

EVOLUTIONARY TIMELINE



QUATERNARY



Kathleen Swadling

President's Introduction

Welcome to this *Conference Presentation Special Issue* on the Evolutionary Timeline which was delivered by Robert Coenraads at the 2012 conference on the Sunshine Coast, Qld. Held at Alexandra Park Conference Centre—*More things in heaven and earth—adapting to an expanded description of reality*. In keeping with the theme, the presentation covers the evolutionary journey of life on Urantia from inception to the arrival of man seen from the current scientific perspective.

If you look at the coloured timeline above you will no doubt be struck by how much evolutionary time it takes before humas appear—all human history is represented by the tiny cream colored segment designated as the Qaternary period. Compared to the other peroids on the timesacle we are only new arrivals. This tells us evoultion is the slow and sure path to progress. ■

Foreword

Dr. Robert Coenraads, Sydney

The timeline of our planet's history is indeed a long one. Four thousand six hundred million (4,600,000,000) years from its birth as a fiery ball coalescing from a wildly spinning solar disk during a time aptly known as the Hadean Aeon to the present day is an impossibly long time for anyone to imagine. Particularly for a human being who may, if they are lucky, just reach 100 years, but more likely only the average of four score and ten.

The top bar on the next page depicts this time, however to be able to visualise this sort of number we need to take a different approach:

"Take the biggest roll of toilet paper you can find," we tell our first-year geology students, asking them roll it out across the floor, which they eagerly do, until the thin white ribbon stretches out of the laboratory door, all the way along the corridor, and half way across campus.

"This roll (920 sheets) represents the age of the Earth," we announce dramatically, holding up just one square of toilet paper. "Every single sheet on this roll represents 5 million years of Earth's time—an immense amount of time in its own right. In this single sheet of time a volcano can erupt from the ocean floor, grow into a giant island the size of Hawaii, complete with its own unique island ecosystem, then erode away, disappearing completely beneath the waves."

>>

Foreword cont.

The students then start at the very beginning, counting off 5 million years sheets along the long white ribbon and marking off the significant events such as formation of the first ocean, appearance of the earliest single celled life, the first fishes, the emergence of life on land, as instructed.

At only 13 sheets from the end of the roll (65 million years ago) they mark the end of the great period of the dinosaurs, and then with just two more short steps they stand at the very last sheet in the roll, still clutching a large number of marker cards to place on the ribbon including, the birth of Hawaii (1,000,000 years ago), appearance of the first modern humans in Africa (200,000 years ago),

the great human migration across the Bering Straits into the Americas (10,000 years ago), the earliest great Bronze age civilizations at the end of Neolithic times (3,300 BC).

“So modern-looking humans only in the final 200,000 years out of the last 5 million year sheet,” One of the cleverer ones usually pipes up, calculating quickly. “That’s only one 25th from the end! The first modern-looking humans only evolved about half a centimetre from the very end of the very last sheet of the roll,” they exclaim.

“And, on this scale,” we add, “all of written human history is measured in the tangle of fibres, in the torn perforations at the very end of the very last sheet.” ■

