beyrich, Ernst Haeckel, a Professor at Jena University in Germany, says in 1905, that in rejection of "the theory of [macro]evolution" of species as opposed to "creation" of species, he found that "almost all the experts" in science "at Berlin" in Germany, including e.g., "the famous microscopist," Christian "Ehrenberg" (1795-1876); "the zoologist," William "Peters" (1815-1883); and "the geologist, Beyrich were unanimous in their condemnation of Darwin[476]." The creationist, William Peters was Curator of the *Berlin Zoological Museum*, and he procured an enormous and comprehensive collection of animal and plant specimens which he then described[477]. The creationist, Christian Ehrenberg, undertook research under a microscope in his

---

[475] "Peter McGrath's Gallery," "Malaysia / Borneo 2011," Picasa Web Albums (https://picasaweb.google.com/108201449908051617870/MalaysiaBorneo2011#5824288313343236610).

[476] Haekel, E., *Last Word on Evolution*, 1905, translated from the second edition by Joseph McCabe, Published by Peter Eckler, New York, USA, p. 50 (https://archive.org/stream/lastwordsonevolu00haecrich/lastwordsonevolu00haecrich_djvu.txt).

[477] "Wilhelm Peters," *Wikipedia* (2013) (http://en.wikipedia.org/wiki/Wilhelm_Peters).

travels to such places as e.g., the Mediterranean Sea, the Nile River, and the Red Sea; as a consequence of which he identified and classified a number of plants, animals, and tiny micro-organisms[478]. The creationist, Heinrich von Beyrich, coined the term "Oligocene" in 1854. It comes from the Greek word, *oligios* (ολιγος), meaning "few," e.g., we read in the Gospel of Christ's multiplication miracle starting with "a few (*oligios*) little fishes" (Matt. 15:34); and the Greek word, *kainos* (καινος), meaning "new," e.g., we read in the Gospel of how Christ refers to "an householder, which bringeth forth out of his treasure things new (*kainos*) and old" (Matt. 13:52). Thus "Oligocene" means "few new" creatures were created by God in this sub-period of the *Tertiary World* from 36.6 million B.C. to 23.7 million B.C. .

[478] *Encyclopaedia Britannica CD99*, *op. cit.*, "Ehrenberg, Christian Gottfried".

 [479]

 [480]

Four scenes from the Oligocene sub-period of the *Tertiary World* (66.4 million to 2.6 million B.C.). The Oligocene (36.6 million to 23.7 million B.C.) was named by old earth creationist, Heinrich von Beyrich (d. 1896) of Germany, in 1854.

 [481]

 [482]

---

[479] "Paleos Cenozoic: Oligocene: The Oligocene Epoch," (http://www.google.com.au/imgres?imgurl=http://palaeos.com/cenozoic/oligocene/images/mesohippus.jpg&imgrefurl=http://palaeos.com/cenozoic/oligocene/oligocene.htm&h=302&w=474&sz=24&tbnid=WOkXTbDE-dUHtM:&tbnh=91&tbnw=143&prev=/search%3Fq%3Doligocene%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=oligocene+images&usg=__g-CslYKd1DUhUWvZD_aGSF04SFg=&docid=ImpxuUXNu6SsuM&sa=X&ei=lSvnUef_I4HZige5y4DAAQ&ved=0CDkQ9QEwBA&dur=2203).

[480] "Oligocene – Perissodactyl," (http://www.google.com.au/imgres?imgurl=http://research.amnh.org/paleontology/perissodactyl/f/Oligocene_2.jpg&imgrefurl=http://research.amnh.org/paleontology/perissodactyl/concepts/deep-time/oligocene&h=255&w=609&sz=148&tbnid=1fHbkbsx1tpiiM:&tbnh=53&tbnw=127&prev=/search%3Fq%3Doligocene%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=oligocene+images&usg=__QFlRbOrGTk31cRWm4NXdFUAUvOM=&docid=ctdoUFnJ0HmSNM&sa=X&ei=lSvnUef_I4HZige5y4DAAQ&ved=0CDIQ9QEwAg&dur=922).

[481] "BBC Nature – Oligocene … news and facts," (http://www.google.com.au/imgres?imgurl=http://ichef.bbci.co.uk/naturelibrary/images/i

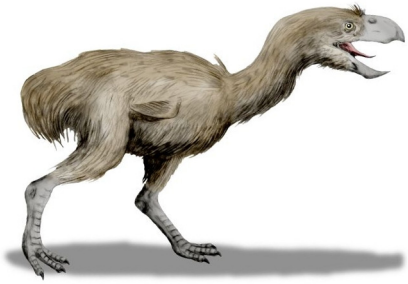
In the *Tertiary World* (66.4 million to 2.6 million B.C.), from the time of the earlier *Tertiary World* in the Paleocene (66.4 million to 57.8 million B.C.), the earth was generally a fair bit warmer than what it now is; but as seen from deep sea cores taken from earth's geological layers, "the Lord" brought about a sharp cooling of the planet at the end of the Eocene (57.8 million to 36.6 million B.C.), with "hail; snow, and vapours; stormy wind fulfilling his word" (Ps. 148:7,8). For during the Oligocene (36.6 million to 23.7 million B.C.), as intensified during the Miocene (23.7 million to 5.3 million B.C.), there was a build up of glacial ice in Antarctica which became a massive ice sheet, and this then impacted on both the oceans' and atmosphere's circulation patterns. During the Miocene (23.7 million to 5.3 million B.C.) and Pliocene (5.3 million to 2.6 million B.C.) there were some relatively mild global weather oscillations between a hotter and cooler climate, but these weather oscillations gradually intensified with the planet cooling down from about 2.6 million B.C., until this reached a crescendo with the Lord putting a geological marker at the end of his *Tertiary World* and the start of his Quaternary Worlds with the Pleistocene World, as he sent a big chill around the planet, with "hail; snow, and vapours; stormy wind fulfilling his word" (Ps. 148:8), and great glacial ice age cycles began. The Lord's *Big Chill* thus acted to mark the ending of one world, and start of another. "Blessed be the name of the Lord"! (Ps. 113:2).

---

c/credit/640x395/o/ol/oligocene/oligocene_1.jpg&imgrefurl=http://www.bbc.co.uk/nature/history_of_the_earth/Oligocene&h=395&w=640&sz=82&tbnid=sH4yFlzZqL13DM:&tbnh=89&tbnw=144&prev=/search%3Fq%3Doligocene%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=oligocene+images&usg=__3AOeueAMbYY_0J_Tpm2dIMQ6rwE=&docid=3zQTcmIuF0i4IM&sa=X&ei=lSvnUef_I4HZige5y4DAAQ&ved=0CEkQ9QEwCQ&dur=578).

[482] "History of the Earth – Oligocene Epoch – (Cenozoic Era)," (http://www.google.com.au/imgres?imgurl=http://www.corzakinteractive.com/earth-life-history/assets/scenes/433a_oligocene.jpg&imgrefurl=http://www.corzakinteractive.com/earth-life-history/433_oligocene.htm&h=268&w=320&sz=35&tbnid=Yccw2tkhvKA1nM:&tbnh=95&tbnw=113&prev=/search%3Fq%3Doligocene%2Bimages%26tbm%3Disch%26tbo%3Du&zoom=1&q=oligocene+images&usg=__2Z_TUJyYJQFd4Z-L0DJY_aRh-UM=&docid=AKUsHuVqhdpNCM&sa=X&ei=lSvnUef_I4HZige5y4DAAQ&ved=0CFkQ9QEwDg&dur=922).

