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Dialogue
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Dr. Paul Nelson Opened Our Minds

Dr. Paul Nelson is a prominent spokesperson for the creation and intelligent design communities. It was in that capacity that he introduced enthusiastic participants at the 2013 Creation Weekend in Edmonton, to new arguments and exciting information.

His first lecture, on Friday evening October 18, was on "Understanding Intelligent Design." Dr. Nelson began by describing several cases where people have applied their reasoning skills to distinguish between chance events and the activities of a conscious agent. Thus when police detect patterns of behaviour in the commission of a series of crimes, they tend to conclude that one perpetrator was at work rather than many individuals who just happened to act in a similar way. Everyone in addition, naturally distinguishes between events of natural origin and those from a human perpetrator. For example, ripples on the beach are natural, but inscribed words are man- made. So the question arises whether it is possible to use similar criteria to distinguish the source of other features in nature, such as the genetic code.

Dr. Nelson then introduced us to problem solving strategies. If you have more explanatory options, your chances of solving a question are better. Thus scientists lose nothing, he said, if they include in their tool kit of possible explanations, the possibility that certain features of living creatures were designed. Why would they want to rule out the possibility of intelligent design or choice even before an issue is considered? Nevertheless the Darwinian revolution dumped intelligent causation out of the tool kit. Now many say that statements in science must involve only natural processes.

Dr. Nelson then discussed several phenomena that are obviously designed. One includes special structures in the living cell called chaperones. Newly forming protein molecules apparently must spend time with a chaperone in order to fold properly. Proteins are only effective when they are properly folded into a correct shape. Some famous chaperones are barrel shaped. The forming protein enters at the one end and a lid snaps shut. Then the folded protein emerges from the other end after a lid is released there. The chaperones are themselves made of protein, so they had to be already present in order for even themselves to form properly.

All forms of information are subject to degradation (corruption). Specialized enzymes (proteins) maintain the quality of the genetic information (DNA) from generation to generation. But those editing enzymes are themselves coded for by the DNA. This is a closed loop system. It is our experience that closed loop systems are always designed. If the editing enzymes are eliminated, you get error catastrophe in the cell.

Finally as a fun example of intelligent design Dr. Nelson discussed the walking talents of cockroaches. Specialists (all intelligent) in robotics are trying to duplicate in robots the walking skills of the cockroaches, but so far the robots are far inferior to the natural models. How did these insects become so skillful in locomotion without any engineering know how? You decide.

The next morning Dr. Nelson discussed "Why Animals are Hard to Build." He began by declaring that evolution is the most theologically entangled science that we know about.

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Epitaph for a Maverick Astronomer

Astronomer Halton Arp (1924-2013) represents an excellent example of how mainstream scientists protect their favoured explanations against anyone, no matter how qualified or prestigious, who dares to question the majority position. We see how actual observations made by Arp and colleagues, were/are not allowed to call the Big Bang origins theory into question.

The Big Bang, as an explanation for the origin of our universe, was developed in the 1940s and 1950s. It was based on the observation that light spectra from many objects in space, are shifted toward the lower energy (red) end of the spectrum. Comparisons of the distance of some galaxies from us, estimated on the basis of other measurements, suggested that the most distant galaxies had more extreme redshifts. This suggested that the redshift is an indication of how far and how fast bodies are moving away from us and thus that everything in space is moving apart. From this, the idea of a big bang was developed. Not everybody however liked the idea of a beginning to everything. Other individuals supported the idea that the universe is eternal (steady state).

By Margaret Helder

Major controversies between the Big Bang and the Steady State groups became apparent in the 1960s when some astronomers began to make observations which suggested that the redshift from objects in the sky might not indicate speed of moving away from us. The redshift, of course, was the key observation which, coupled with other estimates of distance for galaxies (such as apparent brightness), led to the idea of expansion of the universe following a Big Bang event (billions of years ago). However in 1961 the team of Geoffrey and Margaret Burbidge

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Dr. Paul Nelson Opened Our Minds