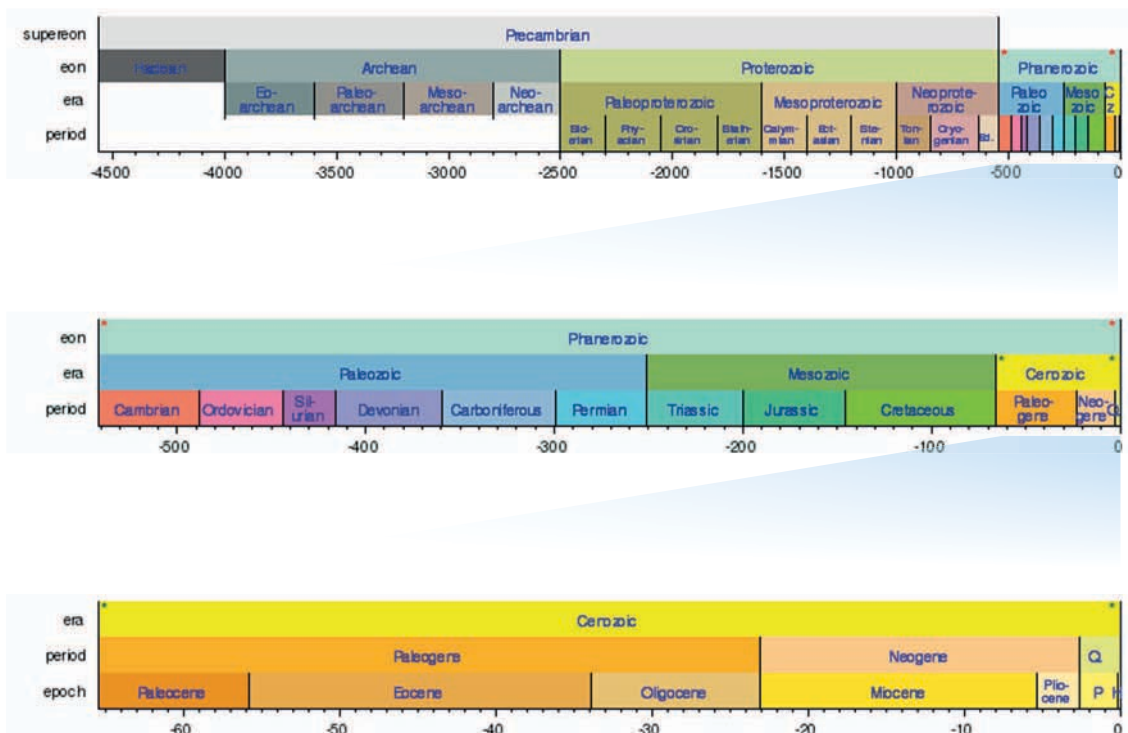
Evolutionary Timeline Conference 2012 Presentation

Dr. Robert Coenraads, Sydney

Condensed graphical timelines

http://en.wikipedia.org/wiki/Geologic_time_scale

The second and third timelines are each subsections of their preceding timeline as indicated by asterisks.

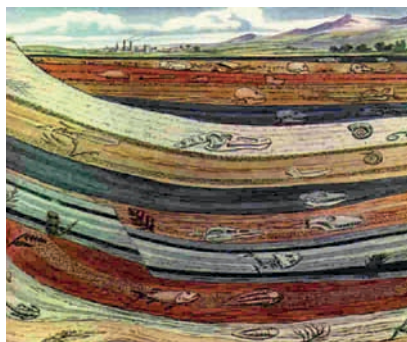




Life appears for the first time in Precambrian oceans



It was these seas and their successors that laid down the life records of Urantia, as subsequently discovered in well-preserved stone pages, volume upon volume, as era succeeded era and age grew upon age. These inland seas of olden times were truly the cradle of evolution. [Paper 57:8.26, page 663.4]



All of this story is graphically told within the fossil pages of the vast “stone book” of world record. And the pages of this gigantic bio-geologic record unfailingly tell the truth if you but acquire skill in their interpretation [Paper 58:7.12, page 671.5]



Geologists interpreting ‘the fossil pages of the vast “stone book” of world record’.

Modern geologists with a trained eye can interpret the ‘fossil pages of the vast “stone book” of world record’ just as easily as if they were reading words in a real book. Fossil plants and animals, such as fish tend to lie flat and concentrate in layers where their delicate carbon imprints form planes of weakness in the shaley rocks, sometimes hundreds of them in the space of a few centimetres. Turning the stone pages is a little more tricky though, but, with a little experience, and a few deft blows with hammer and chisel, it is easily done. The stone book opens revealing pages of fossils in all their glory, ancient life that hasn’t seen the light of day for hundreds of millions of years.

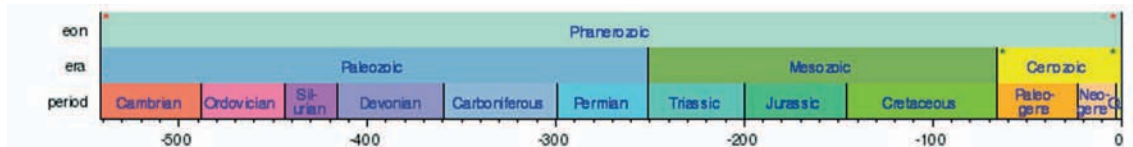


The Grand Canyon is one of the biggest stone history books that we currently have in our Earthly library. Cut deeply by the Colorado River, the exposed stack of rock pages is nearly two kilometres thick and spans some 2,000 million years of geologic time.