Before c. 1835 it was still possible to allow for the possibility of a young earth (albeit with ever increasing difficulty and the qualification from c. 1810-1835 that there was evidence consistently coming through from geology which was indicating an old earth, and that leading geologists such as Cuvier and Buckland considered the data required an old earth). The concept of there being a succession of worlds in the earth's geological layers was first recognized in 1760 by young earth creationist, Arduino (d. 1795). Though his work dividing earth's rocks into three broad ages of Primary, Secondary, and Tertiary has since been revised, his nomenclature of "Tertiary" has been retained for the Cenozoic Age's Tertiary World (66.4-2.6 million B.C.).



Above: "Terror bird" of the *Tertiary World* in South America, Paraphysornis, 23 million B.C., had a skull of 60 centremetres or 2 foot, and was *c.* 2 metres or 6½ feet long[483].

Above: The *Tertiary World's* giant Diatryma bird of Europe and North America in the Eocene (57.8-36.6 million B.C.) could be 2.25 metres or 7⅓ feet tall[484].

---

483 "Paraphysornis," http://www.google.com.au/imgres?imgurl=http://upload.wikimedia.org/wikipedia/commons/3/33/Paraphysornis_BW-2r.jpg&imgrefurl=http://www.mahjoob.com/en/forums/showthread.php?p%3D5089087&h=600&w=800&sz=103&tbnid=nJxMVakLgAz4zM:&tbnh=120&tbnw=160&prev=/search%3Fq%3Dtertiary%2Bbirds%26tbm%3Disch%26tbo%3Du&zoom=1&q=tertiary+birds&usg=__gVeSFvroOVu3IsP-VgPpVlGPHc8=&docid=5-kFQf1U-iPk3M&sa=X&ei=Y23XUajTGqSwiAeAnoGQAQ&ved=0CEUQ9QEwBA&dur=5312.

There are multiple Quaternary Worlds of the Cenozoic Age. The term "Quaternary" comes from the Latin *quaternarius*, for something containing *four* (Latin, *quattuor*) parts, since it comes after the Tertiary (Latin, *tertiarius*, for something containing three, Latin, *tertius*, parts), *supra*. The Quaternary's Pleistocene World from the Early Pleistocene to the end of *Late Pleistocene I* i.e., the *Early Pleistocene to Late Pleistocene I World* (2.6 million B.C., to *c.* 68,000 B.C.), is the sixteenth of "the worlds … framed by the word of God" (Heb. 11:3) in "the generations of the heavens and of the earth" (Gen. 2:4) which geologists can study in the Book of Nature[485]. In the Holy Trinity, "God" "by his Son" "made the worlds" (Heb. 1:2), and for the Son of God who says (in a different context), "I am Alpha and Omega, the beginning and the ending" (Rev. 1:8), this sixteenth world is his *World Pi* (Greek Π / π = P).

"Pleistocene" is a compound word. It comes from the Greek word, *pleistos* (πλειστος), meaning "most," e.g., we read in the holy Gospel of how Christ "began … to upbraid the cities wherein most (*pleistos-e-on*[486]) of his mighty works were done, because they repented not" (Matt. 11:20); and the Greek word, *kainos* (καινος), meaning "new," e.g., we read in the holy Gospel of how Christ says of the symbolism of the red Communion wine used at the Lord's Supper or Holy Communion, "this is my blood of the new (*kainos*) testament, which is shed for many for the remission of sins" (Matt. 26:28). Thus "Pleistocene" means "most new" i.e., "most recent." Were that the end of the matter, all would be well. However, there are complexities with these terminology.

Why is it so called, "Most Recent" (Pleistocene)? The admittedly confusing answer is that the *Quaternary Worlds'* Pleistocene (2.6 million B.C. to 8,000 B.C.) comes after the *Tertiary World's* subperiod known as the "Pliocene" (5.3 million to 2.6 million B.C.) from Greek *pleion* (πλειων) meaning "more" and *kainos* (καινος), meaning "new," i.e., "more new" = "newer;" and before the *Quaternary Worlds'* Holocene (8,000 B.C. to Second Advent), from Greek *holos* (όλος) meaning "wholly" or "entirely" and *kainos* (καινος), meaning "new," i.e., "wholly new" or "entirely new" (as first proposed in 1885 by the International Geological Congress, although "Recent" or "Postglacial" were used by a number till around the late 1960s with e.g., the USA's Geological Survey not

---

[484] "Diatryma2," M. Peterson, 6 Dec. 2012, http://www.google.com.au/imgres?imgurl=http://marlinpeterson.com/wp-content/uploads/diatryma2.jpg&imgrefurl=http://marlinpeterson.com/1449/diatryma-3/&h=780&w=960&sz=927&tbnid=klqvqIisIIiU1M:&tbnh=100&tbnw=123&prev=/search%3Fq%3DDiatryma%2Bimage%26tbm%3Disch%26tbo%3Du&zoom=1&q=Diatryma+image&usg=__16s507P5YIF1hT0SmqJaENr-s4M=&docid=PEbTsepfiQiNoM&sa=X&ei=fnPXUZr1De6higeSkYDgCg&ved=0CFgQ9QEwDg&dur=1312.

[485] Cf. *Encyclopaedia Britannica CD99*, *op. cit.*, e.g., "Quaternary Period" & "Pleistocene Epoch."

[486] A Greek adjective that comes in masculine, feminine, and plural forms.

formally adopting "Holocene" till 1967). Certainly these terms could have been constructed with greater clarity than what they were; but the somewhat confusing contextual order is "Newer" (Pliocene, 5.3 million to 2.6 million B.C.); followed by "Most Recent" (Pleistocene, 2.6 million B.C. to 8,000 B.C.); followed by "Entirely New" (Holocene, 8,000 B.C. to Second Advent). The admittedly confusing way "Newer" (Pliocene, named by Lyell in 1833) is followed by "Most Recent" (Pleistocene, named by Lyell in 1839) results from the fact that these designations were first made by Charles Lyell, a man whose geological work is of a most uneven standard, and whose more general clarity of thought sometimes left a good deal to be desired. In 1833 he confusingly subdivided Pliocene meaning "Newer," into "Newer Pliocene" meaning "Newer Newer" and "Older Pliocene" meaning "Older Newer." Then in 1839, to try and overcome the obscurity he had created, he limited "Pliocene" to what had formerly been the "Older Pliocene" meaning "Older Newer;" but he then created further obscurity by renaming his former "Newer Pliocene" as "Pleistocene" meaning "Most Recent." Thus came about these confusing Lyell created terms of Pliocene meaning "Newer," followed by "Pleistocene" meaning "Most Recent[487]." And to all of Lyell's confusing terminology, is then added the confusion that Lyell's "Pleistocene" which means "Most Recent," comes in time before the Postglacial period following *c.* 8.000 B.C., which was then named in 1885 as the "Holocene" meaning "wholly new" or "entirely new," *supra*.