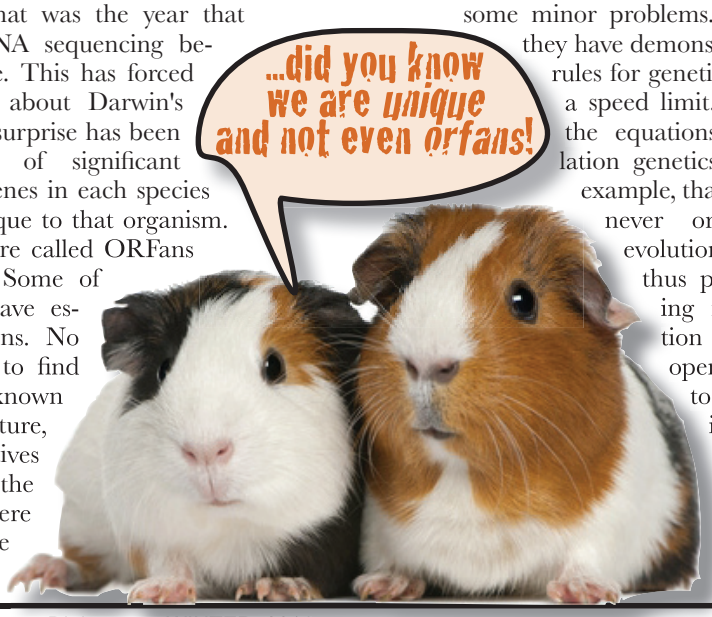
Many prominent scientists in fact declare that the processes of mutation and natural selection have replaced the need for God. The problem for these people however is that these natural processes do not work to produce new body plans. For example, two scientists won a Nobel Prize for their work with a type of reverse biological engineering. They would disrupt a gene in a fertilized egg and then observe what happened as the embryo developed. They compared normal developing insect larvae to others with various mutations. None of the mutants survived, but mutations that affected the later stages of development, displayed smaller disruptions than the earlier ones. The mutations that affected early stages of development were totally catastrophic. We thus see a paradox. Animal body plans are based on differences in the earliest stages of development. However when mutations are used to try to modify the body plan, the result is catastrophic. There is thus no reason to think that the effects of mutation and natural selection ever led to the major differences in body plan which we see among the various kinds of animal. These had to be designed. Dr. Nelson then more specifically discussed the difficulties for evolutionists in explaining how metamorphosis could ever produce a butterfly. He concluded "If you have a biological system which requires foresight [such as metamorphosis], you can be sure evolution did not do it!"

On Saturday afternoon Dr. Nelson discussed "Whatever Happened to Darwin's Tree of Life?" Evolutionists have long assumed that all organisms have descended from a common ancestor. This led to the idea of a graph in the form of a tree with living organisms placed at the tips of branches and presumed lines of descent traced out below. However we are now post 1998. That was the year that automated DNA sequencing became available. This has forced new thinking about Darwin's tree. One big surprise has been the discovery of significant numbers of genes in each species which are unique to that organism. These genes are called ORFans (or orphans). Some of these genes have essential functions. No one expected to find genes with no known similar structure, no known relatives anywhere in the biosphere. Where did they come from?? Evolution theory simply cannot explain how spontaneous processes could produce novel structures requiring complex information in the short period that would be involved in the appearance of new species. Thus once again the evidence indicates intelligent choice.

Dr. Nelson's last lecture dealt with the problem of evil in nature from the point of view of many scientists. He first declared that recognition of the problem of natural evil can be traced back to the Greeks. Lucretius (96-55 BC) for example, declared that there is too much wrong with the world for God to be involved in it. Similarly many modern scientists declare that if God were the creator, then everything would be optimal (best possible). Since these people do not like what they see in nature, they therefore reject God. What we see here is scientists using assumptions about how God should have acted, to reject the idea of God at all. These are in fact theological arguments and mainstream scientists have themselves said that no religious ideas are allowed in scientific discussions. Stephen Jay Gould, for example, and many other scientists make prominent use of such arguments.

Many cases of presumed suboptimal design however, actually represent good design. Famous examples include the vertebrate eye and the human epiglottis, both of which are criticized by some biologists. However articulate speech would be impossible if we had separate air and food intakes instead of the epiglottis. The crux of the matter is that the evil that we see in nature is best by explained by Genesis chapter 3.

Thus Dr. Nelson concluded that our attitude to mainstream scientists could well be one of cautious respect. These people have not solved the major questions but they have solved some minor problems. For example they have demonstrated that the rules for genetic change have a speed limit. You can use the equations from population genetics to show, for example, that whales could never originate from evolution!! Dr. Nelson thus provided exciting new information in biology. He opened our minds to great new ideas. What a wonderful opportunity that was!!



