

## THE ORIGIN OF LANGUAGE

Dear Editor,

I enjoyed Charles Taylor's piece 'The origin of language'.<sup>1</sup> However, I would like to take gentle issue with the implication that Adam's ability to speak and understand immediately can be taken as support for the 'language is innate' school of thought over against the *tabula rasa* idea (our minds are a blank sheet on which our social environment impresses language).

I certainly do believe that the observational evidence concerning people today strongly favours the view, over against the 'blank sheet' theories, that we are indeed innately 'hard wired' with the capability to acquire fully-blown language — be it Chinese, English, or sign language. To use (imperfectly) a modern-day analogy — we have the hardware, and the already set-up programming software, from birth. However, we need input from the environment (including the language of other people) in order to properly 'programme' the software (or 'burn onto the chip', if you like).

However, in Adam's case, there was no time for the environment to programme the machinery. Adam (and Eve, presumably) had to not only have the hardware, but the fully programmed software of an actual language. They would have had to innately know what God meant by the words 'if you eat of the fruit thereof, dying, you will surely die' without ever having experienced death, for example.

Since such total pre-programming was a miraculous event, one which does not occur today, it seems unrelated to either of the theories of how we **currently** acquire language. Whether 'blank sheet' or 'innate' theories were correct, God would still have had to do some miraculous creation of language programmes in the case of our first parents, who would have to have had built into them what it takes any of us years of experience to acquire

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nowadays.

As an aside, this may be relevant to the issue of Adam naming the animals. Since Adam had the meanings of various words already pre-programmed into the language capacities God gave him, perhaps this included pre-programmed animal names in whatever language it was that God chose to imbue him with. Thus, it may be that the naming procedure did not require pondering creatively, but simply an instant dip into the 'neural archives' to make the first-time connection between the already stored name and the initial visual contact with the item being named.

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## The Author replies ...

As I understand it, Carl Wieland's point is that we cannot extrapolate Adam's linguistic gift to the present day without modification. His thesis is that Adam and to some extent Eve would be special cases. In this I agree.

However, I still maintain that the linguistic gift in today's people is a miraculous endowment deriving from Adam's 'gift'. Some form of inheritance would ensure a species-specific genetic element, though to what extent it is 'mental' might be a matter for argument.

Chomsky, though an unbeliever, used the word 'miraculous' in connection with the present-day ability of young children, since he would probably not accept a literal Adam and Eve. In that sense, the origin of language must have been God-given and not merely acquired through history. That is the point.

If it is miraculous today, activated by the environment, what must it have been at the point of origin? A parrot can imitate environmental sounds, but it does not apply to it a ready grammar, as does the human child at a remarkably young age.

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## THE PRE-FLOOD/FLOOD BOUNDARY

Dear Editor,

In reply to Woodmorappe's letter<sup>1</sup> regarding my paper, 'Is the pre-Flood/Flood boundary in the Earth's mantle?'<sup>2</sup>

Woodmorappe notes correctly that I claim that prior to 1991 creationists had fixed the pre-Flood/Flood boundary (not the Flood/post-Flood boundary as printed) at the base of the Cambrian. At the time I was not familiar with Woodmorappe's work<sup>3</sup> in which he included Precambrian biotas within the Flood, and in hindsight, it was unwise of me to make that claim, especially as in the next paragraph I noted that in 1983 Snelling<sup>4</sup> suggested that, because of their fossil stromatolite content, some of the Precambrian strata should be considered as Flood rocks.

Woodmorappe, in common with some other creationists, uses the following logic in assigning some of the Precambrian as Flood rocks and some as pre-Flood:

*Those Precambrian strata which do contain fossils are undoubtedly Flood sediments, but the vast majority of Precambrian strata is unfossiliferous, and can still be assigned to the pre-Flood'*

In my opinion this argument is based on three unstated, *a priori* assumptions:

- (1) there is an identifiable pre-Flood/Flood boundary in the **observable**

- stratigraphic record;
- (2) the **presence** of fossils identifies strata as Flood strata; and
  - (3) the **absence** of fossils identifies strata as pre-Flood.