The ending of the *Tertiary World* was marked by cooling temperatures from about 2.6 million B.C., with the Lord's *Big Chill* which thus acted to mark the ending of one world, and start of another with the *Early Pleistocene to Late Pleistocene I World* from *c.* 2.6 million B.C.. Since the date of *c.* 2.6 million B.C. takes into account both the entire period of *The Big Chill* and the ice ages, I think this is a big clear marker of the Lord creating a new type of world. The base of the Pleistocene was defined by the *International Union of Geological Sciences* in 2009 as 2.588 million B.C., with the base of the Gelasian (2.588-1.806 million B.C., named after Gela in Italy[488],) being its starting point in *Mount Saint Nicholas* (*Monte San Nicola*) near Gela in the south of Italy, south of Sicily in Caltanissetta Province[489]. And a secondary factor which has been used to

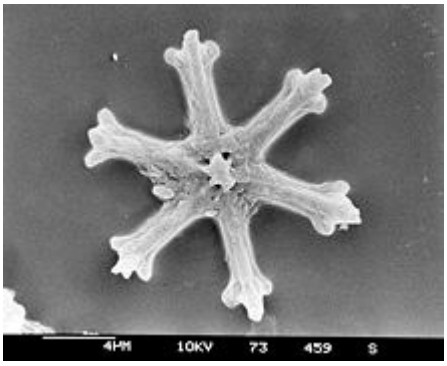
---

[487] *The Geological Time Classification of the United States Geological Survey*, p. 50 (http://books.google.com.au/books?id=my7x_PBkpm4C&pg=PA50&lpg=PA50&dq=lyell+named+Pliocene&source=bl&ots=BFgL4lCwrE&sig=c_LCaBI7dMyeP93DVtM0JOnnFjQ&hl=en&sa=X&ei=A6EKUs7lNeWYiAfwjYGICw&ved=0CEQQ6AEwBQ#v=onepage&q=lyell%20named%20Pliocene&f=false).

[488] Followed in the Pleistocene on this type of reckoning by the Calabrian (1.806 million B.C – 781,000 B.C.), Ionian (781,000-126,000 B.C.), and Tarantian (126,000-11,700 B.C.); and then the Holocene (11,700 B.C. to Second Advent). "Gelasian" *Wikipedia* (English language Version) (http://en.wikipedia.org/wiki/Gelasian).

[489] The *International Union of Geological Sciences* changed their start date from 1.806 million to 2.588 million years ago ("Pleistocene," *Wikipedia,* http://en.wikipedia.org/wiki/Pleistocene). By contrast, 1.6 million B.C. is used in e.g., *Encyclopaedia Britannica CD99*, *op. cit.*, "Pleistocene Epoch."

give a precise start date for the Pleistocene, is the fact that above this point of 2.588 million B.C., there are notable extinctions of the calcareous nannofossils (an important group of microfossils), *Discoaster pentaradiatus* and *Discoaster surculus*. The *Discoaster* is one of about 100 subspecies or varieties of an extinct marine algae which was star-shaped; and so their extinction is now used to define the official start of the Pleistocene.



The *Discoaster surculus* whose extinction now marks the start of the Pleistocene at 2.588 million B.C.[490].

Therefore I think the date of *c.* 2.6 million B.C. is to be preferred to the dates used by some for the start of the Pleistocene at 1.6 million or 1.8 million B.C.[491]. Moreover, the fact that the Pleistocene base has been defined since 2009 as the base of the Gelasian (2.588-1.806 million B.C.,) which starts at *Mount Saint Nicholas* (*Monte San Nicola*) near Gela is also of interest for another reason. *Mount Saint Nicholas* is *c.* 10 kilometres or 6 miles north to north-west of Gela, in the Caltanissetta Province of Sicily[492]. This mountain is named after St. Nicholas, who in the Anglican 1662 *Book of Common Prayer* has a black letter day on 6 December. St. Nicholas (died mid 4th century A.D.,) was the Bishop of Myra in Lycia in Asia Minor. Putting aside various fictional elements added later, for our immediate purposes, the relevant historical story of Bishop Nicholas basically states that he found three children suffering from hyperthermia in the cold snow and ice, and in Christian charity (I Cor. 13:1) brought them back to Bishop's Court where they were warmed by a fireside, thus saving their lives. Hence he became known as "the friend of children," and in a later tradition, Christmas celebrations focusing on 25

---

490 "Discoaster," *Wikipedia* (http://en.wikipedia.org/wiki/Discoaster).

491 E.g., *Encyclopaedia Britannica CD99*, *op. cit.*, "Tertiary Period" & "Pleistocene Epoch" uses 1.6 million B.C. for the ending of the Tertiary and start of the Pleistocene.

492 "Gelasian," *Wikipedia* (Italian Version, available with an English translation) (http://translate.google.com.au/translate?hl=en&sl=it&u=http://it.wikipedia.org/wiki/Gelasiano&prev=/search%3Fq%3Dmonte%2Bsan%2Bnicola%2Bcaltanissetta); citing Google Maps coordinates of 37.1468888889º [degrees] North & 14.2035 º East.

December were started from St. Nicholas Day on 6 December. "Santa" means "saint" in Latin (an adjective from *sanctus*), and also in some Latin languages[493]; and so when "Santa" is coupled with the German form of Nicholas's name, "Claus" (pronounced so as to rhyme with "house" i.e., "Clouse"), this gave rise to the modern fictional children's version name of "Santa Claus" (pronounced "Claws"). But the real St. Nicholas's association with the snow, ice, and cold coming from the story of his saving of the lives of the three children suffering from hyperthermia, also results in his association with snow and ice in the modern fictional children's version of "Santa Claus." It is thus surely appropriate that a mountain named after him as *Mount Saint Nicholas*, is used to start this period of Ice Ages which characterize so much of the Pleistocene.

The Pleistocene dates from *c.* 2.6 million B.C. to *c.* 8,000 B.C., and is more generally punctuated by ice ages or various glacial stages. The *Early Pleistocene* dates from *c.* 2.6 million B.C. (correlating with around the start of the North American Pre-Illinoian Stage K Glacial Stage, *infra*) to *c.* 850,000 B.C. (correlating with around the end of the North American Pre-Illinoian Stage F Glacial Stage, and start of the North American Pre-Illinoian Stage E Glacial Stage, *infra*). The *Middle Pleistocene* from *c.* 850,000 B.C. to *c.* 128,000 B.C. (correlating with around the end of the North American Pre-Illinoian Stage A Glacial Stage, or end of the European Alps' Riss Glacial Stage, *infra*). The *Late Pleistocene I* dates from *c.* 128,000 B.C. to *c.* 68,000 B.C. (correlating with around the start of North American Sagamonian Interglacial Stage, *infra*; & start of the European Alps' Riss-Wurm Interglacial Stage, *infra*). And the *Late Pleistocene II* dates from *c.* 68,000 B.C. to *c.* 8,000 B.C. (correlating with around the around end of the last Ice Age, and start of the Holocene); although the finer details of *Late Pleistocene II* are not covered in this section.

Thus a defining feature of the Pleistocene down to the Holocene in *c.* 8.000 B.C., is the fact that it is more generally punctuated by ice ages or glacial stages. Recognition of the Ice Ages first came from the work of the old earth creationist, Louis Agassiz (d. 1873) of Harvard University, Massachusetts, USA. Some huge boulders of granite were known to rest upon the limestone of the Jura Mountains as described by Saussure in 1779, and they had been interpreted by some as the work of a flood. But in 1837, Agassiz proposed that a glacial ice age had spread ice sheets from the North Pole down to both Europe and Asia, as far as the shores of the Mediterranean Sea and Caspian Sea. He saw these granites as evidence of this ice age. His work received some initial skepticism from his fellow French Huguenot derived, and fellow creationist, Alexander von Humboldt (d. 1859); but undaunted, Agassiz continued his work and published his *Studies of Glaciers* (French, *Études sur les glaciers*) in 1840, in which he showed that the glaciers of Europe's Alps had been far more extensive in the past. That year, he also visited fellow creationist, William Buckland of Oxford University, and Agassiz and

---

[493] E.g., the Spanish, *Santa Barbara* = Saint Barbara, in southwestern California, USA, and was so named by the Spanish; or the Portuguese *Ilha de Santa Maria* = Saint Mary's Island in the Azores Archipelago of the North Atlantic Ocean, and is a territorial holding of Portugal.

Buckland examined various parts of the British Isles, concluding that the Ice Age was not only correct, but that Ice Age glaciers had extended to northern England, Scotland, and Ireland. Then in 1846, Agassiz also undertook work on Ice Age glaciations in North America[494]. The work of these two old earth creationists, Louis Agassiz and William Buckland, especially the former, is thus the foundational work on the Pleistocene Ice Ages, and further work on the ice age glaciations has since been greatly refined.

