



Creation Matters

Volume 7, Number 4

July / August / September 2002

Support for Plate Tectonics and Catastrophic Plate Tectonics Missing From Hawaiian Hotspot Track

by Carl R. Froede Jr., P.G.

Editor's note: There are competing geological models within creation science. Those who hold a creationary position different from that presented in this article are welcome to submit material to be considered for publication, either as an article or a letter to the editor.

Plate Tectonics (PT) dominates uniformitarian geology as much as the Bible does creation science. To challenge PT is to assail the very foundation on which modern geology is constructed. Hence, it is not often that one or more individuals actually examine and test the tenets of PT. Thankfully, a few scientists are willing to raise questions and examine critical assumptions. What they are finding is revealing major problems for current thinking in PT theory.

The Importance of Hotspots in Plate Tectonic Theory

One very important uniformitarian concept in PT theory is that hotspots provide a record of *actual* plate movement. They are believed to be fixed in their position deep within the Earth, originating from an area close to the outer core. Magma created from this location rises from this deep source toward the surface, penetrates the crust, and creates a *hotspot* volcanic feature. It should be noted that not every volcanic feature on the Earth is from hotspots; only those derived from fixed heat sources from deep inside the Earth.

As the plate moves (in accordance with current PT theory) across a hotspot, a linear track of volcanic

features form (Figure 1). Using conventional uniformitarian dating methods on the volcanic rocks supposedly provides the time of origin and duration of the hotspot track. Measuring the distance between the oldest and youngest volcanic rocks is thought to provide the data necessary to determine the rate of plate motion, along with the direction of movement over the course of time. Advocates of PT theory claim that this information then documents and demonstrates the movement of a plate across a hotspot over many millions of years.

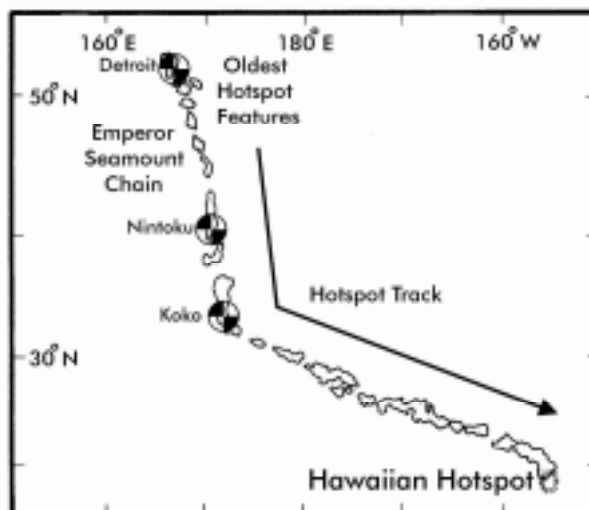


Figure 1. Diagram showing the location of the Detroit, Nintoku, and Koko seamounts within the Emperor Seamount Chain drilled as part of Leg 197 of the Ocean Drilling Project. Plate Tectonic theory holds that the Pacific Plate has moved over a fixed hotspot. Preliminary information gained from the seamount cores indicates that the hotspot, itself, might be moving. Modified from Froede (2001, p. 96, Figure 1) with data added from Figure 1 of the Ocean Drilling Program: Leg 197 Preliminary Report (ODP, 2001).

Hotspot Problems in Hawaii

A hotspot of great importance to PT theorists is the one that formed the Emperor Seamount Chain and Hawaiian Islands (Figure 1). Problems associated with this hotspot have been previously discussed, and the interested reader is directed to that earlier work (Froede, 2001).

Recently, it was reported (Davies, 2002a) that Leg 197 of the Ocean Drilling Program drilled and cored several seamounts of the Emperor Seamount Chain. Rock cores were collected from the Detroit, Nintoku, and Koko Seamounts. Preliminary data collected from these cores indicate that the Hawaiian hotspot, itself, might be moving south independent of any inferred Pacific Plate movement (Davies, 2002b). This raises the possibility that hotspots might not provide support for PT theory.

Problems With the Catastrophic Plate Tectonic Model

Catastrophic Plate Tectonics (CPT) is a Flood-based version of PT theory. Numerous problems associated with both PT and CPT have previously been identified in Reed (2001), and the interested reader is encouraged to review this information.

As it relates to the Emperor Seamount Chain and Hawaiian Islands, current hotspot theory within PT appears to have serious problems, and

... continued on p. 4

Speaking of Science

Commentaries on recent news from science

Darwinists Debate the Evolution of Presbyterians

How does evolution explain group behavior, like religion? That's the subject of a book review in *Science* (08/30) by Michael Ruse, one of today's leading evolutionary philosophers. Ruse examines David Sloan Wilson's new book *Darwin's Cathedral: Evolution, Religion, and the Nature of Society* with both praise and disdain.

