Chapter Eleven Relativistic Reversals

A riddle : What regular sided solid can be divided into two equal halves, in such a way, that each half is exactly the same shape, and exactly the same size, as the original solid.

Perceiving the truth

This chapter illustrates the concept of relativistic reversals. Thus, from a Universal perspective, there may be many ways of perceiving the truth, just as there are many different languages and forms of writing.

This contrasts with the conventions of Philosophy, Religion and Science, which tend to portray perceived phenomena according to a single agreed convention. Thus the intellectual models of human societies tend to be positive, or negative, rather than positive and negative.

For example, the solar system is portrayed on the basis of a stationary Sun, which is circled by a number of planets which travel elliptical orbits around the Sun. Likewise, the Moon is portrayed as a satellite which travels an elliptical orbit around a stationary Earth.

However, according to the Astronomers' galactic model, the Sun is not stationary and nor is the Earth. Thus, according to this model, the orbits of the Earth's Moon, and the Sun's planets, cannot be elliptical.

In this regard, the "bulls-eye" model of the Solar system might be called a Centrist Relativistic model, as it relates to the Sun as its central datum point. However, there is an alternative model which uses the centre of the universe as a datum point. This model might be called a Linear Dynamic model, as it portrays the motion of the Earth's Moon, and the Sun's planets, in relation to the rest of the Universe. (See Figure 8).

In this model, the orbits of the Earth's Moon, and the Sun's planets, are perceived as waves rather than ellipses.

In this context, it should be noted that one of the puzzles of ancient astronomy was to explain why the Sun's planets accelerate at some parts of their orbits, and decelerate at other parts. This is a baffling phenomena when considered on the basis of the "bulls-eye" model of the Solar system. There is no obvious cause of the planetary acceleration, or deceleration.

However, when examining the paths of the planets on the Linear Dynamic model it becomes immediately obvious that the cause of the planetary acceleration and deceleration is gravity.

Thus, when the planets are overtaken by the Sun, they accelerate to catch up with the Sun, whereupon their momentum causes them to overtake the Sun. At this point, the force of gravity pushes them back towards the Sun. As a result, the planets decelerate, whereupon the Sun overtakes them again.

(See the Moon - Earth 'leapfrogging' in Figure 8).

It must be emphasised that the Linear Dynamic model of planetary motion is an alternative to the Centrist Relativistic 'bulls-eye' model, and not a replacement. Two, or more models are better than one. Truth may be universal, but the Universe is isotropic.

Anomalous

The current Big Bang theory of Universal Evolution is another example of cyclopean scientific convention. In many ways it is an anomalous theory. Thus, it might be expected that the explosive dispersion of the primeval atom would became the normal behaviour of all the universal particles.

This would imply that most of the galaxies, stars, planets, moons, comets, molecules and atoms, would regularly explode in the manner of novas, or supernovas. However, these phenomena are rarely observed.

In this regard, if the Universe was originally composed of very small particles, which had condensed in the outermost parts of the Universe; the same pattern of diverging, condensations of galaxies would still be observed. In this context, a reversal of current cosmological theory should not be regarded as an alternative, but as an addition. Single models only allow single sets of answers, but they may obscure more than they reveal.

Modern cosmological and particle theories are very dependent upon accurate measurement of phenomena which may be transient in nature. Furthermore, as the instruments of measurement are subject to a process of continual refinement, current scientific theories may be equally transient.

For example, in 1911 Albert Einstein predicted that if a ray of light grazed the surface of the Sun, the ray of light would be deflected by gravity. Einstein originally calculated a deflection of 0.83 seconds of arc, but he later changed this to 1.7 seconds of arc. In 1919, this prediction was duly confirmed by the British astronomer, Sir Arthur Eddington.

However, in 1919 Astronomers were unaware that the Sun had an atmosphere. Therefore, Sir Arthur Eddington could not have made any allowance for the degree of refraction due to the solar atmosphere. Curiously, Sir Arthur Eddington's measurements still confirmed the predictions of Einstein. Furthermore, although the refractive index of the Solar atmosphere has been accurately measured, all subsequent observations of rays of light which graze the surface of the Sun, have confirmed Einstein's prediction. This implies that either the solar refraction, or the astronomical data, is self compensating.