Hence this is seen in the below chart showing the *Five Ice Ages* of the Pleistocene, as found in mainly the northern hemisphere, although some southern hemisphere glaciation also occurred in e.g., South America. Though the *First Ice Age* was local to North America, the remaining four ice ages on the chart are, with qualification, "common" in that they share at least some level of overlap in time. It should also be understood that some of the details in the below chart are the matter of academic dispute. E.g., dates, especially of the earlier ice ages, are disputed, for instance, the Mindel Glacial Stage is dated by some at *c.* 750,000 to 675,000 B.C., whereas others would put the Gunz Glacial Stage around this time, and the Mindel Glacial Stage at a later time *c.* 455,000 to somewhere between 380,000-300,000 B.C., and the Anglian of the British Isles at *c.* 450,000 B.C.[495]. Furthermore, a number of the correlations between the five geographical areas shown are regarded by different researches as "approximate" correlations with areas of time overlap, but not necessarily or always starting or ending at exactly the same time. Another complicating factor is that different names for different eras are used by different people. E.g., reference is made in the following Chart to the North American Pre-Illinoian Stage, which subdivides into a further eleven stages (A-K), starting with the oldest North American Pre-Illinoian Stage K at *c.* 2.5 million B.C., then the Pre-Illinoian Stage J at *c.* 1.9 million B.C. (about the time of the Baventian in the British Isles), Pre-Illinoian Stage I at *c.* 1.8 million B.C. (about the time of the Pastonian going to the Beestonian in the British Isles), Pre-Illinoian Stage H at *c.* 1.7 million B.C. (starting in the earlier part of the Beestonian in the British Isles), Pre-Illinoian Stage G at *c.* 1.2 million B.C. (about the middle of the Beestonian in

---

[494] *Encyclopaedia Britannica CD99*, *op. cit.*, "The Earth Sciences: History of the Earth Sciences: The 19th Century: Geological Sciences: Louis Agassiz and the Ice Age."

[495] See e.g., *Ibid.*, "Timeline of Glaciation," *Wikipedia* (http://en.wikipedia.org/wiki/Timeline_of_glaciation); *Encyclopaedia Britannica CD99*, *op. cit.*, "Gunz Glacial Stage," "Gunz-Mindel Interglacial Stage," "Holstein Interglacial Stage," "Kansan Glacial Stage," "Laurentide Ice Sheet," "Mindel Glacial Stage," "Riss Glacial Stage," "Riss-Wurm Interglacial Stage," "Saale Glacial Sage," "Stratigraphy," "Wurm Glacial Stage;" & Walker, M., *Quaternary Dating Methods*, John Wiley, New York, USA, 2005, p. 11 (http://books.google.com.au/books?id=QOCD25IjCOkC&pg=PA11&lpg=PA11&dq=pre-illinoian+11+stages&source=bl&ots=V5SQlIiNmp&sig=Bd5VOBpnv5_Kd7p25w73CXAiY-Y&hl=en&sa=X&ei=NrsJUt-bEYi-kQXDvYDADw&ved=0CEwQ6AEwBg#v=onepage&q=pre-illinoian%2011%20stages&f=false).

the British Isles & around the Menapian of northern Europe), Pre-Illinoian Stage F at *c.* 900,000 B.C. (correlating with the latter part of the Beestonian in the British Isles), Pre-Illinoian Stage E at *c.* 750,000 B.C. (around the earlier part of the Cromerian in the British Isles), Pre-Illinoian Stage D at *c.* 650,000 B.C. (around the middle part of the Cromerian in the British Isles), Pre-Illinoian Stage C at *c.* 550,000 B.C. (around the end part of the Cromerian in the British Isles), Pre-Illinoian Stage B at *c.* 450,000 B.C. (starting about 25,000 years after the Anglian in the British Isles), and Pre-Illinoian Stage A at *c.* 250,000 B.C. . However, the older designations for North American ice ages are: the Nebraskan Glacial Stage, Aftonian Interglacial Stage, Kansan Glacial Stage, and Yarmouth Interglacial Stage; but more recent studies indicate these older designations are inadequate and misleading designations. And thus, for instance, "The Anglian Glacial Stage" in the British Isles is correlated on this nomenclature with "the Pre-Illinoian B Glacial Stage" of North America, rather than "The Kansan Glacial Stage." Thus the following Chart merely gives a "big picture" and "rough idea," amidst some disputed finer details.

Therefore the following chart is given subject to the qualification that it has its limitations and is only a "big rough picture," designed to show the general overview of Pleistocene Ice Ages, some of whose finer details are matters of ongoing disagreement and debate. Some dates are given in each of the four "common" *Ice Ages 2 to 5* i.e., with at least *some* periods of overlap, but it must be stressed that these are imprecise and correlations with "common" *Ice Ages 2-5* in the other boxes are not precise equivalents, though generally there is considered to be overlap and hence their loose and qualified designation as "common." E.g., this is seen in the *Third Ice Age* which in the British Isles was the *Anglian Glacial Stage* of *c.* 476,000 to 422,000 B.C., as compared and contrasted with the North American *Pre-Illinoian Glacial Stages B & A* of *c.* 450,000-250,000 B.C.; so that there was a period of overlap in the British Isles and North America from *c.* 450,000-422,000 B.C., but beyond that, quite different time durations. It should also be understood more generally that this section on the old earth creationist *United Gap School* is not concerned with the period of the *Fifth Ice Age* (the Wurm *et al*) and onwards. That is because from the time of the last Ice Age on, there ceases to be a united Gap School view on Scripture and science. (See Part 2, Chapter 5, section d, "A scientific critique of the Global Earth Gap School's global pre-Adamite flood & following global six day creation," subsection iii, "Landing the Gap School jet plane," *infra*).

Europe's Alps.	***Second Ice Age.*** The Gunz Glacial Stage (dates disputed). (After the Donau-Gunz Interglacial). It is followed by the Gunz-Mindel Interglacial Stage.	***Third Ice Age.*** The Mindel Glacial Stage (dates disputed). It is followed by the Gunz-Mindel-Riss Interglacial Stage.	***Fourth Ice Age.*** The Riss Glacial Stage (***c.* 178,000-128,000 B.C.**). It is followed by the Riss-Wurm Interglacial Stage seen in the Moosburg Gravels.	***Fifth Ice Age.*** The Wurm Glacial Stage (***c.* 68,000 B.C. to *c.* 8,000 B.C.**). See Part 2, Chapter 5, section d, subsection iii, *infra*.
Europe's North.	Menapian Glacial Stage. It is followed by the Cromerian Interglacial Stage.	Elsterian Glacial Stage. It is followed by the Holstein Interglacial Stage.	The Saale Glacial Stage. Probably 3 substages: Drente (glacial advance), Treene (glacial retreat), & Warthe (glacial advance). It is followed by the Eemian Interglacial Stage.	The Weichsel Glacial Stage.
British Isles	About time of Baventian Stage marine deposits. It is followed by the Pastonian, Beestonian & Cromerian Interglacial Stages.	The Anglian Glacial Stage (***c.* 476,000 to 422,000 B.C.**). It is followed by the Hoxne Interglacial Stage.	The Gipping Glacial Stage. It is followed by the Ipswich Interglacial Stage.	The Devensian Glacial Stage.
North America ***First Ice Age.*** A local Ice Age of North America is found in the Pre-Illinoian Glacial Stage K (starts ***c.* 2.5 million B.C.**).	The Pre-Illinoian Glacial Stages J,I,H,G,F,E,D & C (***c.* 1.9 million B.C. to *c.* 550,000 B.C.**).	The Pre-Illinoian Glacial Stages B & A (***c.* 450,000-250,000 B.C.**). (Fossils include the extinct giant beaver, mammoth, musk-ox, and moose.)	The Illinoian Glacial Stage approximates above. It is followed by the Sangamon Interglacial Stage.	The Wisconsin Glacial Stage.
South America	The Caracol Glacial Stage.	The Rio Llico Glacial Stage.	The Santa Maria Glacial Stage. It is followed by the Valdivia Interglacial Stage.	The Llanquihue Glacial Stage.