First, he acknowledges a rift between Darwinists regarding the explanation for altruistic behavior. Why do some individuals sacrifice their genes for the group, producing, for example, nonreproductive castes in ant and bee colonies? In human society, how did natural selection produce religion?

The mainstream camp of Darwinists (Richard Dawkins, Michael Ruse, et al.) explain these by individual selection, i.e., that somehow these social constructs ben-

efit the individual. Their rivals, the group selectionists or sociobiologists (W. D. Hamilton, John Maynard Smith, David S. Wilson, et al.), on the other hand, see some sort of group selection at work. Wilson's new book is a promotion of the latter view, and he uses, of all things, John Calvin's 16th-century Geneva theocracy as a case study. Ruse, though respectful of Wilson's presentation, is not impressed:

"I want hard figures on birth patterns before and after Calvin, and I want to know who had kids and who did not. I want these figures correlated with religious practice and belief. Then and only then will I start to feel comfortable.

"But let me not end on a negative note, because I feel a bit mean criticizing an evolutionary biologist for going outside his own field to matters of church history. So let me repeat that I applaud

the approach taken by Wilson, and I urge you to read *Darwin's Cathedral*. I think Wilson's answers are wrong, but much more important is the fact that his questions are right.

All non-atheists should take note. The evolutionists want to explain *everything* in human society in terms of natural selection, even religion. That is not news, but several noteworthy observations can be made from this book review. The major one is that there is no accepted evolutionary explanation for altruism; the fact that there are two warring camps across a wide rift that has been continuing for decades demonstrates that.

Another is that Darwinians tread lightly when criticizing "the brethren." Ruse sounds like he secretly thinks Wilson's explanation is ridiculous, but dare not publicly call him a fool for fear

... continued on p. 5

Announcement

Occasional Papers of the Baraminology Study Group

A New Creation Biology Journal

by Roger Sanders

The Baraminology Study Group (BSG) is pleased to announce the formation of a peer-reviewed journal, the *Occasional Papers of the Baraminology Study Group (OPBSG)*, published online at the website of the BSG (<http://www.bryancore.org/bsg>). The journal is designed for rapid dissemination of baraminological research, including short student papers, as well as regular research reports and longer reviews. All papers can be downloaded in PDF format.

The goal of the journal is to serve as a forum for building a theoretical framework for understanding the biology and diversification of organisms from a young-earth perspective. To this end, the journal will publish papers that cover topics such as baraminology studies of organismal groups, methodology of baramin systematics, Biblical studies of baramins, and biological, philosophical, or theological aspects of baraminological theory.

Published June 17, 2002, Paper Number 1, *A Baraminological Analysis of the Tribe Heliantheae sensu lato (Asteraceae) Using Analysis of Pattern (ANOPA)*, is currently online. Two additional papers were in review as of July 22, 2002, and are expected to be published by the end of 2002.

Prospective authors are encouraged to contact the editor, Roger W. Sanders, Ph.D., at opbsgeditor@bryancore.org. The editorial board is willing to assist inexperienced authors in developing a publishable paper. For more information, visit the BSG website and click the tab, "Occasional Papers."

Creation Matters

ISSN 1094-6632

Creation Matters — a CRS publication
Volume 7, Number 4
July / August / September 2002

Copyright © 2002, Creation Research Society

All rights reserved.

General Editor: Glen W. Wolfrom

For membership / subscription information,
advertising rates,
and information for authors:

Glen W. Wolfrom
P.O. Box 8263
St. Joseph, MO 64508-8263

Email: contact@creationresearch.org
Phone/fax: 816.279.2312

Creation Research Society Website:
<http://www.creationresearch.org>

Articles published in *Creation Matters* represent the opinions and beliefs of the authors, and do not necessarily reflect the official position of the Creation Research Society.

Advertisements appearing in this publication do not necessarily imply endorsement of the events, products, or services by the Creation Research Society.

Uniformitarian Scientists Pull the Plug on the Black Sea Flood

by Carl R. Froede, Jr., P.G.