Evolution of the Solar System

A further example of anomalous astronomy concerns the theories of planetary evolution. In this regard, recent space flights by unmanned spacecraft have shown many of the outer planets of the Solar system to be very different from the early predictions made by Astronomers.

For example, these planets were supposed to be very cold, and volcanically inactive. However, the spacecraft data has shown that many of these planets are relatively hot, and volcanically active. In addition, many of the planetary moons lack the compositional uniformity which had been predicted.

This situation illustrates the advantages of maintaining additional alternative models of planetary formation. In this context, it may be noted that Pierre Laplace, an 18th century French Mathematician, suggested that the planets coalesced from a series of shells which were thrown off from the Sun as it contracted from a proto-stellar cloud.

This model does not fit current models of stellar evolution very well, and it would not explain any of the planetary anomalies. However, if this hypothesis was reversed, it might make a suitable addition to the Cold Gas Disc Theory of Planetary Formation.

In this regard, if the proto-stellar cloud contained the same proportion of elements which are now found in the solar system (allowing for transmuted hydrogen in the Sun), the Sun might be expected to have a similar core to that of the planets.

As a result, the newly-formed Sun would have a core of thermally resistant metals, which would give the Sun a magnetic field. Furthermore, this magnetic field would tend to compress the remains of the proto-stellar cloud into a rotating disc of proto-planetary material.

This rotating disc would be compressed towards the newly-formed Sun by gravity, but this inward movement would be counteracted by the outward flow of solar energy. As a result, the disc would become wedge shaped, with the thin edge nearer the Sun.

However, as gravitational pressure increased the concentration of proto-planetary material within the disc, the first proto-planets would form near the inner edge of the disc. Eventually, the largest proto-planet would grow to such a size that its surface would be exposed to the full force of solar thermal pressure. As a result, the heat and light of the newly-formed Sun would push the first planet away from the inner edge of the disc.

As the first planet (and its satellites) drifted away from the Sun, they would attract more planetary material from the middle and outer regions of the rotating proto-planetary disc. This material would coalesce on the outer surfaces of the planet and its satellites, and would increase their overall size. As a result, the planet would accelerate outwards. in a series of giant spirals until it reached an equilibrium orbit, where the force of gravity was exactly balanced by the thermal pressure of the Sun.

Thus: on the basis of this Reversal Model of Planetary Evolution, the first planets which formed in the solar system, would have been the present-day outer planets, such as Pluto, Neptune and Uranus.

On the basis of this planetary model, the Earth would have been formed on the inner edge of the rotating disc - after most of the proto-planetary material had been used up by the outer and middle planets.

In this period of late planetary formation, most of the lighter elements would have been blown away from the inner edge of the proto-planetary disc by the solar energy. As a result, the inner planets would be composed of relatively massive elements.

However, as the Earth and its Moon drifted out towards their collective equilibrium orbit, they would attract some of the remaining lighter elements from the middle of the proto-planetary disc. In this regard, much of this outer coating of lighter elements would be evaporated from the Earth's surface by its planetary heating. However, the Moon's smaller mass would create less planetary heating, and this would enable the Moon to retain most of these lighter elements.

When the Earth and Moon reached their collective equilibrium orbit, their momentum would ensure that they would continue to spiral out beyond this orbit. This would result in the Earth's first global cool period. When the Earth ceased its outward progress, it would gradually spiral back in towards the Sun, although it would again overshoot its equilibrium orbit. This would lead to a period of global warming.

In this regard, it should be noted that the Earth's kinetic energy would be relatively large, when compared to the marginal differences between the solar thermal and gravitational pressures at the equilibrium orbit. As a result, the Earth and Moon would keep overshooting the equilibrium orbit.

However, the oscillations beyond, and within the equilibrium orbit would gradually reduce in terms of both duration and frequency, as the Earth and Moon got closer and closer to their equilibrium position. The oscillations predicted by this Reversal Model could explain the alternations of warm and cold periods in the Earth' s history.
(See Figure 7).