The Ice Ages of the Quaternary Worlds were first recognized through the work of old earth creationist, Louis Agassiz (d. 1873) of Harvard University, USA, & he was assisted in his ice ages work in the United Kingdom by old earth creationist, William Buckland (d. 1856) of Oxford University, UK.

St. Andrew's *Church of England* Hornchurch in East London, marks the general area of the most southern reach of any Pleistocene Ice Sheet in the British Isles. The Ice Sheet lay here during the *Anglian Glacial Stage* of the British Isles *c.* 476,000 to 422,000 B.C.[496].

About 70,000 years after the start of *Late Pleistocene II* in *c.* 68,000 B.C., on the contemporary earth (as at 2014) about 10% of the planet is covered by ice; whereas at the height of the Pleistocene ice ages or glacial stages from *c.* 2.6 million B.C. up to the end of *Late Pleistocene I* in *c.* 68,000 B.C., more than 30% or about one-third of the globe was covered by ice age glacial ice. The Ice Age glaciations of the northern hemisphere included e.g., almost half of Europe. For instance, the Scandinavian Ice Sheet covered with ice an area from the North Cape of Norway's north coast, south-eastward to Kiev in the Ukraine down to the Dnieper River of Kiev in Europe. And the Pyrenees Mountains of south-western Europe and the Alpine Mountains or Alps of Europe, both had various size glaciers. Moreover, the Caucasus Mountains divide Asia to their south and south-east from Europe to their north, with Europe then extending in the north and north-east to the Ural Mountains, whose eastern slopes form the boundary between Europe to the west and Asia to the east; and these Caucasus Mountains also had glaciers. And Siberia which extends from the east side of the Urals in western Siberia, east over to the Pacific Ocean and south to north-central Kazakstan (Kazakhstan) and the borders of China and Mongolia; had the Siberian Ice Sheet which covered a large portion of Siberia in northern Asia, including mountain glaciers on Siberia's north-westerns plain. There was also valley glaciers in the highest mountains of Japan in the Far East. The Arctic ice that one may see there in contemporary times is a little indicator of what it was once like.

---

[496] "Anglian (stage)," *Wikipedia* (http://en.wikipedia.org/wiki/Anglian_Stage).

Photo taken by Gavin on plane trip home to Sydney from first trip to London, UK (April 2001-April 2002), flying over some ice in the Arctic Circle of north Asia in the Russian Federation. This April 2002 Holocene photo gives us a little inkling of what the *Early Pleistocene to Late Pleistocene I World* ice ages were like.

The Ice Age glaciations of the northern hemisphere during the *Early Pleistocene to Late Pleistocene I World* (*c.* 2.6 million B.C. to *c.* 68,000 B.C.) also included e.g., Greenland and Iceland which were almost completely ice-covered. In North America, ice age glaciations also included the mountainous regions on the western part of the continent, so that an almost continuous ice covering forming a massive complex of glaciers ran throughout most of the Canadian sector. And the Laurentide Ice Sheet started in Canada, it is thought probably starting on the Labrador-Ungava Plateau in Canada's Arctic Islands and centering over the Hudson Bay, then running through a huge area taking in the Atlantic Ocean to the Rocky Mountains, then running through the northern parts of the United States of America reaching as far south as Pierre in South Dakota, eastwards to Kansas City and St. Louis in Missouri, eastwards to Cincinnati in Ohio, and eastwards across to New York City on the north-east coast of the USA. This massive Laurentide Ice Sheet at times reached a thickness of 8,000-10,000 feet or 2.4 to 3 kilometres, and at its maximum stretch, covered an area of over 5 million square miles or 13 million square kilometres. Also in the northern hemisphere, there were valley glaciers in the highest mountains of Hawaii in the central Pacific Ocean.

And while the ice ages glaciations were largely in northern regions of the globe, plants and animals from the fossil record indicate that the colder northern climate moved south many degrees of latitude to various more generally cooler parts of the planet. Moreover, the ice ages' glaciations that were mainly in certain regions of the northern hemisphere above the equator, were to a much lesser extent sometimes found in parts of the southern hemisphere below the equator. Thus there were valley glaciers in the highest mountains of New Guinea in Papua New Guinea in the south-west Pacific Ocean. In South America there were ice age glaciers on the southern Andes which extended westward to the coast of Chile, and eastward to the Pampas of Argentina which extends from the foothills of the Andes Mountains eastward to the Atlantic Coast as far north as Gran Chaco in Central South America, and then south into Patagonia in South America. And ice ages' glaciations meant that the southern continent of Antarctica was even more comprehensively covered in ice than it now is. Thus while *by degrees* the Lord's *Big Chill* affected the northern hemisphere more than the southern hemisphere, it clearly also impacted on far fewer selected parts of the southern hemisphere.

The ice ages' glaciations sometimes warped the earth's crust due to the great weight of the ice sheets coming and going. There was thus "an up and down spring" type effect as the substratum below a great ice sheet was pushed down, and rock material was squeezed away resulting in basin-like subsidence; but then, when the ice sheet melted and so the downward pressure of the ice sheet was removed, the crust is seen to have "sprung back." In such conditions, the initial "spring back" is quite rapid, but it then continues at a slower pace. An example of such uplift in earth's geology resulting from this process is found in North America in the Hudson Bay inland sea of east central Canada. Here one finds that there has been more than 300 metres of 985 feet of geological uplift in the eastern area of the Hudson Bay.

The Lord created flora and fauna during the *Early Pleistocene to Late Pleistocene I World* (*c.* 2.6 million B.C. to *c.* 68,000 B.C.) which resembles the type of thing we are more accustomed to see in today's world. God made various flowering plants which thrived in the cooler conditions, as well as e.g., some mammals. Some creatures more particularly adapted to *The Big Chill* were also made by the Lord in, or closer to, the Arctic, for instance, among the mammals, lemming rodents, moose, musk-oxen, deer, woolly mammoths and woolly rhinoceros. One such now extinct deer or elk was the Megaloceros. Its name comes from the Greek root word *megas* (μεγας) for "great[497]," e.g., Christ refers to "seed" that when "sown" grew to have "great (*megas*[498]) branches" (Mark 4:32); and the Greek word *keras* (κερας) meaning a "horn" e.g., we read in the Septuagint that Abraham found "a ram caught by his horns (*keras*[499]) in a plant" (Gen. 22:13, LXX), which was provided by God as a substitute both typing Christ's atonement (John 1:29; Heb. 11:17) and also using Isaac as a type of Christ's resurrection (Heb. 11:19). Thus "Megaloceros" refers to a large horned creature. The largest one was the Irish Elk which had a body about the size of a moose, and antlers that were about 4 metres or 13 feet across.

---

[497] Greek *megala* (/ μεγαλα, neuter plural nominative adjective, from *megas-megale-mega* / μεγας-μεγαλη-μεγα) + Greek *kerata* (/ κερατα, neuter plural nominative noun, from *keras* / κερας) = "big horns" or "great horns."