Abstract: In the late 1990's, several uniformitarian marine geologists proposed that the Black Sea was catastrophically flooded 7,500 years ago by the rising water level of the Mediterranean-Aegean Sea spilling over a natural dam located at the Bosphorus Strait. The marine waters dropped 350 feet to the surface of the existing lake, causing its water level to rise. Indigenous people living near the edge of the freshwater lake fled to higher ground, and this catastrophic event (according to uniformitarian geoscientists) created the basis of the Flood myth for many of the earth's cultures. Several creationists have subsequently reviewed this thesis and found it so inconsistent with Scripture that it has been rejected from any serious consideration. The Black Sea flood, as it has become known, has recently been reexamined by several uniformitarian marine geologists. These geoscientists have proposed a completely different account of the "filling" of the Black Sea by marine waters. They present evidence that suggests the Black Sea originally overflowed into the Mediterranean-Aegean Sea allowing the development of stratified two-way flow through the Bosphorus Strait. The denser marine water flowed into the Black Sea beneath the exiting freshwater. Eventually, the marine water displaced the freshwater at depths sufficient to create marine conditions on the Black Sea shelves. This saltwater paleoenvironment allowed euryhaline mollusks to live in that setting approximately 7,500 years ago.

In the late 1990's, several uniformitarian geologists and oceanographers proposed that the Black Sea was catastrophically flooded 7,500 years ago. This event was suggested to be what is known as the Flood of Noah (Ryan and Pitman, 1998). Because of its association with Noah's Flood, the story was widely publicized. Unfortunately, the Ryan-Pitman Black Sea flood has no credible parallel with the biblical record, and its many conflicts with Scripture caused it to be rejected by young-earth creationists (Walker, 2000; Byers, 2001; Froede, 2001). Following the examination of a number of different datasets, several uniformitarian marine geoscientists have recently challenged the Black Sea flood hypothesis.

The Black Sea Flood

Originally, Ryan and Pitman (1998, p. 157) proposed that the Mediter-

anean-Aegean Sea rose above the Bosphorus Strait and poured 350 feet downward to the surface of the former landlocked Black Sea lake. The most important evidence supporting this interpretation was from the fossilized saltwater mollusks found at depth in the well cores collected around the shallow shelves of the Black Sea (p. 149). Ryan and Pitman (1998) proposed that the Black Sea was eventually filled by marine water, and this created an invasion of seawater invertebrate species into the then land-locked freshwater lake. It was postulated that the dating of the fossilized marine clams found in well cores could then provide a date for the flood event. The age dating of this material lead investigators to propose that 7,500 years ago the Black Sea was flooded from the south by the rising of the Mediterranean-Aegean Sea.

Overlooked evidence

Previously, I pointed out that Ryan and Pitman (1998) appear to have overlooked work conducted by Ross and Degens (1974) that suggested a slow filling of the Black Sea by marine waters from 9,000 years before present (B.P.) to 7,000 years B.P. (Froede, 2001). Ross and Degens (1974) proposed that the sea-level position of the Mediterranean-Aegean was lower until approximately 9,000 years B.P. when

marine water finally overflowed the Bosphorus Strait and created the modern stratified (freshwater over saltwater) Black Sea. Their proposal was also based on finding fossilized marine invertebrates on the shallow shelves of the Black Sea.

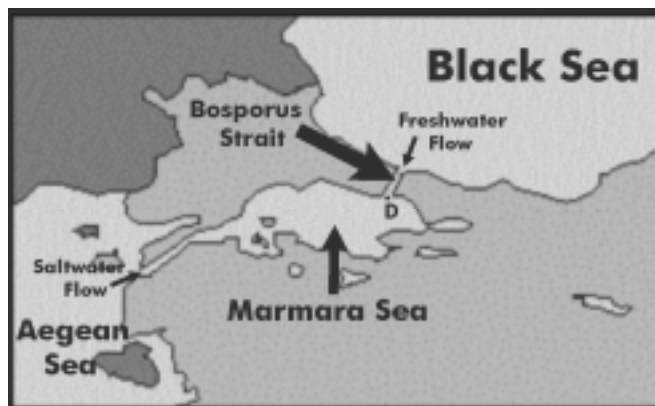
Pulling the Plug

It was only a matter of time before uniformitarian geoscientists carefully and closely evaluated the Ryan and Pitman (1998) claim regarding the Black Sea flood. Not only was the original proposal catastrophic and somewhat eccentric, but it offered possible evidence to substantiate the account of the Flood of Noah as recorded in the Bible. The defense of any part of the Bible is completely unacceptable as far as the uniformitarian model of earth history is concerned.

Recently, a serious challenge to the Ryan and Pitman (1998) interpretation has been offered by several marine geologists and oceanographers (Aksu et al., 2002). This group conducted extensive investigations over the course of seven years, from the Aegean Sea across the intervening Marmara Sea into the Black Sea (Figure 1).