Dialogue

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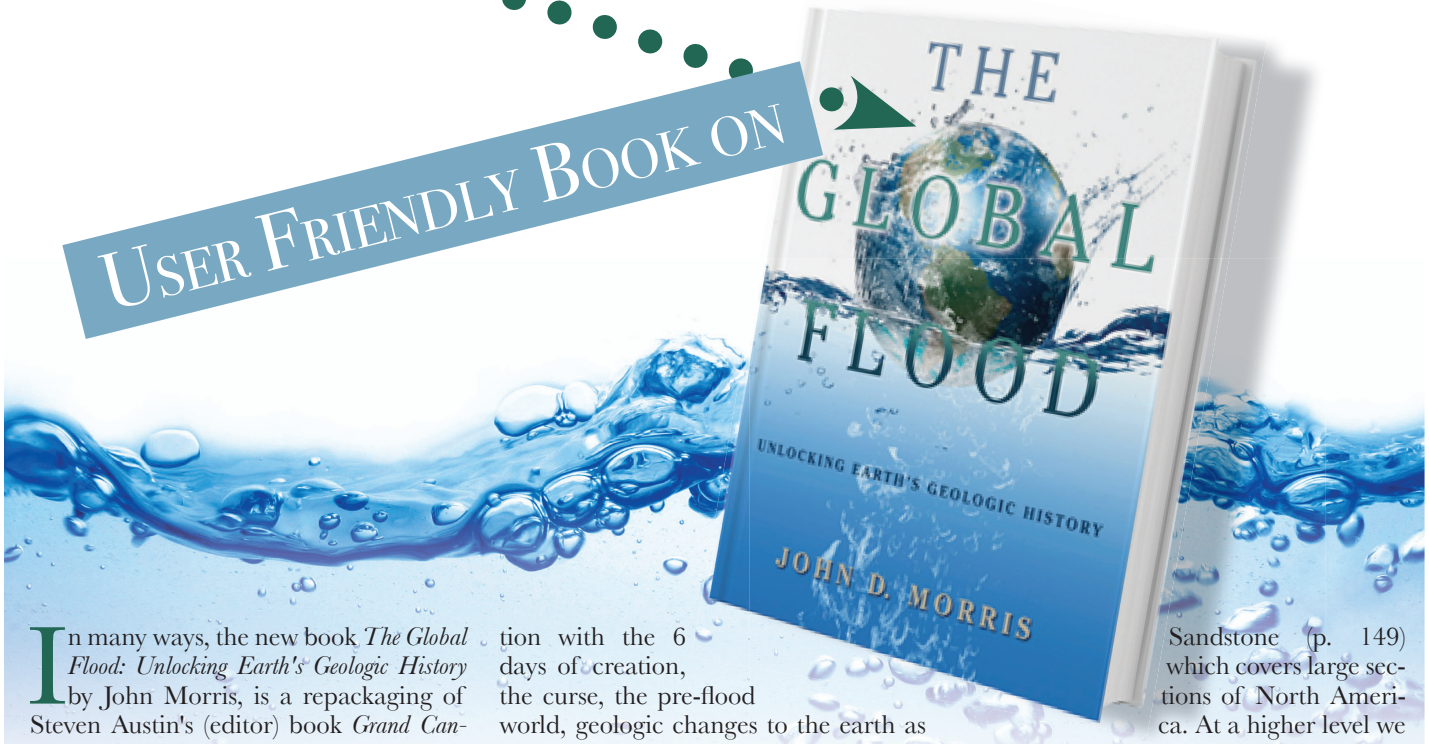


In many ways, the new book *The Global Flood: Unlocking Earth's Geologic History* by John Morris, is a repackaging of Steven Austin's (editor) book *Grand Canyon: Monument to Catastrophe.* However the new book is written in non-technical language, with many more illustrative maps, diagrams and charts as well as many beautiful photographs. Thus for many people, this new title will prove very useful and popular indeed.

The book sets the scene for chapters 6 and 7 (the scientific evidence) by first presenting and discussing the Biblical record. Dr. Morris first discusses the warnings of the apostle Peter that many will scoff in later times at the idea of a universal flood.

Next the author discusses the impact of Darwin and the ill-advised attempts of many well-meaning Christians to dovetail Darwin's views and long ages with Scripture by means of the "gap" theory or the "day age" theory. He is also very critical of recent Intelligent Design advocates. He criticizes their involvement in court cases, forgetting that creation supporters suffered a similar set-back in 1981 in Arkansas. In that many excellent resources, which we all enjoy, have been produced by ID supporters, a more positive approach might well have been warranted. On the other hand, Dr. Morris discusses the efforts of theistic evolutionists in the BioLogos organization, in a more neutral fashion.

In chapter 3, the author highlights scientific details of interest in connection with the 6 days of creation, the curse, the pre-flood world, geologic changes to the earth as a result of the flood, and dispersal of the people from Babel.