[498] Greek *megalous* (/ μεγαλους, masculine plural accusative adjective, from *megas-megale-mega* / μεγας-μεγαλη-μεγα)"

[499] Greek *keraton* (/ κερατων, neuter plural genitive noun, from *keras* / κερας).

The Ice Ages of the Quaternary Worlds were first recognized through the work of old earth creationist, Louis Agassiz (d. 1873) of Harvard University, USA, & he was assisted in this work in the United Kingdom by old earth creationist, William Buckland (d. 1856) of Oxford University, UK.

Above: Model of a Megaloceros or Deer, at the Crystal Palace Dinosaur Park (which also has models of a number of non-dinosaur creatures on display such as this one), London, UK, Dec. 2005. These now extinct giant deer (elk) creatures were created by God *c.* 400,000 B.C., and are thought by some to have died out *c.* 10,000 B.C., whereas others think they may have survived longer than this.

The Bible refers to "satyrs" (Hebrew, *sa'iyr*, Isa. 13:21; 34:14) which are "devils" (Hebrew, *sa'iyr*, Lev. 17:7; II Chron. 11:15). The idea of a satyr is a part-man and part-animal looking creature, whether satyr devils of the Bible and pagan Greek religion which while not really being animals, *appeared* as part-man and part-goat creatures, or other part-man and part-animal creatures; or the non-devil satyr *beasts* which were animals that we find in the fossil record. (See Part 2, Chapter 6, section c "Soul-talk," subsection ii, "A revised taxonomy for primates must replace the erroneous twofold taxonomy used for primates," *infra*.) These satyr beasts (Latin, *Satyrus bestiarius*) of the fossil record, (misclassified by secular anthropologists as "hominids" or "man" or "humans,") had some animal and some human characteristics, and thus were part-ape or part-monkey and part-man creatures. But they clearly lacked souls and so were beasts. For Scripture teaches that we may distinguish man from animals because man who is made in the image of God (Gen. 1:26,27) has a "soul" (Gen. 2:7; I Cor. 15:45) as manifested in spiritual expression (Gen. 8:20; 12:8; 13:4; Exod. 20:2-6), or lust idols (Exod. 20:1,17; Matt. 6:24; Eph. 5:5; Col. 3:5), or "a reasonable soul" (*Athanasian Creed & Council of Chalcedon*, Job 9:14,21; Eccl. 7:25,27,28) manifested in the conscience morality (Rom. 2:14,15) of a moral code (Rom. 2:22; 7:7; 13:9). (See Part 2, Chapter 6, section c, subsections i & iii, *infra*.) Therefore these satyr beasts were bipedal, erect standing, relatively large-brained with rounded skulls, relatively small toothed (including unspecialized canines), tool using *animals*.

In the *Early Pleistocene to Late Pleistocene I World* the Lord created a number of such satyr beast primates. Putting aside for the purposes of this Volume 1, Part 2, Chapter 3, section f, and so deferring to a later section the issue of the Aper satyr beasts (*c.* 200,000-100,000 B.C. to *c.* 11,000-8,000 B.C.) (see Volume 1, Part 2, Chapter 6, section c, subsection iii, *infra*); the satyr beasts created in the *Early Pleistocene to Late Pleistocene I World* included e.g., *Satyrus Bestiarius Habilis* (Handy Satyr Beast, *c.* 2.33-1.4 million B.C., found in Africa); *Satyrus Bestiarius Ergaster* (Worker Satyr Beast, *c.* 1.9-1.4 million B.C., found in eastern & southern Africa with a more sophisticated usage of stone tools than *Satyrus Bestiarius Habilis*, with the first bifacial axes, often regarded as an African variety of *Satyrus Bestiarius Erectus*), *Satyrus Bestiarius Erectus* (Upright Satyr Beast, *c.* 1.8 million - *c.* 140,000 B.C., found in Europe, Asia, and Africa), *Satyrus Bestiarius Antecessor* (Predecessor Satyr Beast, *c.* 1.2 million – 800,000 B.C., found in Spain), *Satyrus Bestiarius Heidelbergensis* (Heidelberg Satyr Beast, *c.* 600,000-350,000 B.C., found in Europe, East Asia, & Africa), and *Satyrus Bestiarius Neanderthalensis* (Neanderthal Satyr Beast, *c.* 250,000 B.C.? or *c.* 200,000 B.C.? or *c.* 100,000 B.C.? or *c.* 90,000 B.C.? to *c.* 38,000 B.C.? or *c.* 34,000 B.C.? or *c.* 26,000 B.C.?, found in Europe and Western Asia).

The fantasies of macroevolutionists have claimed that these satyr beasts are animal creatures "evolving into men," but this simply reflects a narrow-minded and bigoted mind set which fails to recognize that sometimes creatures have attributes of more than one other species e.g., the axolotl of Mexico is an aquatic salamander, and is colloquially known as "the Mexican walking fish." But really it is not a fish, but an amphibian. Thus they are a distinct species, and not e.g., "a fish that has evolved legs, which is a missing link between fish and reptiles." Thus if it is God's good pleasure to create an aquatic salamander, or satyr beast primate, one ought not to try and "squeeze them into a preconceived mould" of being something they are not, or foolishly insist on some alleged "macroevolutionary link" between them contrary to the evidence[500].

During the Pleistocene ice ages, the sea levels of the oceans dropped in glacial stages as water was turned into the ice of glaciers; and then sea levels rose again in interglacial stages as the ice in glaciers melted back into water. These fluctuations were in the order of more than 100 metres or 110 yards. E.g.., one such drop in sea levels came at the end the *Early Pleistocene to Late Pleistocene I World* (*c.* 2.6 million B.C. to *c.* 68,000 B.C.), and is a marker in time ending the *Early Pleistocene to Late Pleistocene I World* and starting the *Late Pleistocene II Worlds* from *c.* 68,000 B.C. . In the *Early Pleistocene to Late Pleistocene I World*, even in areas of the planet not affected by ice age glaciers directly, the lack of liquid water caused by it being ice produced aridity, and in turn this led to a number of forests dying out and being replaced by dry grasslands since these do not require as much water in order to thrive. Over time, much of the

[500] See Volume 1, Part 2, Chapter 5, "The fossil record: creation, not macroevolution – mind the gap," section a, "The generally united Creationist School recognizes that the absence of transitional fossils flaws macroevolutionary theory."

grasslands retreated and deserts or semi-deserts arose in their place, as earth-wide planetary conditions reached a cold and dry point in the Lower Pleniglacial Ice Age starting *c.* 68,000 B.C. . Under the Lord's mighty hand, the *Early Pleistocene to Late Pleistocene I World* was ending, and the Lord was about to bring into existence some new worlds on his living planet.

In this Volume 1, Part 2, Chapter 3, section f, we have now considered the words of Scripture, "God created the heaven and the earth" (Gen. 1:1) in the context of the generally *United Gap School*, as we have looked at the Book of Nature in the period following the creation of the temporal and spiritual heavens, from the Pregeological World of *c.* 4.6 billion B.C. to the start of the Last Ice Age *c.* 68,000 B.C. .

Therefore looking at the "Biblical creation model to be scientifically compared & contrasted with the Book of Nature" found in Part 2, Chapter 1, section b, *supra*; the evidence of the United Gap School data for this period which fills in the blanks in the "worlds" or "ages" of multiple "generations" of Earth's history in Gen. 2:4; Heb. 1:2; 11:3, is clearly consistent with what we would expect from *Guideline 3*, "A succession of discernibly different 'worlds' to emerge in the scientific record e.g., the geological layers of the earth (Heb. 1:2; 11:3) as the 'generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens' (Gen. 2:4). These unknown numbers of multiple worlds must by definition be over a considerable period of time, and may be over a vast period of time since they are created by God 'who inhabiteth eternity' (Isa. 57:15) i.e., no time limits." *Guideline 4*, "There is a supernatural uniformity in the universe (Gen. 8:22; Pss. 104:19; 119:90,91; Jer. 31:35; 33:25). Nature's general uniformity is thus consistent with discernibly supernatural acts from time to time, which stand out as different to, but not incongruous with, this general supernatural uniformity." *Guideline 5*, "As seen in the 6 creation days after the time-gap between Gen. 1:1 & 1:2, all Biblical examples of parent stocks created are within a 24 hour time frame (Gen. 1:9-31). Thus created parent stocks should appear suddenly in the geological record."