Using 65 soft-sediment samples, 43 radiocarbon dates, and 4,660 line-miles of seismic profiles, these scientists suggested a different history for this large area. They proposed that the Black Sea was not flooded in the manner speculated by Ryan and Pitman (1998), but rather it overflowed from the north to the south in the opposite direction from the Ryan-Pitman (1998) interpretation.

This new proposal is identified as the "Outflow Hypothesis." Evidence in support of the southward-directed flow through the Marmara Sea Gateway occurs in the form of a large delta at the southern mouth of the Bosphorus Strait — a feature that contains evidence of freshwater deposition and could only have formed during this same period of time due to southward-directed flow from the Black Sea (Aksu et al., 2002). This latest proposal claims that the presence of fossil-



Location of the Marmara Sea Gateway, linking the Black Sea with the Mediterranean-Aegean (M-A) Sea. The large deltaic feature indicative of southward-directed flow is represented by the spot marked "D." This feature could only have formed if flow occurred in an opposite direction to that proposed by Ryan and Pitman (1998). The stratified flow of water occurs even today through this area as freshwater flows south on top of the underlying saltwater flowing north into the Black Sea. Modified from Aksu et al., 2002.

ized saltwater mollusks on the shallow shelves around the Black Sea is supportive of stratified two-way flow through the Bosphorus Strait, a condition known to exist even today.

In fact, Aksu et al., 2002, proposed the complete abandonment of the Ryan and Pitman (1998) thesis by stating:

We are convinced that the Outflow Hypothesis provides the best explanation for seismic, sediment, and fossil data in the Marmara Sea Gateway. Many of our observations are entirely incompatible with a late catastrophic flooding of the Black Sea, a circumstance that provides sufficient grounds to discard this hypothesis, following accepted scientific methodology (p. 9).

While the Ryan and Pitman (1998) account of the flooding of the Black Sea is interesting, it fails to address all of the physical evidence. The attempted link to the biblical account of Noah's Flood is simply not justified.

Hawaiian Hotspot Track

...continued from page 1

this translates to difficulty for CPT as well. If there is movement of the hotspot rather than supposed plate movement, then current thinking within PT and CPT is seriously flawed or, at best, these new data will completely change our understanding of hotspots in relation to plate movement.

Like PT, CPT might be able to weather this storm if other evidence can be found to defend the suppositions (i.e., plate movement and rate) once held solely by hotspot theory. Without additional support, both PT and CPT advocates might have to abandon the use of hotspots in defense of plate movement.

Conclusion

This new information regarding the Hawaiian hotspot should be exciting for young-Earth creationists as it provides us with the opportunity to formulate our own ideas — ones based on the framework provided by the Bible. Creation science should not be built from uniformitarian concepts (e.g.,

Conclusion

While other interpretations are possible, this latest proposal by Aksu et al., 2002 appears to be technically sound and defensible. Young-earth creationists should approach any uniformitarian "compromise" with extreme caution. As this example shows, there was no direct correlation between the biblical account of Noah's Flood and what Ryan and Pitman (1998) might allow. To accept this proposal would have required compromising the Scripture. Its subsequent rejection now by uniformitarian geoscientists would leave the "compromised" believer with nothing!

Creationists are free to conduct science and propose various theories and models, and we are safe to do so as long as we operate within the framework found in the Bible. Compromising Scripture with uniformitarian concepts leads to scientific bankruptcy.

Acknowledgments

Thanks to Dr. Emmett L. Williams and Mr. A. Jerry Akridge for reviewing a draft of

CPT), and the new problems associated with PT hotspot theory clearly demonstrate why doing this is inappropriate. Hotspots provide an interesting area for original creationist research. Not being bound by the existing uniformitarian PT concepts should allow for independent questioning and possibly a unique solution that is more consistent with Scripture.

With these latest preliminary findings regarding hotspot movement along the Emperor Seamount Chain, PT theorists will have to evaluate how the new data fit with existing hotspot theory. If the data are not consistent with existing datasets, then new ideas will have to be formulated that either defend the existing *story* of plate movement over millions of years, or a completely new *tale* will have to be told.

Either way, existing PT theory regarding hotspots will not be the same. It will be interesting to see how PT theory measures up when tested in other areas where its dominance has been unquestioned.

Acknowledgments

I am grateful for my wife's continuing support of my research and writing efforts.

this article and providing many helpful comments. As always, I am grateful for my wife's continuing support of my research and writing efforts. Any errors that remain are my own. To God be all the glory. Proverbs 3:5-6.