Chapter 4 examines the global extend of the flood. Were the mountains covered? He also discusses in very general fashion possible physical causes of the flood. However he does not discuss where the water came from until chapter 6. In this context in chapter 6, he footnotes several technical papers by Dr. John Baumgartner on Catastrophic Plate Tectonics. I would have liked to see a more specific description of this model provided here.

In chapter 5, the author considers historical references to creation and the flood. It is here that he discusses oral traditions of the flood and related ancient pagan myths.

In chapter 6 the author discusses many practical details related to the flood such as where the water came from, and where it went at the end of the flood, also questions concerning animals on the ark, and their dispersal after the flood. He also briefly touches on the causes of the subsequent ice age.

Chapter 7 is an extensive discussion of the catastrophic nature of the flood. I really liked, for example, the maps of extremely wide deposition of certain sedimentary rock types in North America. Thus we see perhaps the earliest flood deposit in North America, the Tapeats Sandstone (p. 149) which covers large sections of North America. At a higher level we find the St. Peter Sandstone (p. 111) and at yet a higher level the Chattanooga Black Shale (p. 108) and even higher up the less extensive but still impressive Morrison Formation (p. 112). Obviously you have to look around for these maps, but they certainly demonstrate the uniquely widespread nature of the flood.

The discussion of the various rock types such as sandstone, shale, limestone, conglomerates, igneous rocks and salt deposits and mega breccias, are interesting and well illustrated. Much of this chapter consists of discussion of the rocks of the American south west including the Grand Canyon and other nearby higher lying rock formations.

Lastly the author turns his attention to a brief consideration of the significance of the flood, focusing his discussion on New Testament references.

This is an attractive book with the discussion packaged in easily accessible fashion. Some important issues such as "how could fish survive Noah's flood?", "how did the vertical columns of Devil's Tower form?", and "the nature of earth's magnetic field" are dealt with in separate highlighted sidebars. Youths and adults alike will find this a very useful and attractive reference on the flood. With its hard cover, it should stand up to repeated use for many years to come.

Beauty Reconsidered

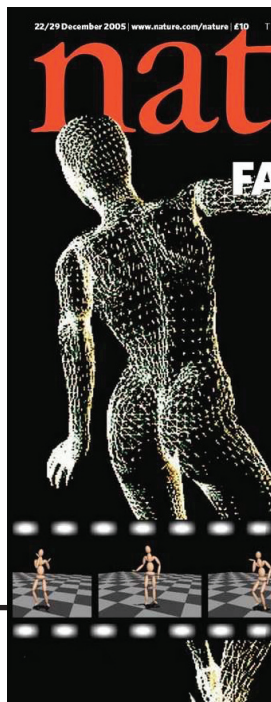
Sometimes scientific studies seem more frivolous than serious work. That does not happen too often, of course since scientific research is expensive. However there was one study published in 2005 that did seem "cute rather than deep" (in the words of psychologist Steven Pinker of Harvard University.) Actually the study was intended to demonstrate serious evolutionary implications. As such it was chosen as the cover story for the December 22/29 December 2005 issue of *Nature*. Thus the caption on the cover featured the expression: "Fascinating Rhythm: Dancing's Role in Sexual Selection." However on November 27/13 *Nature* withdrew this article from its published collection.

It now transpires that the study may have been fraudulent. Robert Trivers was the lead scientist in the study and William Brown was a postdoctoral researcher working under Dr. Trivers' direction. In 2005 they published the results of a study on Jamaican teenagers. The conclusion of the study was that male Jamaican teenagers with more symmetrical bodies turned out to be better dancers. Most people would say "who cares?" But the basis of the study has deep roots in evolutionary theory. Nevertheless the lead researcher, Dr. Trivers began to suspect in 2007 that Dr. Brown had fabricated significant parts of the data set. Dr. Trivers tried to withdraw the paper, but without lead author Brown's permission, nothing happened. Trivers continued to pursue the issue and has even self-published a booklet on the controversy. (see *Nature* May 9, 2013 pp. 170-171)

So what is the issue? Who cares how well Jamaican teenagers dance and why was this chosen as the most important article in the December 22/29 (2005) issue of *Nature* (a publication that is extremely selective as to what articles they accept.) Apparently it all goes back to Charles Darwin. This man was very concerned that natural selection, his proposed mechanism to drive evolution, could not account for natural beauty in living creatures. There are, for example, amazing birds in the highlands of New Guinea. Some of these birds exhibit most amazing ornamentation. The male birds sport fancy head decorations, or tail extensions or other amazing decorations. It is hard to believe that these birds really are living. Many contemporaries of Darwin believed that such beautiful creatures as these birds-of-paradise clearly demonstrated artistry and the design choices of God. Darwin was determined to banish any such conclusions. He once famously declared that the tail of the peacock made him feel sick, since this was another amazing demonstration of beauty among living creatures.