White Hair

Another form of reversal concerns the evolutionary development of baldness and white hair, in the Human specie. In this regard, although the current Synthetic Neo-Darwinian Theory of Evolution implies that all natural selection is made on the basis of individual advantage, or disadvantage; there are some occasions which suggest that evolution creates disadvantages in some individuals, to improve the advantage of other individuals.

Thus most people tend to become either white haired, or bald when they are old. It is proposed that this adaption evolved to enable predators to identify old people, when the old people were part of a group of hominids containing nursing females and their young. Normally, the latter would be vulnerable to predation, although they would probably be protected by the dominant males.

However, if the predators were able to identify the old people, they would be more likely to attack and kill such people, as the old individuals would be relatively infirm and unprotected. This would clearly be to the advantage of the hominid specie, although not to the individual advantage of the old people themselves.

If this proposition was correct, the selection by predators would be greatest where the colour differential was the most obvious, and the smallest where there was virtually no differential. In this context, there is little visible difference between a young adult with blond hair and an old adult with white hair. Likewise there is little visible difference between a young adult with red hair and an old adult with a sun-tanned bald head. As a result, the predatory attacks on red haired, or blond haired people would tend to be the same regardless of the age of the individual.

By contrast, the people with dark hair would have a distinct colour differential regardless whether the old people were identified by baldness, or white hair. As a result, except in environments with a predominately white or russet background, the proposition would suggest that dark haired people should be much more common than people with blond, or red hair. This completely accords with the facts, although it conflicts with evolutionary theory.

Perhaps the proposition is wrong. Maybe there are other explanations for the relative rarity of blond, or red haired individuals. Perhaps the fact that people tend to go bald, or become white haired when they are old, is an evolutionary irrelevance. Alternatively, if the proposition is perceived to be correct, perhaps evolutionary science will permit a theoretical addition, if not a reversal.

Evolution of specie

In this context, reversals may not be common in the evolution of Science, but they do seem to abound in the evolution of species. This may be illustrated by a hypothetical account of the evolution of amphibians, reptiles, birds and mammals. In this regard, it should be noted that the current theories of animal evolution are based entirely on the evolution of animal structure, as only the structure of an animal actually fossilises.

However, as animals are composed of flesh as well as bones, their evolution may be more complex than their fossils imply.

Amphibians

Thus, it is proposed that amphibians evolved from fish in the Palaeozoic era's Devonian Period (350 - 400 million years B.P.)

In this context, the oceanic and freshwater fish would be most abundant and varied in the equatorial regions of the Earth. As a result, the intense competition would force the marginal subordinate variants to follow the normal evolutionary paths from the equator to the poles. In the case of the freshwater specie, the marginal variants would be forced into higher altitudes, in the equatorial regions.

At each successive increase in altitude, the waterfalls would become higher, and the volume and temperature of the water would decrease. In this regard, the increase in the height of the waterfalls would lead to a consequential increase in the oxygenation of the water. In addition, the greater flow rate of the mountain streams would tend to increase the rate of gaseous diffusion through the gills of the fish.

As a result, when the marginal variant fish were forced into the high mountain streams, they would tend to stop pumping water over their gills by opening and closing their mouths. Instead, they would tend to keep their mouths closed, and allow the oxygen to diffuse into their bloodstream, via their skins.

In the swiftly moving water of the mountain streams, these variants could reduce their expenditure of energy due to continual swimming, by using their fins to anchor themselves to the bed of the streams.

However, the decrease in water temperature would require a change in their surface-to-volume ratio to reduce energy losses. As a result, the variants would become relatively round and short. It is proposed that these mountain variants would eventually become primitive transitional amphibians, which would remain aquatic. They would lose their gills, and breathe entirely through their skin.

When these mountain stream transitional amphibians had completed their physiological adaptations, they would force their weaker subordinate variants out of their high altitude habitat. As a result, their marginal variants would be forced down to the lower altitudes, where the water temperature would be higher, and the degree of water oxygenation lower.