References

- Aksu, A.E., R.N. Hiscott, P.J. Mudie, A. Rochon, M.A. Kaminski, T. Abrajano, and D. Ya_ar. 2002. Persistent Holocene outflow from the Black Sea to the eastern Mediterranean contradicts Noah's Flood hypothesis. *GSA Today* 12(5):4-10.
- Byers, G.A. 2001. The Flood of Noah and the Black Sea. *Creation Matters* 6(1): 1, 6.
- Froede, C.R., Jr. 2001. Is the Black Sea flood the Flood of Genesis? *Creation Matters* 6(1): 1-4.
- Ross, D.A., and E.T. Degens. 1974. Recent sediments of Black Sea. In Degens, E.T., and D.A. Ross (Editors). *The Black Sea - Geology, chemistry, and biology*. pp. 183-199. Memoir 20. American Association of Petroleum Geologists. Tulsa, OK.
- Ryan, W.B.F., and W.C. Pitman, III. 1998. *Noah's Flood: The new scientific discoveries about the event that changed history*. Simon and Schuster, New York.
- Walker, T. 2000. The Black Sea flood: Definitely not the Flood of Noah. *Creation Ex Nihilo Technical Journal* 14(1):40-44.

Dr. Emmett Williams and Mr. A. Jerry Akridge kindly reviewed a draft of this article and provided very helpful comments. Any mistakes are my own. To God be all the glory. Proverbs 3:5-6.

References

- Davies, T.A. 2002a. Oceans and ice ocean drilling. *Geotimes* 47(7):29.
- Davies, T.A. 2002b. Ocean Drilling Program. Accessed 23 July 2002, from http://www.geotimes.org/current/high_odp.html.
- Froede, C.R., Jr. 2001. Hotspots and hotspot tracks: New issues for Plate Tectonics and Catastrophic Plate Tectonics. *Creation Research Society Quarterly* 38:96-99.
- ODP. 2001. Ocean Drilling Program: Leg 197 preliminary report. Accessed 23 July 2002, from http://www-odp.tamu.edu/publications/prelim/197_prel/figf1.html.
- Reed, J.K. (Editor). 2000. *Plate Tectonics: A Divergent View*. Creation Research Society Books. St. Joseph, MO.

Carl Froede, Jr., is a professional geologist and author who lives and works in Atlanta, GA. He has been active in creation science for over 10 years and has written numerous articles for various creationist organizations.

Chisos Mountains

by Emmett Williams, Ph.D.

The Chisos Mountains, situated in the center of Big Bend National Park, are identified as an intrusive and extrusive volcanic complex. They represent an erosional remnant of a former widespread volcanic field. The peaks rise to an altitude of over 7800 feet, whereas the desert pavement at the nearby Rio Grande River has an altitude of about 2000 feet. Thus, it is reasonable to believe that approximately a mile of vertical strata has been removed from the Park around the Chisos Mountains.

Considering a young-earth Flood model for such erosion, vast quantities of extrusive and intrusive volcanic material, as well as sediment, were likely washed away during the Flood, continuing possibly into a post-Flood environment with ample rainfall. Several papers on Big Bend National Park appeared in the 1990's in the *CRS Quarterly*, if you are interested in further reading on the topic.

The word "Chisos" has been suggested to mean either enchantment, ghost, spirit, or phantom, but none of these interpreta-



A view of the Chisos Mountains in Big Bend National Park, Texas

tions is correct Spanish. Perhaps an error occurred in the spelling of a Spanish word. Another suggestion for the origin of this word is that the mountains were named for the Chizo Indians (later spelled Chisos). The Apache word "chishe" means people of the forest. Since the Indians who lived in this region at the time of Spanish explo-

ration were mountain people, they may have been called "chivos" (goat).

When you observe the Chisos Mountains from a distance, they appear mysterious, and if your imagination takes over, you can conjure up exotic thoughts as to what exists within such heights in the middle of a barren desert. **CM**

Speaking of Science

...continued from page 2

of providing ammunition to the creationists. Finally, notice the patronizing disdain for religion that underlies even Ruse's call for respect for it (emphasis added):

"... a distinctive and admirable feature of the book is that Wilson does not (**as so many evolutionary biologists are wont to do**) prejudge the worth of religion before he starts. He finds it a **notable feature** of human societies and, as such, demanding **respect if not agreement or support.**"

That's respect looking down from an ivory tower, no more reverent than admiring an ant colony. There is no respect for the *ideas* contained in John Calvin's *Institutes* or for the teachings of Jesus Christ; instead, the Darwinists, like disembodied aliens spying mankind from suspended

platforms, seek to interpret the organisms below in terms of natural selection – whether men or ants, whether wasps or WASPs (white Anglo-Saxon Protestants).