I am currently preparing a paper in which I suggest that assumption (1) is incorrect, assumption (2) is probably justified, and assumption (3) is, in my opinion, contrary to correct deductive logic, as it neglects consideration of the possibility that **there may be very good reasons why the earliest Flood strata should be unfossiliferous.**

As I explained in my **CEN Tech. J.** paper (and in a previous paper<sup>5</sup>), there may be several reasons why this should be the case.

In my paper 'Archean rock strata: Flood deposits in the first forty days'<sup>6</sup> I suggested that many features of the Archean strata are the expected products of intense geohydrologic activity interpreted to have characterised the first 40 days and nights of the Flood, and that, due to the nature of the origin of these strata, lack of fossils might be an expected characteristic.

I discussed two typical elements of Archean tectonic structure, **gneiss fold ovals** and **mantled gneiss domes**, both of which are characterised by massive upward flow of mantle material, including magma, water and other volatiles.

Salop<sup>7</sup> describes the formation of **gneiss fold ovals** as follows:

*' . . . vertical movements were of principal significance in the erection of these structures. . . . The concentric fold systems ('ovals') are likely to have originated as a result of the rising of a great mass of mobilised and partly rheomorphic matter (rheon) of the Earth's crust. The great size (up to 800 km across) of the structures is suggestive of a source of energy at great depth . . . The cause of rheon uplift lies in the irregular movement of the heat from the interior of the planet toward its surface. The rheomorphic matter was moving upward because of its higher*

*plasticity and lower density in comparison with the surrounding portions of the crust and also due to expansion in heating, to the supply of juvenile matter and to the presence of pore solutions and gasses! (Emphasis added.)*

And of **mantled gneiss domes** as follows:

*' . . . the formation of domes is related to the local rise of mobilised and partially rheomorphosed basement matter . . . against the background of a general migration of the heat front from the interior of the planet . . . . The basement . . . uplifted and moved apart the rocks of the supracrustal cover, rising to the surface as diapirs . . . ' (Emphasis added.)*

In my view, the Archean strata are the earliest Flood rocks, and the main reason why they are unfossiliferous is because such massive upward rheon and fluid movement in structures such as gneiss fold ovals and mantled gneiss domes, probably in the regions now known as the Precambrian 'Shields' (so called because of their concentric side up, 'shield'-like shape) probably caused 'topographically high' water levels on the surface of the rising Flood waters, causing the water to flow away from the 'shields', carrying with it the organisms which were then deposited and preserved as fossils in the younger Phanerozoic 'platform' rocks extant to the 'shields', which are restricted in their areal extent.

The submarine volcanic origin of much of the Archean would not have been conducive to the preservation of fossils. Additional factors which may have mitigated against preservation of fossils in the Archean might include extreme water turbulence, high water temperatures (possibly near boiling point<sup>8,9</sup>), with (?corrosive) sulphates, chlorides, carbonates etc. in solution, in the regions above mantled gneiss domes and gneiss fold ovals, and subsequent metamorphism.

This scenario overcomes one of the main objections, first raised by Auldane<sup>y</sup> in 1992<sup>10</sup> to the

'Precambrian as Flood strata' model:

*'(how could) . . . billions of animals (have) survived the greatest volcanic upheaval in history . . . survived from the Cambrian through the Paleozoic and Mesozoic strata at least a mile deep to leave tracks by the billions all over the world on the top layers?'*

The most likely answer to this question is that those animals which lived in regions remote from the areas which were subsequently occupied by the 'Precambrian Shields' survived long enough to leave tracks in younger strata, whilst those which lived in the 'shield' areas perished, were washed away, deposited, buried and preserved as fossils in younger strata.

The relevance of the organic or inorganic origin of stromatolites seems diminished in view of the Archean environmental conditions described, and by the fact, noted by Woodmorappe, that they comprise only a portion of the Precambrian biotas, anyway.

Regarding the amount of time available for geologic work during Creation Week, Woodmorappe suggests:

*' . . . supernatural processes were undoubtedly in effect during that period of time, so it is probably unwise to reject out of hand the possibility that at least some of these rocks were created ex nihilo, or at least were subject to divine sculpting that is completely different from currently known geologic processes. . . ' (Emphasis added.)*

No creationist would argue that supernatural processes were not in effect during Creation Week. However, I have noticed a tendency among some creationists to resort to the 'supernatural' when they try to fit the origin of the Precambrian into Creation Week, and I suggest that the reason for this may be that the Precambrian strata are not as easily understood as the 'layer-cake' geology of the Phanerozoic.