Presented by a Life Carrier... [Paper 57:8.27, page 663.5]



Many of these ancient sea beds are now elevated high upon land, and their deposits of age upon age tell the story of the life struggles of those early days. It is literally true, as your poet has said, “The dust we tread upon was once alive.”



The trilobites—these little animals existed in tens of thousands of patterns and were the predecessors of modern crustaceans. Some of the trilobites had from twenty-five to four thousand tiny eyelets; others had aborted eyes. As this period closed, the trilobites shared domination of the seas with several other forms of invertebrate life. But they utterly perished during the beginning of the next period. [Paper 59:2.10, page 676.1]



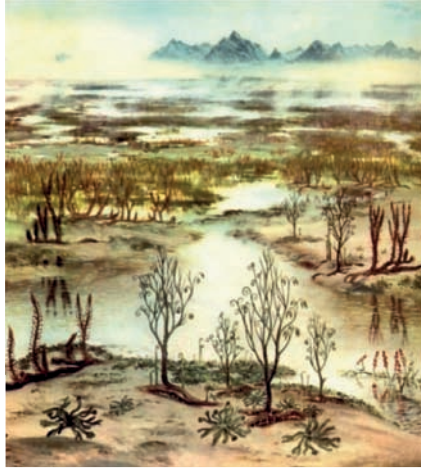
Lime-secreting algae were widespread. There existed thousands of species of the early ancestors of the corals. Sea worms were abundant, and there were many varieties of jellyfish which have since become extinct. Corals and the later types of sponges evolved. The cephalopods were well developed, and they have survived as the modern nautilus, octopus, cuttlefish, and squid. [Paper 59:2.11, page 676.2]

So ends the evolutionary story of the second great period of marine life, which is known to your geologists as the **Ordovician**. [Paper 59:2.13, page 676.4]



Toward the close of the **Silurian** there is a great increase in the echinoderms—the stone lilies—as is evidenced by the crinoid limestone deposits. The trilobites have nearly disappeared, and the mollusks continue monarchs of the seas. During this age, in the more favorable locations the primitive water scorpions first evolve. [Paper 59:3.11, page 677.8]

These developments terminate the third marine-life period, covering twenty-five million years and known to your researchers as the **Silurian**. [Paper 59:3.12, page 678.1]



SILURIAN—FIRST PLANT LIFE

And it was from such seashores of the mild and equable climes of a later age that primitive plant life found its way onto the land. There the high degree of carbon in the atmosphere afforded the new land varieties of life opportunity for speedy and luxuriant growth. [Paper 58:1.8, page 665.3]

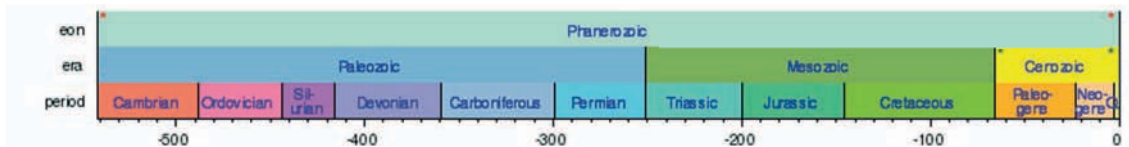
It is the dawn of a new age on earth. The naked and unattractive landscape of former times is becoming clothed with luxuriant verdure, and the first magnificent forests will soon appear. [Paper59:4.2, page 678.3]



*From the briny waters of the seas there crawled out upon the land snails, scorpions, and frogs. Today frogs still lay their eggs in water, and their young first exist as little fishes, tadpoles. This period could well be known as the **age of frogs**.* [Paper 59:5.6, page 680.8]

Very soon thereafter the insects first appeared and, together with spiders, scorpions, cockroaches, crickets, and locusts, soon overspread the continents of the world. Dragon flies measured thirty inches across. Cockroaches developed, and some grew to be four inches long. [Paper 59:5.7, page 680.9]