The hypocrisy here is that they never do that to themselves! They never interpret their own controversies in terms of selection, because that would undermine the very credibility of Darwinism itself. If evolutionary theory is the product of natural selection, they have no way of knowing that natural selection – or theories, debates, or ideas – even exist.

Ruse, M. 2002. Can selection explain the Presbyterians? [review of Wilson, D.S. 2002. *Darwin's Cathedral: Evolution, Religion, and the Nature of Society*. University of Chicago Press, Chicago.] *Science* 297(5586):1479.

Evolution Produces a Radio Receiver

“Radio emerges from the electronic soup” claims a report in *New Scientist*. Two researchers at the Univer-

sity of Sussex applied an “automated design program that used an evolutionary process” and out popped a radio. Actually, it cheated; it borrowed signals coming from a nearby computer as the oscillator, but in doing so, acted like a radio receiver.

This is intelligent design, not evolution. The programmers supplied all the information and guidance necessary:

“Treating each switch as analogous to a gene allowed new circuits to evolve. Those that oscillated best were allowed to survive to a next generation. These ‘fittest’ candidates were then mated by mixing their genes together, or mutated by making random changes to them.”

So success at oscillation was the criterion to define fitness. No such programmer or criterion is permissible in evolutionary theory, which is supposed to

... continued on p. 8

Science Fair Projects

by David L. Bump

Students in public schools are often asked to do science fair projects. Christian students frequently ask for ideas on projects which may be related to creation/evolution issues. In this article I shall present some helpful ideas and examples.

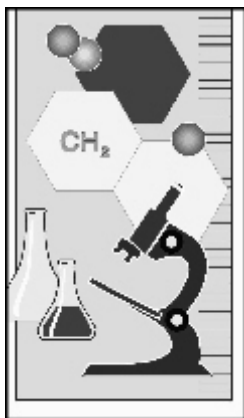
General considerations

First, if you want to present a science fair project related to the idea of creation vs. evolution, be prepared to study and work very hard on it. You should know science in general, and your topic in particular, as well as you can. A creation-related science fair project with inaccurate statements and shoddy construction or presentation may do more harm than good. Even the best project is likely to get some serious criticism, so don't give your detractors any ammunition if you can avoid it.

Depending on your grade level, location, and other factors, you may have a choice of two different types of projects: 1) a simple display, demonstration, or research paper; and 2) an actual research project or experiment. I advise against the sort of project that is little more than a drawing of something with the parts labeled. If possible, it would be better to do a research project involving actual experimentation. Demonstration and verification using carefully controlled experiments shows science at its best.

The first choice above also frequently involves a research paper. If this is your choice, be sure to include as many secular scientific sources in your references as you can. Also, pay close attention to the proper form of footnotes, bibliography, etc.

The second choice (an experiment or research project) may have a shorter research paper, which also should be well prepared and documented. Generally, the experiment will address one specific question through a series of observations under controlled conditions.



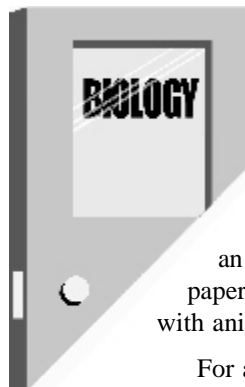
For the experimental project, you should first arrive at a hypothesis (a formal statement of the question you are trying to answer). Next, develop a test capable of disproving the hypothesis. Then, conduct the test and record the data. Finally, determine how closely the data match the hypothesis. Both negative and positive results can be relevant and informative.

Before beginning an experiment, it is helpful to write a protocol. In science a protocol is a document, written in advance, containing an exact plan or outline of the steps which you will follow in conducting the experiment. Additionally, if possible, replicate the experiment as many times as practical, under exactly the same conditions. This will help to assure that the outcome is not just a random, chance event. It also may be advisable to re-run the experiment, changing just one variable, and then comparing the outcomes.

Choosing your topic or title

I wouldn't use such a blatant and ambitious title as "Evolution: Is It False?" If nothing else, it is too broad. The subject of your project should be a single clear question or proposition that you can research over a few months and, perhaps, even develop over several years. Any title that clearly questions the validity of evolution, mentions creation, or refers to the Bible (or anything else related to religion) may be rejected by your teacher/supervisor before you even get started.