Thus in 1871 in his book *The Descent of Man*, Darwin proposed the idea of sexual selection. There he declared that while ornamental characteristics or aesthetic accessories may offer little or no survival value, they nevertheless enhance the bearer's chances of winning a mate. In this context, Darwin was particularly interested in the results of "female choice." In this case the mating success of the males is determined by mating preferences of the females. Thus Darwin declared that beauty in animals came from the ability of females to make aesthetic choices. Of course this was all assumption on Darwin's part, an effort to explain away a significant problem for evolution theory. Over the years, evolutionary scientists have added many more assumptions to this idea of sexual selection, and the dancing teenagers exemplify the difficulties and uncertainties of the topic.

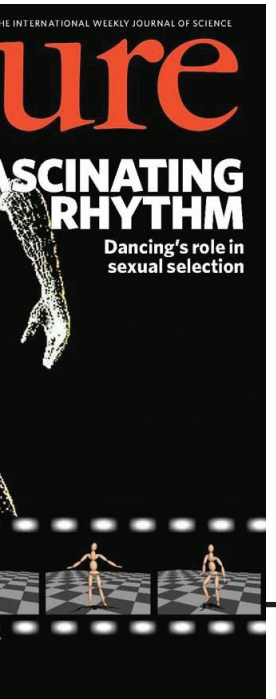
Apparently in the 1990s, some studies showed that several invertebrates and some animals with backbones tend to seek mates with symmetrical features. Scientists then began to wonder if physical symmetry can be connected to sexual selection. Moreover, there was another issue involved too. They also wondered if bodily symmetry could be connected to better health. Thus Trivers began to measure the bodies of Jamaican teenagers. He then looked to see if individuals with more symmetrical bodies were also better runners. This led to comparisons to see if those with more symmetrical bodies were also better dancers. The interest in dance came also from Darwin who speculated that dancing is a courtship ritual which displays genetic fitness.



The question therefore arises as to why biologists

Beauty Reconsidered

would think that a more symmetrical body displays genetic fitness. In order for evolution theory to work, the individuals producing more offspring also need to exhibit better health than those leaving fewer offspring. However beauty does not necessarily go with fitness. At least in theory, the biologists had to connect the two issues. Thus an article by William Brown in *Proceedings of the National Academy of Sciences* (2008/08/15) declared: "Body size and shape seem to have been sexually selected in a variety of species, including humans, but little is known about what attractive bodies signal about underlying genotypic [genetics] or phenotypic [health] quality." In order to deal with that question scientists made a choice. "A widely used indicator of phenotypic quality in evolutionary analyses is degree of symmetry." But why should bodily symmetry be so significant?



Biologists speculate that bodies which are more equal on both the left and right sides, are not only more "attractive" to peers, but they also indicate that they possess better genetic controls. An article on the issue in *Biological Review* (2002 vol. 77 pp. 27-38) discussed the "widely held -- but poorly substantiated -- belief" that bodily symmetry is a good indicator of level of fitness. The idea is that every individual starts off life as a fertilized cell with one set of genetic instructions. When there are marked differences between right and left sides of the body, scientists suggest that this reflects an inability of the developing individual to strongly control the developmental process (such as rates of cell division on each side of the body). Scientists then assume that these variations in development are good predictors of poorer health and fitness later in life. There is however some controversy over this issue. Nevertheless some scientists use bodily symmetry as a good measure of health in individuals and populations.