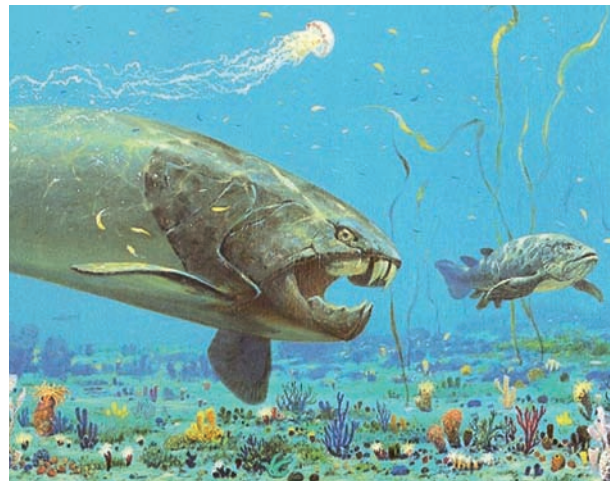




Many of the largest true fish belong to this age, some of the teeth-bearing varieties being twenty-five to thirty feet long; the present-day sharks are the survivors of these ancient fishes. The lung and armored fishes reached their evolutionary apex, and before this epoch had ended, fishes had adapted to both fresh and salt waters. [Paper 59:4.11, page 679:4]

And thus drew to a close one of the longest periods of marine-life evolution, the age of fishes. This period of the world's history lasted almost fifty million years; it has become known to your researchers as the **Devonian**. [Paper 59:4.18, page 680:2]

The appearance of fish during the preceding period marks the apex of marine-life evolution. From this point onward the evolution of land life becomes increasingly important. And this period opens with the stage almost ideally set for the appearance of the first land animals. [Paper 59:5.1, page 680:3]

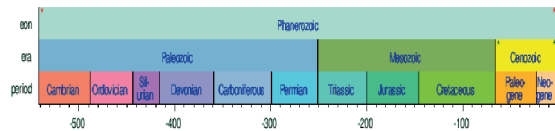




Devonian Extinction 365 million years ago

And thus drew to a close one of the longest periods of marine-life evolution, the age of fishes...known to your researchers as the Devonian...and marks the apex of marine-life evolution. From this point onward the evolution of land life becomes increasingly important... with the stage almost ideally set for the appearance of the first land animals.

[Paper 59:4.18, page 680:2]



Prolific land vegetation appears



Permian Extinction 248 million years ago—90% of life wiped out

The large shell-feeding sharks were also highly evolved, and for more than five million years they dominated the oceans.

[Paper 59:5.8, page 680:10]



When the seas were at their height, a new evolutionary development suddenly occurred. Abruptly, the first of the land animals appeared. There were numerous species of these animals that were able to live on land or in water. These air-breathing amphibians developed from the arthropods, whose swim bladders had evolved into lungs. [Paper 59:5.5, page 680:7]

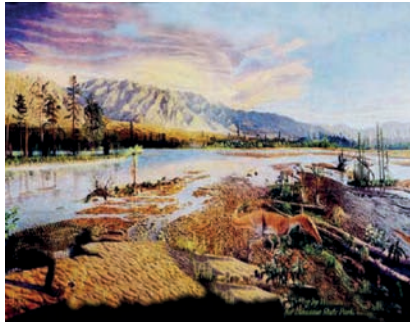
200,000,000 years ago the really active stages of the **Carboniferous** period began [Paper 59:5.13, page 681:5]



The prolific vegetation of the coastal swamps, contributed to the production of extensive coal deposits, which have caused this period to be known as the Carboniferous. And the climate was still mild the world over. [Paper 59:5.14, page 681:6]

The gradual cooling of the ocean waters contributed much to the destruction of oceanic life. [Paper 59:6.9, page 683:6]

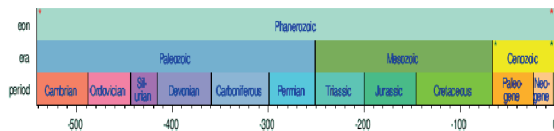
The ending of this period of biologic tribulation, known to your students as the **Permian**, also marks the end of the long Paleozoic era, which covers one quarter of the planetary history, two hundred and fifty million years. [Paper 59:6.11, page 684:1]



These rapidly evolving reptilian dinosaurs soon became the monarchs of this age. They were egg layers and are distinguished from all animals by their small brains, having brains weighing less than one pound to control bodies later weighing as much as forty tons [Paper 60:1.10, page 686:6]