These marginal variants could combat the reduced oxygenation by exposing themselves directly to the air. This exposure of their skins would also lead to latent cooling, which would obviate the need for any change in their surface-to-volume ratio. However, the need for regular skin exposure would force them to remain in the shallow water near the edge of the streams, where their fins would gradually adapt to the more viscous conditions of the shoreline silt.

It is proposed that these variants would become the first true amphibians. This is an example of an adaptive reversal, where marginal variants are forced to transfer from one basic environment to another.

The colonisation of the shoreline territories would enable the primitive amphibians to became a newt-like mainstream specie, which could survive temporarily out of the water. These amphibians' subordinate variants would then be forced to the margins of the amphibian territory, where they would have to adapt to an essentially terrestrial existence.

However, as the atmospheric temperature tends to be higher than the water temperature, these variants would be forced to change their surface-to-volume ratio to dissipate their body heat. As a result, they would evolve into long slim amphibians, like present-day salamanders.

At sea level, these subordinate variants would form a new mainstream specie in the equatorial wetlands. Then the process of marginal colonisation would continue, as the wetland amphibians’ subordinate variants were forced to adapt to the peripheral environments.

These equatorial lowland marginal variants could not return upstream, as these territories would be occupied by existing amphibians. Thus they would be forced to adapt to the only available neighbouring niche.

In the context of an amphibian environment, this would involve an adaption to a nocturnal existence, where they could avoid direct competition with the existing mainstream specie. This is another example of an evolutionary reversal. It is the simplest alternative, and would involve the smallest number of evolutionary adaptations.

Nevertheless, as the atmospheric temperature is lower at night the marginal variants would have to change their surface-to-volume ratio. This could be most easily achieved by the elimination of their tails.

However, the lack of visibility which is inherent in a nocturnal niche, would lead to mating problems, as the sexes would have to find each other by scent or touch. It is proposed that the mating problem would be resolved through the development of a vocal mating call, and that these marginal variants became the ancestors of the present-day frogs and toads.

It is further proposed that the competition for mates led to the development of large air sacs, which became primitive lungs.

Reptiles

When the nocturnal environment had been fully colonised in the equatorial lowlands, the marginal subordinate variants of the nocturnal amphibians would be forced into higher terrestrial altitudes. This would lead to a further reduction in the atmospheric temperature. However, as the marginal variant's physiology was already short and round, it could not adapt to the reduction in temperature by changing its surface-to-volume ratio. Instead, it would have to reduce the permeability of its skin to prevent the transpiration of water - and thereby reduce the degree of latent cooling.

This would reduce the amphibians ability to breath through their skin. However, the mainstream specie's evolution of air sacs for nocturnal mating would have pre-adapted the marginal variants for such a physiological development.

This adaption of the amphibian skin is another example of an evolutionary reversal, and 'parallels' the adaption of the high altitude fish variant's skin. It is proposed that these high mountain nocturnal amphibian variants became the ancestors of the terrestrial reptiles.

The adaption of the amphibian skin to the high mountain conditions would pre adapt the early reptiles to the conditions of the drier terrestrial environments. As a result, when the subordinate variants of the high mountain reptiles were forced out of the mountain habitats, they would be able to move down to the dry terrestrial lowlands.

However, as they moved into the lower altitudes, the atmospheric temperature would increase, and the variants would have to adapt by changing their surface-to-volume ratio through the development of long tails. It is proposed that these marginal variants became the nocturnal ancestors of the geckoes and lizards.

At sea level, the new mainstream species would force their subordinate variants to adapt to a new ecological niche. As the mainstream specie was still nocturnal, the variants could transfer to a diurnal existence, where they would complement the mainstream specie. It will be noted that this change was similar to that made by the frogs' ancestors, except that it was in the opposite direction.

The switch to a diurnal existence would involve an increase in atmospheric temperature, which would require a consequential change in the marginal variant's surface-to-volume ratio. However, as the lowland nocturnal species had already developed long tails, the new diurnal specie would have to increase the length of their necks, or legs.

In this context, the competition for mates would tend to lead to the development of visual mating systems, as these would be more effective in the daylight. Some of the animals with long necks would probably utilise this physiology to stimulate mating. It is proposed that many of these animals became dinosaurs, some of which developed a bipedal physiology to feed on the equatorial cycads (palm trees).