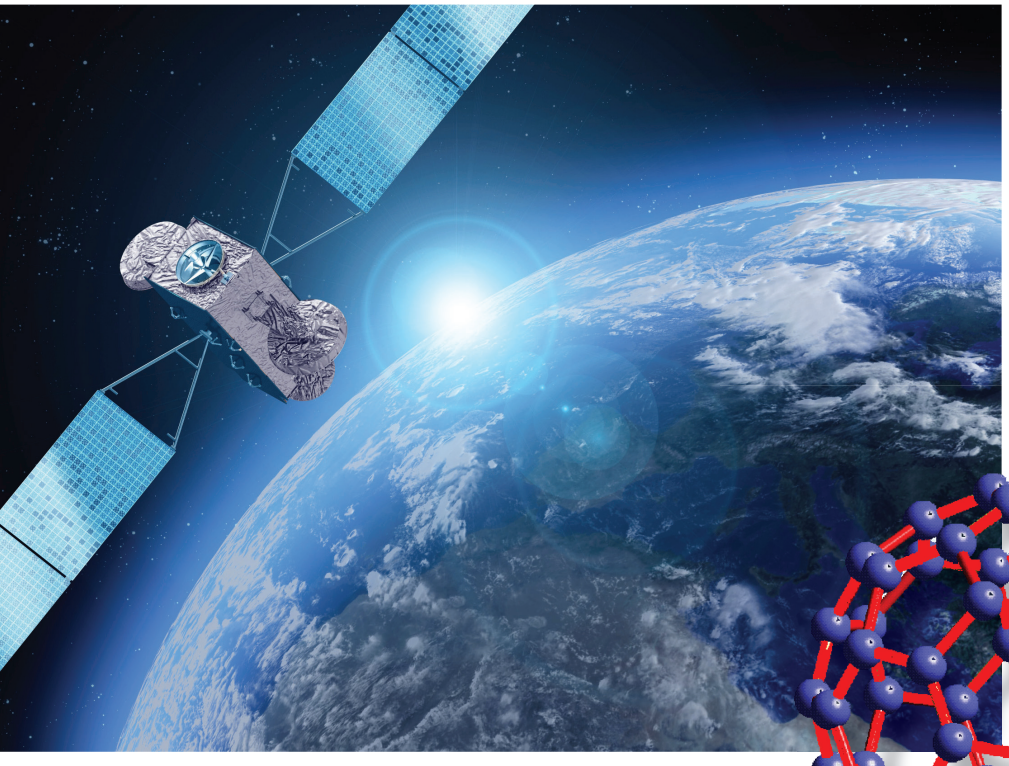
With this background in mind, we can look more closely at the Jamaican teenagers. The scientists assumed that dance is a sexually selected courtship signal. If dance is to function as such from an evolutionary point of view, it should also reveal the genetic and health qualities of the dancer. The criterion scientists choose to assess in this context is bodily symmetry. The scientists therefore measured elbows, wrists, ankles, feet, third digit, fourth digit, fifth digit and ears. It was their expectation that symmetry would be reflected in good dancing, and good dancing would reveal strong developmental stability (genetics) in the dancer's background.

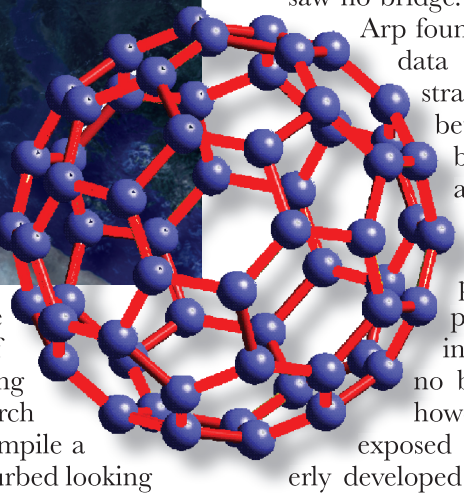
With fancy video cameras, the scientists recorded the dancing of various teenagers in such a way that neither appearance nor gender was apparent. According to the data, female observers overwhelmingly favoured the more symmetrical dancers. The article ends with another question: "Does dance ability correlate with reproductive success?" That is really the question which concerns them. Unfortunately nobody knows the answer. The hope was that long term studies would investigate whether the good dancers produced more offspring. Of course it now appears that perhaps the "best" dancers were not the most symmetrical individuals after all, if the data were indeed fabricated.

The whole issue is really quite amusing. Only in the light of evolutionary theory would one care about subjective estimates of who were the best dancers, and who had the most symmetrical elbows and fingers!! Humans have been marrying for thousands of years, yet how many ever thought to look for symmetrical body parts in one's choice of mate? There is so much more to one's choice of a life partner than attractive appearance in any case.

Nevertheless the issue of sexual selection is extremely important to biologists who need an explanation for beauty in birds, in butterflies and even in funnel-web spiders. Thus sexual selection as a scientific theory exhibits widespread acceptance among biologists despite very poor experimental support. The desire to explain natural phenomena like beauty in a way that excludes the work of God, has certainly led to some strange studies and dubious conclusions. Indeed the situation would be amusing if the issue were not so serious.

Epitaph for a Maverick Astronomer





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measured the redshifts of a close cluster of galaxies called Stephen's Quintet. The redshifts of the components turned out to be quite different from each other. Were these objects actually closely clustered together or not? The redshifts, if they were a correct indication of distance would suggest not. Other similar examples have been discovered such as Seyfert's Sextet.