But earlier reptiles were smaller, carnivorous, and walked kangaroolike on their hind legs. They had hollow avian bones and subsequently developed only three toes on their hind feet, and many of their fossil footprints have been mistaken for those of giant birds [Paper 60:1.10, page 686:6]



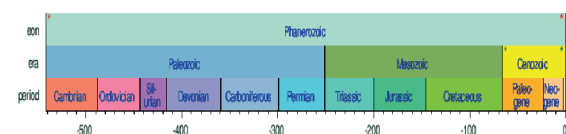
Triassic Extinction 195 million years ago



This period extended over twenty-five million years and is known as the **Triassic**. [Paper 60:1.14, page 687:1]



Later on, the herbivorous dinosaurs evolved. They walked on all fours, and one branch of this group developed a protective armor. [Paper 60:1.10, page 686:6]



The great **Cretaceous** period derives its name from the predominance of the prolific chalk-making foraminifers in the seas. [Paper 60:3.1, page 688:8]



This period brings Urantia to near the end of the long reptilian dominance and witnesses the appearance of flowering plants and bird life on land. [Paper 60:3.1, page 688:8]



The Cretaceous continued to be, pre-eminently, the age of the dinosaurs. They so overran the land that two species had taken to the water for sustenance during the preceding period of sea encroachment. [Paper 60:2.10, page 688:2]



These sea serpents represent a backward step in evolution. While some new species are progressing, others gravitate backward, reverting to a former state. And this is what happened when these two types of reptiles forsook the land. Their brains weighed less than two ounces notwithstanding the fact that these huge ichthyosaurs sometimes grew to be fifty feet long,... [Paper 60:2.10, page 688:2]



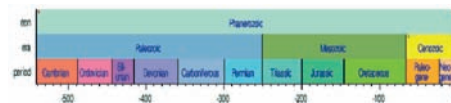
Two other two species of dinosaurs were driven to the air by the bitter competition of life on land. But these flying pterosaurs were not the ancestors of the true birds of subsequent ages. They evolved from the hollow-boned leaping dinosaurs, and their wings were of batlike formation with a spread of twenty to twenty-five feet. For a time these flying reptiles appeared to be a success, but they failed to evolve along lines which would enable them to survive as air navigators. They represent the non-surviving strains of bird ancestry. [Paper 60:2.12, page 688:4]



55,000,000 years ago the evolutionary march was marked by the sudden appearance of the first of the true birds, a small pigeonlike creature which was the ancestor of all bird life. This was the third type of flying creature to appear on earth, and it sprang directly from the reptilian group, not from the contemporary flying dinosaurs nor from the earlier types of toothed land birds. [Paper 60:3.22, page 691:3]



Archeopteryx model on display at the Oxford University Museum of Natural History

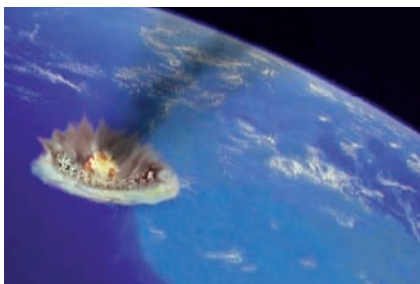


Cretaceous Extinction



One hundred million years ago the reptilian age was drawing to a close. The dinosaurs, for all their enormous mass, were all but brainless animals, lacking the intelligence to provide sufficient food to nourish such enormous bodies. And so did these sluggish land reptiles perish in ever-increasing numbers

Henceforth, evolution will follow the growth of brains, not physical bulk, and the development of brains will characterize each succeeding epoch of animal evolution and planetary progress. [Paper 60:2.14, page 688:6]



Yucatan Peninsula, Mexico

1980 - Louis Alvarez, Walter Alvarez, Frank Asaro and Helen Michel came out with a remarkable theory: the era of dinosaurs on Earth was ended by a 10 km asteroid 65 million years ago causing extensive volcanic eruptions all over the planet



85% of Life on Earth becomes extinct.