Guideline 6, "Biblical 'kinds' are created in a genetically rich manner at the level of genus, species, or subspecies, and so this allows subspeciation or speciation from some parent stocks, as seen in creatures under domestication with Laban's selective breeding techniques (Gen. 30:25-31:16). Variety under nature is seen in the recognition of e.g., 'the little owl' (Lev. 11:17), 'the owl' (Lev. 11:16), 'and the great owl' (Lev. 11:17). Therefore, creatures that appear in the fossil record may show some level of subspeciation or speciation through microevolution, whether Theistic microevolution or natural selection microevolution. But they will discernibly remain within the same genus, with no macroevolution to a different species which is fundamentally different at a genetic level in a different genus." *Guideline 7*, "The pattern in Gen. 1 & 2 is of God first creating an ecological system for plant and animal life, and then for man. Therefore, when creatures appear in the fossil record, they should be clearly adapted to their environments, even if through microevolutionary subspeciation and speciation, there is thereafter some adaptation to a changed environment." *Guideline 8*, "The pattern in Gen. 1 & 2 is of a universal creation by God (Gen. 1:1), and then a local cataclysm (Gen.

1:2) followed by a local creation of an Edenic world in south-west Asia near Mesopotamia and Africa (Gen. 2:8-14). Therefore cataclysms and new species creations might be either planetary wide, or localized to a portion of the globe." And *Guideline 11*, "The constitutional nature of man as a dichotomy of body and soul (Gen. 2:7; I Cor. 15:45) who is 'in the image of God' (Gen. 1:27), gives him a capacity for spiritual expression (Gen. 4:2,4; 8:20; 12:8; 13:4) even if this is perverted to some form of idolatry in violation of the First & Second Commandments (Exod. 20:2-6), including lust idols in violation of the First, Second, and Tenth Commandments (Exod. 20:2-6,17; Eph. 5:5; Col. 3:5) which will always be found among Adamites including atheists (Pss. 14:1; 53:1), or "a reasonable soul" (*Athanasian Creed & Council of Chalcedon*, Job 9:14,21; Eccl. 7:25,27,28) manifested in the conscience morality (Rom. 2:14,15) of a moral code (Rom. 2:22; 7:7; 13:9). Therefore Adamites will be discernible in the fossil record by such evidence of them having souls. Creatures lacking such CLEAR and OBVIOUS evidence are necessarily NOT human beings."

Some further spiritual matters relevant to this Part 2, Chapter 3, section f.

With respect to the "worlds" of Heb. 1:2; 11:3, and knowing these things correctly from the Book of Nature subject to Scripture, we must remember to balance out the Scriptures which say on the one hand, "Knowledge puffeth up" (I Cor. 8:1); but say on the other hand, "Wise men lay up knowledge" (Prov. 10:14), and "the prudent are crowned with knowledge" (Prov. 14:18). That is because wisdom must moderate knowledge, and "The fear of the Lord is the beginning of knowledge: but fools despise wisdom and instruction" (Prov. 1:7). That is why e.g., Darwinian macroevolutionists can have knowledge about e.g., much of earth's geological history, which as we have seen is largely a picture whose broad basic structures were built up by the discoveries of God honouring old earth creationists. But the Darwinists lacking wisdom, then abused and misused this knowledge, as "professing themselves to be wise, they became fools" (Rom. 1:22). By contrast, let us humbly give thanks to God for his works of creation, as found in the Book of Nature in which he has preserved unto us some knowledge of the "worlds" which he "framed by the word of God" (Heb. 11:3). In the words recorded for us by the Old Testament prophet, Holy Jeremiah, "Thus saith the Lord, Let not the wise man glory in wisdom, …: but let him that glorieth glory in this, that he understandeth and knoweth me … " (Jer. 9:23,24). For only when we have the true "wisdom" that comes "of God" (Jas. 1:5), can we have the wisdom that moderates knowledge so as we use it properly and piously, rather than improperly and impiously.

We are taught in the Word of God that "spiritual things" "are spiritually discerned" (I Cor. 2:13,14). E.g., the godly man looks at nature's general uniformity and wisely sees in it the supernatural action of God (Ps. 119:89-91; Col. 1:17), "upholding" the universe "by the word of his power" (Heb. 1:3). And since he therefore perceives, "Thus saith the Lord, … I have … appointed the ordinances of heaven and earth" (Jer. 33:25), he sees as consistent with this supernatural uniformity, any other supernatural acts of God outside of this uniformity e.g., in creation miracles (Gen. 1:1). By contrast, the ungodly man foolishly sees in nature's general uniformity a reason for him to play the

"fool," and say "in his heart, There is no God" (Ps. 53:1). So too, when one looks at the irreligiosity and ungodliness of "scoffers" who so misuse nature's uniformity, the ungodly man may foolishly take delight that so many agree with his folly which says, "all things continue as they were from the beginning of the creation" (II Peter 3:3,4). By contrast, the godly man wisely sees this as a fulfillment of Biblical prophecy, "that there shall come in the last days scoffers, walking after their own lusts, and saying, Where is the promise of his coming? For since the fathers fell asleep, all things continues as they were from the beginning of the creation" of man (II Peter 3:3,4).

In a Divine Commentary on Genesis 1, we read at 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." The Greek word translated "worlds" in the Authorized Version (1611) at Heb. 1:2; 11:3; is *aiōn* (αιων[501]). From it, we derive our English word, "Eon" (or "Aeon"), and it may also be rendered as "ages." Thus through reference to these Scriptures we may also refer to the three grand geological divisions known as the *Paleozoic Age* (540 million to 245 million B.C.), *Mesozoic Age* (245 million to 66.4 million B.C.), and *Cenozoic Age* (66.4 million B.C. to the Second Advent).

After the Anglican Protestant geologist and old earth creationist, Adam Sedgwick (1785-1873), coined the term, "Paleozic (Greek, 'old life')" for the *Paleozoic Age* in 1835, another Anglican Protestant geologist and old earth creationist, John Phillips (1800-1874), coined the term, "Mesozoic (Greek, 'middle life')" for the *Mesozoic Age* in 1840, and then "Kainozoic (Greek, 'new life')" which later became "Cainozoic" or "Cenozoic" for the *Cenozoic Age* in 1844[502]. John Phillips upheld creationism in opposition to macroevolutionary theory. Thus after the Darwin-Wallace Theory of Natural Selection was first put forth in 1858, and after elucidation on this in Darwin's *Origin of Species* was first published in 1859; in 1860, Phillips gave creationist lectures at Cambridge University which were then published in his book, *Life on Earth: Its Origin and Succession* (1860)[503]. Thus John Phillips upheld a creation model of catastrophes

---

[501] In both Heb. 1:2 and Heb. 11:3, this is *aiōnas* (/ αιωνας, accusative plural masculine noun, from *aiōn* / αιων).