Eventually, some of these long-necked bipedal, subordinate variants would be forced into the higher equatorial altitudes. This would be the only available terrestrial niche. There would be existing nocturnal reptilian species at the higher altitudes, but the diurnal terrestrial habitat would still be unoccupied.

Birds

However, the move to higher altitudes would involve a decrease in atmospheric temperature, which would require a consequential change in the marginal variants' surface-to-volume ratio. As the specie individuals would be using their necks for mating, this would restrict them to a reduction in their tails. However, as the specie were bipedal they would need their long tails to maintain their balance.

Thus, as the case of their fish and amphibian predecessors, these marginal variants would be forced to adapt their skin instead. It is hypothesised that this involved the development of under skin fat, which would insulate the individuals against the cold.

In addition, the reptilian scales evolved into quills, which would further improve the skin's insulation value, as these quills could trap air close to the individual's body. In addition, the marginal variants could adapt to the thinner atmosphere through the development of larger lungs.

When these mountain variants had colonised the high altitude habitats, the process of marginal colonisation would continue. However, at this point, there would be only one remaining alternative niche, namely the surface of the mountain lakes. The partial immersion in water would involve a further drop in temperature, and this would precipitate the reduction of the marginal variant specie's tail.

This would only be possible if the specie became a wading/swimming creature, with a very thin neck and legs. The specie's body fat would enable it to float, and it could feed on the plants and animals of the lake periphery. However, it could not lay its eggs in the water, so these would have to be secured in the shoreline vegetation.

In this context, if the eggs were laid within a surface nest, they would be exposed to predators, and the specie's survival would depend upon the eggs degree of protective camouflage. Alternatively, the adults could protect their eggs by distracting potential predators.

In this regard, as the eyes of predators are generally adapted to discern movement, the adult protection of the eggs could be best achieved by the maximisation of physical activity. As a result, the animals which created the greatest movement to draw the predators away from their nest would be the most successful.

In this context, the only movement which a bipedal creature could make, apart from running, would be to wave its front limbs. However, in order to maintain its balance, such a creature would have to move its forelimbs in unison. This distraction could be further improved through the development of variegated quills. As a result, it is proposed that the high mountain water dinosaurs would evolve into high mountain water birds.

These first primitive birds would be unable to fly, although their feathers would gradually develop - as an improved means of distracting predators. The smaller individuals would be forced into the worst nesting sites, where predation rates would be the highest. As a result, their survival would depend upon their success in distracting predators.

In this context, if the male and female individuals co-ordinated their distraction display, this would further improve the survival of the specie. This could be achieved if the male and female individuals distracted predators on a series basis.

For example, if the male water bird moved away from the nest first, the predator would be temporarily distracted by this movement, This initial distraction display by the male would give the female a chance to settle motionless on her nest, where her camouflage would prevent the predator from perceiving her. However, if the predator failed to follow the male, the female could still move at the last instant, as a final attempt to distract the predator.

This form of co-ordinated protection could be further improved if the female was well camouflaged, while the male was brightly coloured. It is proposed that this is the reason for the colour differential which is perceived in many waterfowl and game birds. In many of these specie the male exhibits a degree of physical behaviour, and variation of feather pattern or colour, which maximises its distraction value. Furthermore, at the approach of predators, it is always the male which flies away first - often with a loud squawking or screeching.

It is further proposed that these predator distraction displays would eventually lead to the development of flight, as the water birds would be able to land in the water without sustaining any physiological damage. In addition, as the evolution of rapid takeoffs would improve the birds' distraction value, these water birds would eventually develop an ability to takeoff and land safely on dry land.

Penguins

After the development of the high altitude bird species, their subordinate marginal variants would be forced to adapt to the lower altitudes. In this regard, as the terrestrial niches would be fully occupied by the existing reptiles, these water birds would have to proceed down the mountain streams and rivers. When they reached sea level they would colonise the coastal regions and uninhabited oceanic islands.

As the water birds descended to the lower altitudes, there would be an increase in the temperature of the atmosphere and water, which would require a consequential increase in their surface-to-volume ratio.