Luis Walter Alvarez - Born June 13, 1911
San Francisco, California



Because your world is generally ignorant of origins, even of physical origins, it has appeared to be wise from time to time to

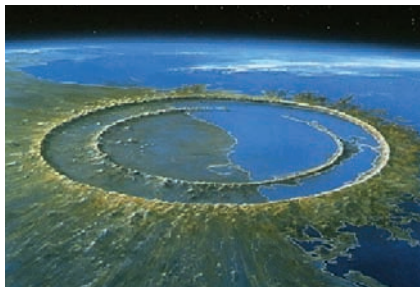
provide instruction in cosmology. And always has this made trouble for the future. The laws of revelation hamper us greatly by their

proscription of the impartation of unearned or premature knowledge. Any cosmology presented as a part of revealed religion is destined to be outgrown in a very short time.

[Paper 101:4.1, page 1109:2]

We are not at liberty to anticipate the scientific discoveries of a thousand years.

[Paper 101:4.2, page 1109:3]



These are also the times of ...tremendous crustal deformations and concomitant widespread lava flows and great volcanic activities. [Paper 60:2.10, page 688:2]



Eduard Suess (1831-1914)



Alfred Wegener (1880-1930)

Revelators must act in accordance with the instructions which form a part of the revelation mandate. We see no way of overcoming this difficulty, either now or at any future time.

We full well know that, while the historic facts and religious truths of this series of revelatory presentations will stand on the records of the ages to come, within a few short years many of our statements regarding the physical sciences will stand in need of revision in consequence of additional scientific developments and new discoveries..While divine or spiritual insight is a gift, human wisdom must evolve. [Paper 101:4.1, page 1109:2]

The greatest crustal deformations in millions upon millions of years took place in Mexico

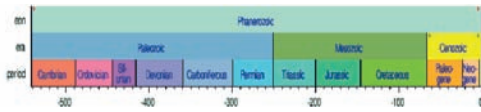
[Paper 60:3.6, page 689:5]



By the end of this period the biologic stage is fully set for the appearance, in a subsequent age, of the early ancestors of the future mammalian types.

And thus ends a long era of world evolution, extending from the early appearance of land life down to the more recent times of the immediate ancestors of the human species and its collateral branches [Paper 60:4.6, page 692:4]

This, the Cretaceous age, covers fifty million years and brings to a close the pre-mammalian era of land life, which extends over a period of one hundred million years and is known as the Mesozoic.



Basic mammalian instincts began to be manifested in these primitive mammalian types. Mammals possess an immense survival advantage over all other forms of animal life in that they can:

Bring forth relatively mature and well-developed offspring.

Nourish, nurture, and protect their offspring with affectionate regard.

Employ their superior brain power in self-perpetuation.

Utilize increased agility in escaping from enemies. [Paper 61:1.3, page 693:6–10]

Apply superior intelligence to environmental adjustment and adaptation. [Paper 61:1.8, page 693:11]

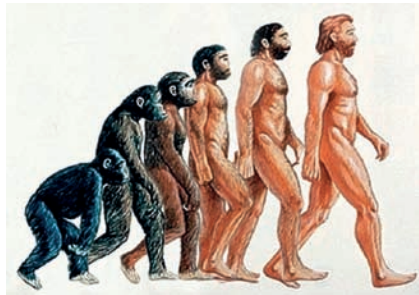
Like the land serpents of a previous age which betook themselves to the seas, now a whole tribe of placental mammals deserted the land and took up their residence in the oceans. And they have ever since remained in the sea, yielding the modern whales, dolphins, porpoises, seals, and sea lions. [Paper 61:2.11, page 696:2]

About this time a notable thing occurred in western North America: The early ancestors of the ancient lemurs first made their appearance. [Paper 61:2.10, page 696:1]

You can hardly realize by what narrow margins your prehuman ancestors missed extinction from time to time. Had the ancestral frog of all humanity jumped two inches less on a certain occasion, the whole course of evolution would have been markedly changed. The immediate lemurlike mother of the dawn-mammal species escaped death no less than five times by mere hairbreadth margins before she gave birth to the father of the new and higher mammalian order. [Paper 62:3.9, page 705:8]

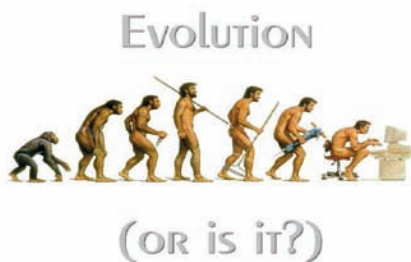


A little more than one million years ago the Mesopotamian dawn mammals, the direct descendants of the North American lemur type of placental mammal, suddenly appeared. They were active little creatures, almost three feet tall; and while they did not habitually walk on their hind legs, they could easily stand erect. They were hairy and agile and chattered in monkey-like fashion [Paper 62:2.1, page 703:5]