In 1963 the discovery of quasars caused great excitement. These small points of light (like stars), actually exhibit huge redshifts. This suggests that they are extremely far away. To be visible at all, they must be emitting seemingly impossible amounts of energy. Did this discovery cause the Big Bang idea to be rejected because of the improbable implications of the theory? Some people did question the nature of the redshift.

Halton Arp was a young atheistic supporter of the Steady State view of the universe. Looking for an original research topic, he began to compile a list of unusual or disturbed looking galaxies. In 1966 he published his Atlas of Peculiar Galaxies.

At first Arp looked for a possible relationship between some peculiar galaxies and known radio sources. He focused particularly on a type of elliptical galaxy with disturbed spiral galaxies nearby, the latter of which looked as if they had been ejected from the elliptical body. Among possibly ejected objects he found five quasars. He concluded that the quasars are particularly associated with nearby disturbed galaxies. He published an article about this in *Nature* in 1966. Soon prominent astronomers declared that his sampling method was biased and that it was risky to claim close association just because objects are located close to one another in the sky. They called this situation "apparent proximity."

Obviously a demonstration of some clear connection between objects was needed. In 1971 Arp published a photo of a luminous connection between the low redshift galaxy NGC 4319 and the much higher redshift Markarian 205. Some astronomers admitted to observing a luminous bridge but declared that it merely resulted from other objects nearby, not involving the quasar. Others declared that they saw no bridge. In the late 1980s Arp found archived X-ray data which demonstrated a connection between the two bodies. However as late as 2002, the Space Science Institute issued a press release and picture declaring that there was no bridge. The print however was underexposed and when properly developed , the bridge was clearly evident. *Science* on October 11, 02 published statements on both sides, but only his friends supported Arp. Many consider this pair of objects the defining issue in the controversy. However Arp's studies have moved way beyond that one example. In the interim however, his career suffered some serious setbacks.

In 1972, under the auspices of the American Association for the Advancement of Science, Arp and John N. Bahcall (1934-2005) debated the merits of Arp's observations. Bahcall quoted astronomers who claimed there was no bridge and he ridiculed the arguments of his opponent. Many astronomers consider this the final nail in the coffin of Arp's views. Obvious-

ly there was a conflict between what Arp was documenting and what the supporters of the Big Bang wanted to hear. Arp argued, for his part, that he was under no obligation as a research scientist, to confine his conclusions to within the framework of the mainstream position.

The objective of the minority of astronomers (who rejected the redshift as an indicator of distance), was to obtain a fair hearing. The objective of the majority was to bring closure to the debate so that the unanimity of the public face of science could be re-established. Thus in 1983 a committee of the National Research Council in the US declared that there was no strong theoretical reason to doubt the cosmological nature of the redshifts or to believe that a new approach to physics was required. No matter how numerous or detailed Arp's observations were, these would be ignored. As prominent astronomer Martin Rees of Cambridge remarked: "the universe is full of peculiar coincidences. As the number of observations increases, you expect to find more peculiar effects." (quoted in *Sky and Telescope* January 1995 p. 12)

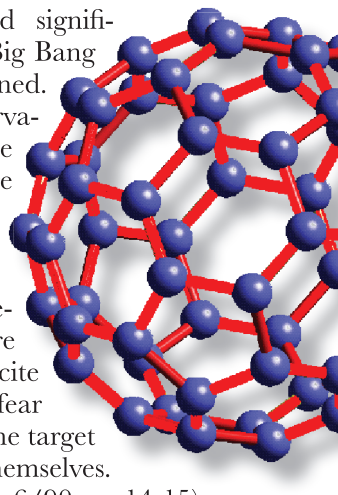
In 1983 Arp's viewing time at the Palomar Observatory was terminated, and the next year his access to an observatory in Chile, was likewise terminated. In 1985 he moved to the Max Planck Institute for Astrophysics in Germany. He was now unable to make any direct observations of the sky. However other sources of information such as the Roentgen Satellite (ROSAT), a joint US-UK-German project, would soon come into operation (1990-1999). X-ray data from ROSAT soon provided interesting information.

In August 1994, at the twenty second General Assembly of the International Astronomical Union, Arp presented data which showed galaxies with their strongest energy generating centres extended in the direction of closely adjacent quasars, also strong X-ray sources. Most fascinating was a map of the Virgo Cluster which showed a broad X-ray filament extending to the famous quasar 3C 273, a considerable distance of 10 degrees in the sky. Evidence found since 1966 has demonstrated that this brightest of quasars is located in the centre of the Local Supercluster (even although the quasar's redshift is 52 times larger). The Hubble Telescope unexpectedly discovered that clouds of gas with various redshifts stretch up to the quasar. Arp however pointed out that it was "unlikely that there would be ten times as many clouds of various redshift all stretched out just behind the Virgo Cluster reaching in the direction of the far background 3C 273." ("Rebuttals" on Arp website) In Arp's opinion the evidence rather supports the idea that there is material of different redshifts in the Virgo Cluster as well as the quasar.