However, as they already had relatively long necks and legs, they could only achieve this by increasing the length of their tail, or by reducing their overall body size. The only alternative to this physiological change was to move to cooler latitudes. It appears that all three alternatives were adopted by the marginal variants, with the larger birds moving to the higher latitudes.

Some of the sea birds became amphibious, using oil from their sebaceous glands to help waterproof their feathers. Eventually, the marginal variants adapted to the polar regions where their body fat enabled them to survive the extreme cold.

In this regard, the ancestors of the Penguin species changed their surface-to-volume ratio to minimise temperature losses in the polar environments. Thus they acquired a very compact physiology with short legs, neck and tail. Furthermore, to prevent their eggs from freezing they incubated the egg in a brood pouch. When their young were born, the adults fed them partly on the feather oil which was produced by the species' sebaceous glands.

Monotremes

When the ancestors of the Penguins had colonised the polar regions, their marginal subordinate variants had to seek an alternative ecological niche In this context, all the diurnal niches, from the equator to the poles, were already occupied by existing species of birds. In addition, all the nocturnal niches, from the equator to the warm temperate regions, were occupied by the reptiles. Thus the only alternative environments were the nocturnal niches in the cool temperate and polar regions.

In this context, it is proposed that the nocturnal polar environments were too cold for the marginal variants, so they were forced to colonise the nocturnal temperate environments.

Nevertheless, the transfer to a nocturnal niche would mean adapting to a lower temperature. In this regard, as the ancestors of the Penguin specie had already minimised its surface-to-volume ratio, the marginal variants would be forced to adapt to the reduction in temperature by improving the insulation value of their skin. As a result, it is hypothesised that they developed a dense coat of fur.

In this context, it is instructive to note the parallels of this evolutionary adaption with that of the high altitude amphibians and reptiles. Each has a predecessor mainstream specie which had already minimised its surface-to-volume ratio. As a result, each had to adapt its skin instead. Thus the mountain amphibian became a reptile, and the mountain reptile became a bird. In a similar manner, the high latitude bird became a (monotreme) mammal.

Marsupials

As the monotremes had colonised the last available terrestrial environments, their marginal subordinate variants were forced to adapt to habitats which were already occupied by birds, reptiles or amphibians. However, as the variants were not as well adapted to any specific environment as their competitors, they could only occupy an existing species' niche on a temporary basis.

This meant that the variants were unable to establish a permanent nest for their eggs. As a result, the marginal variants developed into primitive marsupials, who could transport their young after birth.

As the marsupials were unable to remain permanently in any habitat, they gradually spread throughout the temperate, subtropical and equatorial regions. Eventually, their marginal variants were forced into the high altitude regions, which resulted in a decrease of environmental temperature.

In this regard, although the adults were well adapted for low temperatures, their marsupial young had no effective insulation at birth. As a result, there was an evolutionary advantage accruing to individuals with a longer placental maturation period. This would allow the birth of a relatively large infant, which would therefore have a reduced surface-to-volume ratio, and could survive the cold conditions. It is proposed that these variants became the placental mammals.

Global Cooling

It should be noted that during the evolution of the amphibians, reptiles, birds and mammals, the Earth continued to alternate from global warm periods to global cold periods.

Furthermore, when the temperature dropped in the periods of global cooling, large amounts of water solidified as ice in the polar regions. This caused a reduction in the oceanic volumes, and a consequential increase in their relative salinity. In addition, the drop in the level of the seas caused a corresponding fall in the terrestrial water table.

As a result, in a period of global cooling at the end of the Palaeozoic era, large numbers of terrestrial and marine species became extinct, The oceanic survivors were the species which were pre-adapted either to cold water, or to relatively salty conditions. These included polar and deep water species of marine animals and plants, as well as estuarine species.

In the terrestrial environments, the cold-adapted, or salt-adapted plants survived, but many equatorial species died. Likewise, most of the large terrestrial amphibians became extinct, although the reptiles' pre-adaption to dry conditions enabled them to survive.

These mass extinctions of the Permian period were followed by the process of reverse colonisation, as the cold-adapted conifers, and salt-adapted coastal plants, became the new mainstream plant species in the equatorial regions. Some of the salt-adapted species developed into cycads (palm trees), and many of these plants became the chief source of food for the Dinosaurs.