A project that simply looks at some aspect of our world and arrives at a well-thought-out, reasonable conclusion may have great impact on judges and others who see how well you have done your project. Its relevance to the creation/evolution issue may only later be realized by these people.



Biology — research papers

Since the creation vs. evolution debate is mainly over the origin of the great diversity of life, a project in biology would seem to be a prime consideration. It is an excellent subject for a research paper, but there are special difficulties with animal experiments (see below).

For a research paper, you might have a title such as "How Organisms Are Like High Technology." There have been many secular research projects that illuminate the intricate workings of cells, or combine nanotechnology (microscopic or very tiny machines) with biology. To emphasize the special nature of living things, you could show that organisms and advanced machines are both complex in ways that make them different from snowflakes, hurricanes, and other things not shaped by intelligence. Furthermore, living things are more complex than our most advanced robots and computers in their ability to grow, repair damage, and reproduce without human intervention.

Other areas for research papers include living fossils, the Cambrian "explosion," examples of hybridization (between organisms thought to be of completely different species or genus), and examples of the amazing design and abilities of living things. You can be present these as simple surveys of the available literature and quietly let the facts challenge the idea that gradual accumulations of mutations are responsible for the diversity of life.

Biology — experiments

Science fair experiments in biology may be limited by concerns for animal welfare, insofar as they may involve research in vertebrates (e.g., pets and lab animals). In any event, to observe many generations (to successfully test ideas of variation and natural selection), one would have to use very small invertebrates or microscopic

... continued on p. 7

organisms, which aren't subject to such concerns.

Generally, the smaller the organism, the faster the generation time, but the harder it would be to see (without special instruments such as microscopes) any changes and assess their significance. Radiation or chemical substances may increase the number of mutations per generation, but of course these can pose risks to humans. If you still want to do something with animals, you may try one-celled organisms, planarians, fruit flies, etc.

You can also use plants, of course. For example, you can obtain irradiated seeds from a scientific supply company. Grow non-irradiated seeds (of the same species) as a control group, under the exact same conditions of sunlight, water, soil, etc. Compare the effects of mutations in the irradiated vs. the non-irradiated plants, looking for obvious things such as height, leaf color, etc. Point out that changes of this sort can't account for the changes necessary for evolution from microbes to man.

One limitation of this approach is that such experiments can only favor creation in a "negative" way; i.e., *no* mutations are observed which produce novel structures or tissues. Proving a negative is a vain goal — someone can always argue that more attempts, under different conditions, would eventually produce an example. On the other hand, experiments such as these show that the burden of proof is on the evolutionists.

Intelligent Design

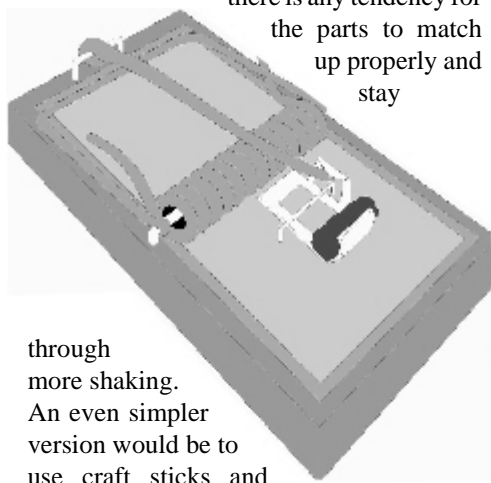
Considering the problems with using live animals, perhaps a demonstration of Intelligent Design theory would be a satisfying and effective approach. Design theory states positively that certain complex objects can only be produced by intelligent effort.

You must carefully define the term "complex," rather than leaving it as a vague notion. Intelligent Design theorists use the terms "specified" or "irreducible" complexity. I like to call it organized complexity, referring to the coordinated, interdependent functioning of subsystems made of discrete and diverse materials to produce controlled transformations of materials and energy. Only products of ad-

vanced technology, and living things, possess this type of complexity. There is no indication that anything like it can be produced apart from a previously living thing or by intelligent design.

Here's something I have done. Buy a couple of inexpensive plastic model kits (cars, planes, or whatever you like) and a bunch of small magnets. Glue the magnets to the model parts so that they will hold the models together without glue. It may be easier to buy snap-together models and file or sand the catch-tabs a bit so they don't make "permanent" connections.

Now you can demonstrate, with one model, that an intelligent agent can assemble it in a short time (record the time of construction by various people). In contrast, put the parts of the other model into a box, shake it, and then check it. See if



there is any tendency for the parts to match up properly and stay

through more shaking. An even simpler version would be to use craft sticks and magnets to make a simple patterned design. Even these sticks aren't likely to come together without some intelligent effort.