In 2001 Halton Arp and colleagues published papers on several cases where an object with low redshift is connected to one or more objects with high redshift. These sophisticated discussions involved documentation of connections in radio waves, visible light, X-rays and also infrared (heat). There have been many similar studies.

In 2004 a quasar with a large redshift was discovered in the low redshift active galaxy NGC 7319 in Stephen's Quintet (a group that had previously aroused interest even before quasars were discovered). This quasar is situated near the core of the galaxy, but based on its redshift, the quasar should be thirty times farther away. The quasar was first detected by the ROSAT X-ray satellite and found to be closely connected with the nucleus of the spiral galaxy NGC 7319. Geoffrey Burbidge informed the January 2005 meeting of the American Astronomical Society that the quasar is close to the centre of the galaxy, only 8 arc seconds away from the nucleus. Despite the dense and dusty nature of the galaxy, the quasar does not appear to be shrouded by interstellar gas. This makes it unlikely that the quasar is behind the galaxy. Also a jet of matter is seen to connect the active nucleus of NGC 7319 with the quasar, suggesting that the latter was ejected from the galaxy.

In a lecture in Poland in September 1973, Arp declared that only one case of redshift discordant with the Big Bang would be enough to force a crucial confrontation between observation and the current physics. Of course no such re-examination of the cause and significance of the Big Bang ever happened. As Arp's observations became more and more sophisticated, mainstream scientists have ignored his results. Many are afraid to even cite his work for fear of becoming the target of reprisals themselves. (*Science* 249 July 6/90 pp. 14-15)



So what is the significance of Arp's legacy as far as we are concerned? For a start, it is evident that Arp's fellow astronomers were simply not interested in his results. New theories were developed such as "gravitational lensing" to explain how distant bodies could appear much closer to us than they really are. This idea is a popular tool in observational astronomy today, but Arp's detailed studies in various wavelengths of energy, would seem to rule out that explanation. At the very least, his research should be accorded careful consideration.

So Halton Arp, the atheist Steady State astronomer, has died. We regret his passing because of his courageous defence of his observations. We do not applaud his Steady State interpretations, which were certainly strange. The observations themselves however merely call the cosmological interpretation into question. It certainly can't hurt to review reigning paradigms in terms of observations that don't fit. Of course neither Big Bang nor Steady State really has any meaning for a universe which is only thousands of years old. But we do want to see scientists free to study nature even when they do not support the mainstream position on origins, or climate change, or anything else. That is Halton Arp's legacy, he fought for the right to study nature as it is, paradigm or no paradigm.

Ken Ham & Bill Looney

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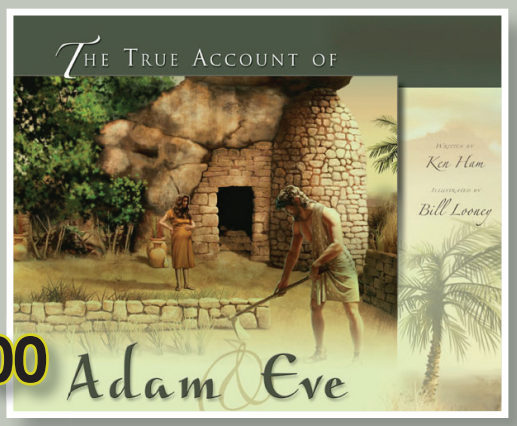

The man who says he's too old to learn new things probably always was.

Ray Comfort & Jeffrey Seto

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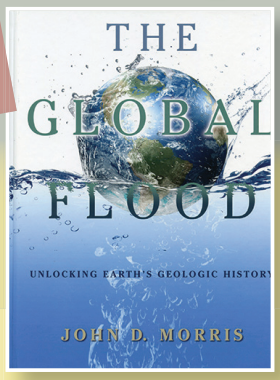

John D. Morris

The Global Flood: Unlocking Earth's Geologic History

Written in non-technical language, this beautiful book includes photographs, maps, diagrams and charts. Not only does the author discuss Scripture and science, but he also includes how people with various outlooks have treated the issue of a universal flood. Youths and adults alike will find this a useful and attractive reference. (Also available in Kindle edition from Amazon).

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