The complexity of the Archean is,

I believe, due in large part to its origin, involving large-scale differentiation of the mantle and upward movement of mantle material with exsolving volatiles, including copious amounts of water, during Stage 1 of the Flood (Day 1 to Day 40) when the Flood waters were rising to their maximum level.

Presumably Woodmorappe, with Gentry,<sup>11</sup> attributes possible *ex nihilo* **creation** to the Archaean 'basement granites'. I have noted<sup>12</sup> that Po radiohalos may have been entrapped in biotite crystals due to rapid 'conventional' crystallisation, especially if a time-frame of one (Flood) year is used (instead of 'tens of millions of years' which Gentry claims that uniformitarian geologists assume for the formation of Precambrian granites) and I have suggested that the preservation of the Po halos may be more supportive of a young-Earth model (that is, rapid 'basement granite' emplacement) than they are of 'near-instantaneous' creation.

As for '**divine sculpting**', it is difficult to imagine that all the finely detailed sedimentary and volcanic textures, including submarine pillow lavas, etc., that have been documented by workers in the Archaean were not formed by the processes indicated by their textures.

Implicit in the second paragraph of Woodmorappe's Letter to the Editor is the assumption that there **is** a pre-Flood/Flood boundary in the **observable** stratigraphic record. In paragraph five of his letter he seems to be implying that a 'natural' pre-Flood/Flood boundary may not be readily **identifiable** within the Precambrian stratigraphic record.

The overall emphasis of both my papers (and a paper in preparation<sup>13</sup>) has been that **there is no pre-Flood/Flood boundary in the observable stratigraphic record**, and that all strata, including the lowermost Archaean, as well as the mantle below the base of the Archaean, originated in the Flood.

Woodmorappe laments the fact that:

*'... so many creationists assume that similar strata or lithologies must necessarily be contemporaneous, and therefore time markers'*

and claims that

*'... there is no basis, ... that the same lithology, lithological sequence, ... etc., formed at the same time during the Flood in adjacent basins, much less that it was necessarily contemporaneous on different continents.'* (Emphasis added.)

If he is suggesting that it is incorrect of me, as a creationist, to assume the global correlations of the Archaean strata that I presented in Figure 1 of my paper, then I can, to a certain degree, see his point, and I accept that, as a 'non-expert' on the Precambrian/Archaean I am probably not qualified to make these correlations. However, I must take note of, and Figure 1 is based on, the consistently verifiable global correlation system of the Precambrian/Archaean developed by 'full-time' workers in the Precambrian such as Salop,<sup>14</sup> Condie,<sup>15</sup> Goodwin,<sup>16</sup> Anhaeusser,<sup>17</sup> Anhaeusser *et al.*,<sup>18</sup> Plumb,<sup>19</sup> and others, as presented in my 1992 paper,<sup>20</sup> and I suggest that they have developed a strong basis for assuming that **the Precambrian lithostratigraphic associations did indeed form, all over the globe, at the same time during Earth history, and were contemporaneous on different continents.**

Salop recognises two sub-divisions of the Archaean, an older 'Katarchean' high-grade strata of gneisses and crystalline schists that build up the basement of the supracrustal formations, and overlying low-grade greenstone strata, the 'Paleoprotozoic' (or 'Archeoprotozoic'), and notes that many of the large Precambrian units can be divided into lithostratigraphic complexes that can be traced in many regions of the world.

He notes that:

*'... the plutonic processes of the Katarchean were extremely intensive. . . The lack of any traces*

*of existence of older land (areas of erosion) is suggestive of the fact that sedimentation and lava outflow occurred in a large ocean ... that at times covered the major part of the Earth's surface or the whole planet...'*

He suggests that the successive formation of lithostratigraphic complexes in both the 'Katarchean' and the 'Paleoprotozoic' could have occurred simultaneously all over the world.