You might title it something like "Design vs. Chance: What Do They Produce?" You could also include a drawing or mockup of a cell, pointing out that even the simplest cell is far more complex than any model.

Obviously, you can't shake a box for the vast periods of time in which evolutionists believe. However, these models and craft sticks with magnets are quite simple, and you've actually used intelligence to place the magnets in a certain way, not to mention that the model parts were originally designed to fit together. The contrast between the accuracy and speed with which an intelligent person can put these things together, and the lack of

progress when only random forces are applied, should get the message across.

Here's a demonstration which would be good after reading *Darwin's Black Box* by Michael Behe, and the responses to his critics which he has made available on the Internet. Get some cheap mousetraps and build examples of the "transitional" mousetraps that have been suggested by Behe's critics. Then demonstrate their shortcomings as transitional mousetraps.

There's no way to modify one into another without making significant changes requiring intelligent guidance — small, random changes will just cause them to quit working. You'd have to use a toy mouse to show this. You could title your project "Does a Mousetrap Demonstrate Irreducible Complexity?" — or more subtly, "Function and Challenges for Transitional Forms."

Conclusion

These are just a few examples to help you plan your science fair project. This article focused on biological evolution, but you can use this same general approach to design projects in geology, such as stratification, conditions essential for fossilization, etc.

Remember, use creationary resources like books and web sites to give you ideas to start with, but when it comes to quotations and references for the research paper, try to use standard evolutionary sources. Keep the project small and simple enough so that you can do a good, thorough job. Be careful to control variables in experiments, recording exactly how you conducted the experiment. And finally, carefully record and document the results.

Diligent study, careful work, thorough documentation, and a good-looking display are the keys to a successful and enjoyable project.

David Bump, a graduate of Bob Jones University, has been involved as an "amateur" creation scientist for over 20 years. He presented the case for creation in a debate at Chicago State University and is a frequent contributor to the CRSnet e-mail list server.

Contents

Support for Plate Tectonics ... Missing	1
Speaking of Science	
Darwinists Debate the Evolution of Presbyterians.....	2
Evolution Produces a Radio Receiver.....	5
Announcement: A New Creation Biology Journal.....	2
Uniformitarian Scientists Pull Plug ... Black Sea Flood.....	3
Chisos Mountains.....	5
Science Fair Projects.....	6
Creation Calendar.....	8

Speaking of Science ...continued from page 5

be unguided, impersonal, aimless, and pointless. You can steer out-comes through a maze of random mutations if you have a goal and reward success. This experiment has nothing to do with biological evolution, and everything to do with intel-ligent design. But the design here was not very intelligent: the reputed radio only blindly picked up signals from elsewhere and ferried them as output. Garbage in, garbage out.

Graham-Rowe, D. 2002. Radio emerges from the electronic soup. *New Scientist*, 31 Aug, page 19.

Editor's note: All S.O.S. (Speaking of Science) items in this issue are kindly provided by David Coppedge. Additional commentaries and reviews of news items by David can be seen at: www.creationsafaris.com/crevnews.htm.

Creation Research Society
P.O. Box 8263
St. Joseph, MO 64508-8263
USA

Return Service Requested



Creation Matters
July / August / September 2002
Vol. 7 No. 4

Nonprofit Org.
US Postage
PAID
Creation Research Society

Creation Calendar

Note: Items in "Creation Calendar" are for information only; the listing of an event does not necessarily imply endorsement by the Creation Research Society.

October 19

KATY Bike Trail

Family Creation Safari, 9:00 am - 6:00 pm
CSA for Mid-America (Kansas City Area)
Contact: Tom Willis (816)618-3610, csahq@juno.com

October 25-26

Case for Creation Seminar featuring Duane Gish, Frank Sherwin, Russ Humphreys, and Mark Armitage
Grace Church of Glendora, CA (near Pasadena)
Contact: Mark Armitage (626)969-8317, micromark@juno.com

November 26

Why the Church Should Emphasize Creation by David Coppedge
South Bay Creation Science Association
7:00 p.m., Evangelical Formosan Church, Torrence, CA
Contact: Garth Guessman (310)952-0424

December 7

Squaw Creek Refuge
Family Creation Safari, 9:00 am - 5:00 pm
CSA for Mid-America (Kansas City Area)
Contact: Tom Willis (816)618-3610, csahq@juno.com

2003

May 29 - May 31

Annual Meeting, CRS Board of Directors
Concordia Univ. of Wisconsin, Mequon, Wisconsin