Later in the evolutionary unfolding of intelligence, the lemur ancestors of the human species were far more advanced in North America than in other regions; and they were therefore led to migrate from the arena of western life implantation over the Bering land bridge and down the coast to southwestern Asia, where they continued to evolve and to benefit by the addition of certain strains of the central life group. Man thus evolved out of certain western and central life strains but in the central to near-eastern regions.

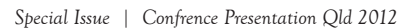
In this way the life that was planted on Urantia evolved until the ice age, when man himself first appeared and began his eventful planetary career. And this **appearance of primitive man on earth during the ice age was not just an accident**; it was by design. The rigors and climatic severity of the glacial era were in every way adapted to the purpose of fostering the production of a hardy type of human being with tremendous survival endowment.. [Paper 65:2.15–16, page 733:5–6] emphasis added



On Urantia the endeavors of the Life Carriers to improve the Satania life patterns necessarily resulted in the production of many apparently useless forms of transition life. But the gains already accrued are sufficient to justify the Urantia modifications of the standard life designs.

It was our intention to produce an early manifestation of will in the evolutionary life of Urantia, and we succeeded. Ordinarily, will does not emerge until the colored races have long been in existence, usually first appearing among the superior types of the red man. **Your world is the only planet in Satania where the human type of will has appeared in a precolored race.** [Paper 65:4.10–11, page 736:1–2] emphasis added

This concludes the Evolutionary Timeline presentation given by Robert Coenraads coenraads01@optusnet.com.au at the Conference in Mooloolaba QLD 2012 on the initiation of life phase on Urantia. The fact our planet is a decimal series inhabited world, allowed the Life Carriers the opportunity to modify the standard Nebadon life patterns which resulted in an unusually large number of varied life manifestations in the prehistoric stages. ■



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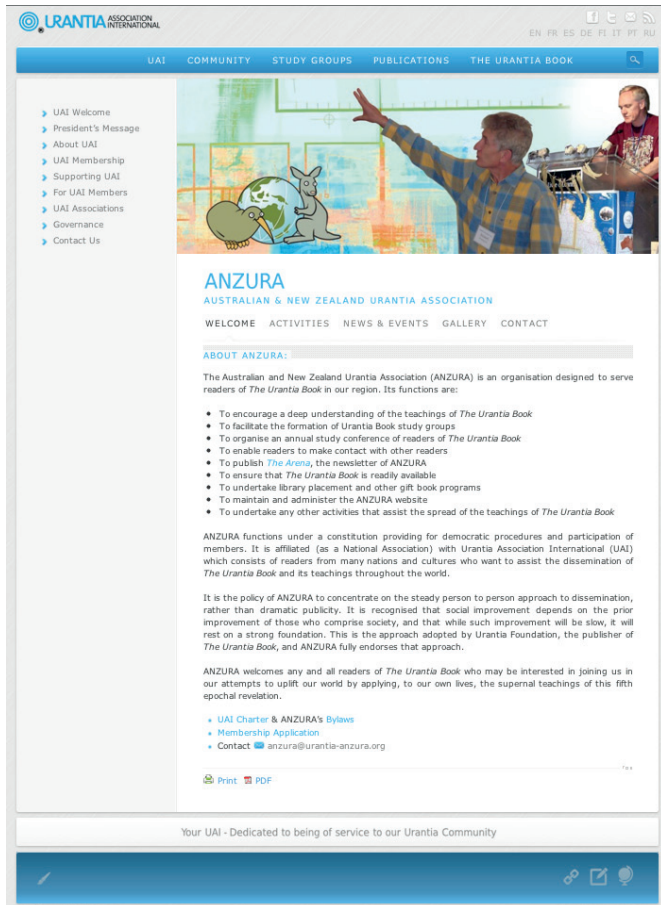
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One believes truth, admires beauty, and reverences goodness, but does not worship them; such an attitude of saving faith is centered on God alone, who is all of these personified and infinitely more.

(1114:05)

June 12

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