The fact that similar Archaean lithostratigraphic sequences occur, at the base of the geologic column, in the 'Precambrian Shields', on all continents is strongly suggestive that these sequences were deposited simultaneously, under similar conditions, all over the world, and, in my view, is strongly suggestive of the conditions that might be expected to have prevailed during the initial stages of the Flood.

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  20. Hunter, Ref. 5, Figures 3, 4, 5, 6 and 10.

## THE FLOOD/POST-FLOOD BOUNDARY

Dear Editor,

I read with great interest the special issue of your **CEN Tech. J.**, 10(1), 1996 dealing with the Flood/post-Flood boundary in the geological record. I am surprised that these fascinating papers have not generated more response from your readers. Perhaps this is because your editorial<sup>1</sup> may have given the readers the impression that the corporate witness of Robinson,<sup>2</sup> Scheven,<sup>3</sup> Garton,<sup>4</sup> Garner,<sup>5-6</sup> and Tyler<sup>7</sup> in this journal was fully overthrown by the paper by Holt.<sup>8</sup> Holt argued that the Flood/post-Flood boundary is located in the uppermost (Pliocene/Pleistocene) part of the

geological record. The other papers supported placing the boundary much lower in the geological record, in the Carboniferous strata ('pre-Permian' end of the Flood boundary) and therefore implied that there was considerable geological activity after the Flood.

Certainly Holt's rebuttal is packed with detailed analysis, persuasively expressed, yet I found his argument ultimately very unconvincing.

### Models Are Only as Good as Their Assumptions

As a Ph.D. mathematician involved with statistical analysis and mathematical modelling in a research context for much of my working life, I was especially interested in the closing sentence of Holt's paper: *'The thoughts of readers with quantitative assessments of the evidences are invited'* (his emphasis). This clearly shows that Holt wants the reader to attach special importance to quantitative analysis. He thereby invites careful scrutiny of his own models.

Certainly Holt's various modelling exercises are a *tour de force*, and the mathematics and numbers do much to make the argument appear convincing. Unfortunately, the quality of any modelling exercise is only as good as the assumptions upon which it is based. His unsatisfactory assumptions make Holt's analysis less impressive than it at first appears.

Holt's paper is long and considerations of space make it impossible to probe Holt's analysis in detail. Nor is it necessary. I will show that Holt's case fails because of its flawed assumptions.

When I read the paper, I was immediately struck by the **extreme uniformitarianism** of his assumptions. His assessment of the pre-Permian end of Flood boundary model broadly assumes that ever since the end of the Flood conditions have remained as they are at the present day. This may be acceptable for his own 'late-Cainozoic' end of Flood boundary model, which assumes few changes

after the end of the Flood, though even he must allow for different conditions during the Ice Age. However, proponents of the pre-Permian boundary, such as the authors of the other papers, clearly envisage post-Flood geological activity on such a large scale that makes Holt's uniformitarian assumptions **unreasonable**.

For instance, vast quantities of chalk were laid down in the Cretaceous period, as well as the fossil fuels (which Holt specifically analyses). The chalk and the fossil fuels (in so far as they formed from post-Flood biological material, which, according to the pre-Permian model, a significant proportion of Tertiary material did)<sup>9</sup> must have permanently and substantially reduced the amount of carbon in the biosphere and atmosphere. Moreover, we have no present day experience of the behaviour of vast thicknesses of recently and rapidly deposited sedimentary layers, many of which had trapped and retained great volumes of Flood water. Large quantities of hot, high pressure subterranean water, probably from these sources, were apparently released during the Mesozoic and Tertiary mountain building,<sup>10,11</sup> to cause the massive erosion which formed huge volumes of Mesozoic and Tertiary deposits. Emerging at both high pressure and temperature, some of this water could have been propelled high into the atmosphere at much the same time as the volcanoes and meteorite impacts were sending dust there, providing a mechanism for the rapid removal of dust from the atmosphere, and, perhaps, for the onset of the Ice Age. Certainly, whether this cleansing action took place or not, the very different carbon dioxide and atmospheric water concentrations must have very significantly affected the dynamics of the atmosphere. For reasons such as these, Holt's uniformitarian models concerning the growth of fossil fuel and concerning the impact of volcanism on the climate fail to be convincing.

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