[502] William W. Hay, *Experimenting on a Small Planet*, Springer-Verlag, Berlin & Heidelberg, Germany; & Springer London, UK, & New York, USA, 2013 (http://books.google.com.au/books?id=teJYlWH9vg4C&pg=PA88&lpg=PA88&dq=friedrich+august+von+alberti+cuvier&source=bl&ots=Cu5o47vNqL&sig=kQcrmHeXcPexeOyXxaRHCBucBpk&hl=en&sa=X&ei=-kvXUZ2_DcWdiAeMx4DIDA&ved=0CCwQ6AEwAA#v=onepage&q=friedrich%20august%20von%20alberti%20cuvier&f=false).

[503] Phillips, J., *Life on Earth: Its Origin and Succession*, Cambridge University Press, UK, 1860.

followed by new creations[504]. Therefore the naming of these three great ages by the old earth creationists, Adam Sedgwick and John Phillips, both of whom were Protestant Christians who recognized the hand of God in the geological record where he would destroy one world or age, and create another; recognizes a most important truth about Almighty God, to wit, *he can create, and he destroy*. Indeed, this was part of the critiquing of Lyell's anti-supernaturalist uniformity by Sedgwick with his supernaturalist uniformity, namely, that Lyell, failed to recognize that in the geological record there are some much greater magnitude forces evident that anything we see today, and so one cannot simply look at what is going on today. For the geological record shows the power of God, that *he can create, and he destroy*. "Have ye not known? Have ye not heard? Hath it not been told you from the beginning? Have ye not understood from the foundations of the earth? It is he that sitteth upon the circle of the earth, and the inhabitants thereof are as grasshoppers; that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in … . To whom then will ye liken me, or shall I be equal? saith the Holy One" (Isa. 40:21,22,25).

The *Cenozoic Age* (66.4 million B.C. to the Second Advent), contains six "worlds" (Heb. 11:3) down to the present time afore Christ's Second Advent; although in this chapter 3, section f, which is considering areas of agreement on the succession of worlds in a generally united old earth creationist *Gap School* overview, we shall now only be considering the first two of these six worlds, namely, the *Tertiary World* and the *Pleistocene World* from the Early Pleistocene down to the end of *Late Pleistocene I* (*c.* 68,000 B.C.). The *Cenozoic Age* is characterized by God's creation of mammals, and in a world not dealt with in this Part 2, Chapter 3, section f, ultimately, "God created man" (Gen. 1:27). The word, "*Cenozoic*," comes from the Greek words, *kainos* (καινος), meaning "new;" and *zoe* (ζωη), meaning "life." The Greek word from which this *Cenozoic Age* is derived, to wit, *kainos* (καινος), is found in the Holy Gospel of St. Matthew, where our Lord and Saviour, Jesus Christ, at the institution of the sacrament of The Lord's Supper or Holy Communion, says of the symbol of the bread, "Take, eat; this is my body;" and of the symbol of the red wine, "Drink ye all of it; for this is my blood of the new (*kainos*[505]) testament, which is shed for many for the remission sins. But I say unto you, I will not drink henceforth of this fruit of the vine, until that day when I drink it new with you in my Father's kingdom" (Matt. 26:26-29). It is because the Christian Greek Scriptures contain the record of this new testament, they are generically known as, "The New Testament," in contrast to "The Old Testament" Hebrew (and Aramaic) Scriptures which contain the old testament (II Cor. 3:14; Heb. 9:1-22).

---

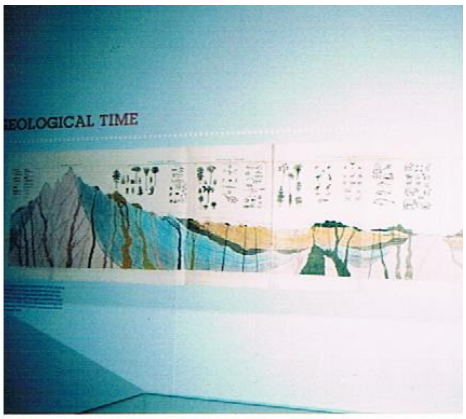
[504] Davis A. Young & Ralph Stearley, *The Bible, Rocks and Time: Geological Evidence for the Age of the Earth*, 2008, *op. cit.*, pp. 110-111.

[505] Greek, *kaines*; a feminine singular genitive adjective, from *kainos-e-on* / καινος-η-ον).

The words of our Lord and Saviour, Jesus Christ, at the institution of the holy sacrament of Communion, refer not only to "the new testament," but also the day of judgment following the Second Advent, for he refers to "that" future "day when I drink it new with you in my Father's kingdom" (Matt. 26:28,29). We would thus do well remember, that the *Cenozoic Age* (66.4 million B.C. to the Second Advent) is one of three great geological ages: firstly, the *Paleozoic Age* (540 million to 245 million B.C.), with its succession of six worlds, *which the Lord ended with a cataclysmic mass extinction near the end of its last world*; secondly, the *Mesozoic Age* (245 million to 66.4 million B.C.), with its succession of three worlds, *which the Lord ended with a cataclysmic mass extinction near the end of its last world*; and thirdly, the *Cenozoic Age* which contains six worlds, and *which the Lord will also end with a cataclysmic mass extinction and creation of a new world* with "a new heaven and a new earth" (Rev. 21:1). Thus only a fool would say, "all things continue as they were from the beginning of the creation" (II Peter 3:4). For "the heavens and the earth, which are now, by," "the word of God," "are kept in store, reserved unto fire against the day of judgment and perdition of ungodly men … wherein the heavens being on fire shall be dissolved, and the elements shall melt with fervent heat." For "we … look for new heavens and a new earth, wherein dwelleth righteousness" (II Peter 3:5,7,12,13). In the words of the *Athanasian Creed* with regard to "the catholick" or universal faith, "the catholick faith is this: That we worship one God in Trinity, and Trinity in unity; neither confounding the Persons: nor dividing the Substance. For there is one Person of the Father, another of the Son: and another of the Holy Ghost." "Furthermore," "our Lord Jesus Christ" "suffered for our salvation," "rose again … from the dead," "ascended into heaven," where "he sitteth on the right hand of the Father, God Almighty: from whence he shall come to judge the quick and the dead. At whose coming all men shall rise again with their bodies: and shall give account of their own works. And they that have done good shall go into life everlasting: and they that have done evil into everlasting fire. This is the catholick faith: which except a man believe faithfully, he cannot be saved. Glory be to the Father, and to the Son: and to the Holy Ghost; as it was in the beginning, is now, and ever shall be: world without end. Amen[506]."

[506] Anglican *Book of Common Prayer (1662)*.

The Ice Ages of the Quaternary Worlds were first recognized through the work of old earth creationist, Louis Agassiz (d. 1873) of Harvard University, USA, & he was assisted in this work in the United Kingdom by old earth creationist, William Buckland (d. 1856) of Oxford University, UK.



An imaginary section of the Earth's crust designed to explain how to understand geological layers. Along the top are plants & animals from different periods, & it ends with the relatively recent extinction of the Dodo bird (see next photo) which had gone extinct by 1681 A.D. . Chart taken from old earth creationist, William Buckland's *Geology & Mineralogy considered with reference to Natural Theology* 1836. On a temporary display wall at the *British Library*, London, United Kingdom, March 2009.

Multiple Worlds in View: In the background, the skeleton of the *Tyrannosaurus Rex* dinosaur of the *Cretaceous World* (144 to 66.4 million B.C.), in the foreground, a mammalian leopard. Leopards appear to have been created by God in the Pliocene (5.3 to 2.6 million B.C.) & continue into the Quaternary (2.6 million B.C. to 2nd Advent). Also in Museum, living Adamites from present world. Photo at *Oxford University Museum*, England, UK, in a collection developed around the core geological collection of old earth creationist Gap Schoolman & Anglican clergyman, William Buckland (d. 1856) of Oxford University whose display case is the middle case, to the right of the red coloured "Oxford Dodo" bird display case, October, 2012.