In the Cretaceous period (65 - 135 million B.P.) another global reduction in temperature led to a consequential drop in the sea levels. This again led to a substantial fall in the terrestrial water table, and an increase in marine and freshwater salinity.

Those cycads which were pre-adapted to salty condition, such as the Date and Coconut Palms, were able to survive by moving inland from the coast, to the less salty estuarine conditions. However, the mainstream terrestrial Cycads gradually died out, when their roots could no longer reach the declining terrestrial water table.

This caused the steady contraction of the inland Cycad population, and increasing competition between their Dinosaur consumers. It appears that the Dinosaurs eventually overgrazed the Cycads to such a degree that both the plants and the Dinosaurs became extinct.

This was followed by another period of reverse colonisation, as various fruit bearing and flowering trees developed in place of the extinct Cycads. These plants spread rapidly, as they were cross pollinated by the insects, and their seeds were scattered by the birds.

This complementary expansion of the deciduous flowering trees was coupled with a similar expansion of the various mammal species. These colonised the mainstream habitats of the newly extinct reptiles and dinisaurs -- in both the terrestrial and marine environments.

It should be noted that this proposition on the evolution of amphibians, reptiles, birds and mammals, is quite different from the current theories, which are based upon the evolution of animal structures.

In this context, the present theory states that quadrupedal reptiles evolved directly into quadrupedal mammals. In terms of animal structure, this theory is well supported by fossil evidence.

However, in terms of total animal physiology and behaviour, it is possible that the quadrupedal reptiles may have suffered an occasional reverse.

Basic Systems of Behaviour

The basic systems of behaviour represent another relativistic reversal. As previously described, the external system of plant and animal behaviour evolved first. This system is based upon the principle of competitive division, and leads to the consumptive activities of living organisms.

It also leads to an alternating cycle of war and peace. This affects virtually all forms of cellular life, although direct physical assault is the exception rather than the rule.

Most plant specie kill other members of the same specie through a process of siege warfare. By utilising most of the available sources of water, minerals and light, the dominant individuals cause the death of subordinates. In animal specie, the dominant individuals occupy the optimum territories, and drive the subordinates into the margins. Here the lack of food leads to death through disease or predation.

However, in many carnivorous specie of mammals, the dominant individuals actively kill their rivals to gain the optimum territory. Studies have shown that in the Lion specie about a third of lions are killed by other lions.

The internal system of plant and animal behaviour appears to have evolved as a form of defence against consumptive action. This system is based upon the principle of complimentary union, and applies to the inner workings of the cells; as well as the interrelationship of the organs of multi-cellular organisms.

Alternating cycle of peace and war

The external system of behaviour affects the human specie in the same way as other animals. This is reflected in our history, which shows that we have always had an alternating cycle of peace and war. This is quite natural and normal, and will continue for the foreseeable future.

In theory, the human specie could switch its intra specie relationships (i.e. relationships within the specie), from the external system to the internal system - by means of cultural evolution.

If this ever took place, there would be perpetual peace within the human specie.

However, our inter specie relationships (i.e. relationships between our specie and other specie), would continue to be governed by the external system.

Changes in individual and social behaviour

For the cultural evolution of the human specie's intra specie relationships to occur, there would have to be a number changes in individual and social behaviour.

In this context, all parents would have to rear their children wholly or mainly by the reasoning system of child rearing. This is because the internal system of behaviour could only be maintained by a reasoning society.

In addition, all governments would have to govern according to the principle of the internal system, namely complimentary union. (Loosely translated this means that all political parties would have to work together for the common good of the community. Likewise, all countries would have to work together for the common good of the world.)

Finally, there would have to be a change in the personnel of government.

Under the external system of plant and animal behaviour, government in all communities is carried out by dominant males and dominant females. This is quite normal and natural. However, the internal system is based on the principle of power sharing. This is the normal basis of cellular life, and the interrelationships of the organs of multicellular creatures. But dominant males and females will not normally share power. They will do so under duress, but will limit power sharing as much as possible.

For the internal system to work in government, the dominant males and females would have to be replaced by mid ranking males and females - as these latter individuals are natural power sharers. In addition to the replacement of elected dominant males and females, the non elected bureaucratic dominant males and females would also have to be replaced.

Of course, each generation will produce dominant males and females; but a reasoning society would be able to persuade such people that they had no place in government.

It is reasonable to assume that there would be great resistance to a change to the internal system of behaviour. Most parents (world-wide) rear their children according to the deterrent system of child rearing, and would be unlikely to switch to the reasoning system - without a considerable incentive. In addition, it is almost impossible to believe that the dominant males and females currently in government, would give up their positions of power.

Norms of evolution

For these reasons, it is extremely unlikely that the human specie will switch its intra specie relations from the external system to the internal system, other than in accordance with the norms of evolution.

As previously noted, changes of behaviour are invariably preceded by extinctions. In this regard, as the change from the external system to the internal system would be involve a global specie change of behaviour, such a large change would have to be preceded by mass extinctions.

In this context, a global nuclear war might kill enough people world-wide to convince everybody that the time had come to switch behavioural systems. When war is finally seen as a threat to the specie's survival, the individual desire to survive will overcome the conservatism of the human community, and the specie will switch systems.

Another relativistic reversal.

The structure of life

The last relativistic reversal concerns the structure of life. In this regard, it will be evident that life comes in many forms. It exhibits an enormous range of shapes and sizes, and reproduces itself consistently and continually.

Nevertheless, as it is produced and shaped by the environment, it ought to reflect the basic simplicity of universal forces.

In this context, the simplest three dimensional structure is a three sided pyramid. This is called a tetrahedron. It appears that such structures do not form typical mineral crystals. This may be because they have an imbalance of electromagnetic forces, and this prevents a stable structure.

Normal crystals grow through the deposition of atoms on their outer surfaces. Although they all start off as microscopic atomic lattices, the crystals may eventually become large enough to be seen with the naked eye.

However, although a tetrahedron cannot form a normal crystal, it is possible that a reversed form of tetrahedron could develop in an aqueous solution. The result would be a very flimsy and tenuous triakis tetrahedron. (See Figure 9.)

This reversed form of tetrahedron would have its growth surfaces on the inside, (the triakis tetrahedron being hollow). As such, it would grow internally through the deposition of atoms to its inner surfaces.

When the hollow interior of the triakis tetrahedron was full up, the resulting internal structure would be that of a tetrahedron. However, because the tetrahedron is electromagnetically unstable, this internal structure would force the external triakis tetrahedron to reverse itself. This would allow the inner tetrahedron to escape and itself reverse into a triakis tetrahedron. At this point, the original triakis tetrahedron would undergo a second reversal to regain its former shape.

Self Replicating Molecule

As a result, this strange, reversed form of crystal could replicate itself as long as the aqueous solution had a sufficient supply of atoms to provide the growth material. In this way, the triakis tetrahedron could become the world's first self-replicating molecule.

It is proposed that these bio-crystals were one the basic constituents of the Earth's early biosphere. Its ability to reproduce itself led to the development of billions and billions of these flimsy structures. Eventually, one of these bio-crystals became attached to a primitive version of the DNA molecule, and became the proverbial "tail that wagged the dog".

It should be noted that DNA is a chain molecule which is stable for most of its life. In common with most other chain molecules it does not divide easily. However, when it does divide, (just before cell division), it divides by means of a double reversal mechanism. This is a very unusual method of division, but it is precisely the method of division used by the triakis tetrahedron.

It is proposed that the conjunction of the triakis tetrahedron with DNA, forced the latter to divide by means of a double reversal process. After the triakis tetrahedron had divided, the new (ex internal) triakis tetrahedron pulled one of the double strands of DNA in one direction, while the old triakis tetrahedron pulled the other DNA strand in the opposite direction - with the result that DNA became two single strands of RNA. These then replicated in the usual manner, until the triakis tetrahedrons forced another division.

This is pure speculation. However, it may noted that while ordinary crystals grow externally, life grows internally. Is this another relativistic reversal?