

Creation Matters

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(See page 2 for a report from the conference committee.)

Scenes from the 2015 CRS Science Conference



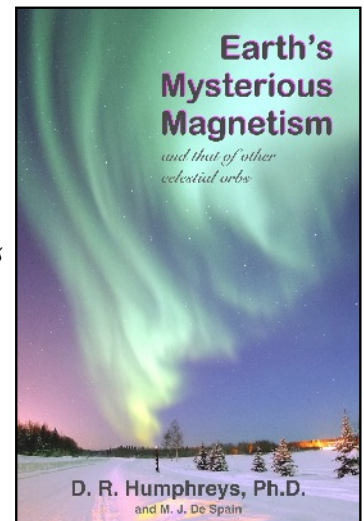
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Earth's Mysterious Magnetism

and that of other celestial orbs

by

Russell Humphreys and Mark
De Spain
2015, CRS Books
(e-book, 177 pages estimated)
Regular price \$4.99



Dr. Humphreys has published widely on the subject of the magnetism of the Earth and other solar system bodies. Now, all that information has been gathered together into one, generally easy-to-follow, color e-book.

The authors have included basic information on magnetism, as well as the decreasing magnetic field of the Earth. Humphreys' early predictions concerning the magnetic fields of other solar system bodies are summarized as well.

Because the decaying field suggests a young Earth, secular scientists have invented the dynamo theory, which is supposed to have powered its magnetic field for billions of years. However, Humphreys has demonstrated this model to be untenable. This book also shows that magnetic field reversals, which have been inferred from the paleomagnetism of the rocks, can be explained by the dynamics of Noah's Flood.

With more than 55 illustrations and a helpful glossary, the book is colorfully and generously illustrated, having been written to the level of the college student and educated layman. The topic is masterfully covered without the use of mathematical equations!

Available in Mobi (Kindle), Epub, and PDF formats.

Note: A paperback edition is expected to be available in 2016.

2015 CRS Science Conference

by the Conference Committee*

In August, the Creation Research Society held a well-attended science conference, the fifth such gathering the Society has organized since 2009. The purpose of these conferences is for creation scientists to gather with their peers and present new models, challenge old models, or even offer incomplete ideas and unfinished research. Because the conference encourages investigators to present cutting-edge and potentially controversial concepts (even some “wild” ideas), no recordings are made or proceedings published. In this atmosphere, researchers are encouraged to discuss, exchange ideas, cordially disagree, and ultimately build collaborations.

The 2015 meeting was held at the Double Tree hotel in Farmers Grove, TX. The Institute for Creation Research (ICR), located close to the hotel, served as our host for the event. The evening before the conference, many attendees gathered at ICR for a pre-conference mixer. As with any science meeting, such informal time enables attendees the opportunity to both relax and meet old friends (or make new friends). Some of us know each other by our writings and reputations, but have not previously met. The CRS conference provides such occasions each year. This mixer also provided an opportunity to visit ICR’s Dallas facility and meet members of their science staff.

Plenary sessions

The conference began each morning with informal opening remarks about the forthcoming day’s events, including humorous dialog in the form of “CRS Follies” (a collection of fictitious examples of “rejected” abstracts). The formal activities began with a plenary presentation featuring an invited speaker. Plenary speakers at previous conferences have included Dr. Rob Carter, Dr. Jonathan Sarfati, Dr. Jason Lisle, Dr. Russ Humphreys, and Dr. Georgia Purdom.

The first plenary of the 2015 meeting was delivered by Dr. Kevin Anderson (Director of the CRS Van Andel Creation Research Center), who gave an update on the iDINO project and outlined the project’s future direction (more information for iDINO can be found at the CRS website www.creationresearch.org). Dr. Anderson also discussed some of the current models proposed by evolutionists to explain the preservation of tissue in dinosaur fossils.

The second plenary was given by Dr. Jeff Tomkins (ICR staff scientist), who discussed the chromosome fusion model that evolutionists have proposed. Since

humans have one less chromosome pair than do chimpanzees, evolutionists have suggested that, as humans evolved from their primate ancestors, human chromosome 2 was formed by the fusion of two separate chromosomes, giving humans fewer chromosomes. Dr. Tomkins presented detailed evidence showing there is no evidence for this fusion. This lack of evidence for a fusion strongly challenges the evolutionists’ view of human history, making it extremely difficult for them to explain the difference in chromosome numbers between humans and chimps.

Both of these plenary presentations were video recorded, and will soon be posted on the members’ section of the Society’s website.

Scientific concurrent sessions

Following the morning plenary sessions, attendees had the choice of attending various concurrent section talks. Topics included biology, genetics, geology, physics, astronomy, and theology. Each talk was followed by a short period for questions and answers (Q/A). As is the situation with any science conference, some presentations were more technical than others, and some Q/A discussions were livelier than others.

Many positive comments were made about the conference, including those in anticipation of next year’s conference. Ab-

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stracts of concurrent presentations have been published in the Summer 2015 issue of the *Creation Research Society Quarterly*. It is anticipated that some talks will ultimately lead to completed research studies that can be published in peer-reviewed journals, such as CRSQ.

HMM Memorial Lecture

On the Friday evening of the conference, Dr. John Morris (son of Henry Morris and past President of ICR) gave the 5th Henry M. Morris Memorial Lecture. This lecture, which is open to the public, was established to honor the late Dr. Morris, and has featured several speakers who had worked very closely with Dr. Morris. Past speakers have been Dr. John Whitcomb, Dr. Duane Gish,

Dr. Gary Parker, and Mr. Frank Sherwin. John offered some commentary on the creation movement as well as evidence for creation. This was interwoven with a wonderful collection of stories about his father's life, as well as experiences in his own life. Dr. Morris' lecture was also video recorded, and will soon be posted to the members' section of the CRS website.

Next meeting

This year's meeting will be held July 28–30 (2016) on the campus of Concordia University, Ann Arbor, MI. This location has special significance for the Society, having served as the informal "headquarters" for the Society during its early years. The 2016 conference will again follow the same basic

format as did the previous conferences. More information about the 2016 conference (abstract submission, lodging, registration) can be found on the CRS website (www.creationresearch.org).

*Members of the conference committee include Danny Faulkner, Robert Hill, and Kevin Anderson.

GM

A Parable of Design

by Dave Woetzel

It was the beginning of the personal computer revolution and anything seemed possible. Creativity was in vogue and Bill was at the cutting edge of what he believed would be a genesis. He had just braved the evening's gusty rain, as he dashed down the block to pick up a cup of his favorite high-octane, caffeinated black brew. A large draw at the super-sized drink warmed him from the roof of his mouth down to his very soul.

His mind wandered into paths philosophical as he settled back down in his office high above an affluent Seattle suburb. It would be another late night at work...if that's what this activity could be called. Work, passion and life had meshed together for Bill lately. All his energy was directed towards creating a whole new operating system that would be at the very heart of the autonomous devices of the future, the DNA of each individual personal computer, the magic inside the machine.

What was the reason that this project gripped him so? Bill mused on it. As he searched his own mind, a couple of answers seemed to come readily to him. He wanted to build something that would be the driving force behind a new generation of powerful machines. This internal code would run better than anything else that could be contrived. Incredible resilience. Extensive error checking and debugging would ensure survivability and minimize the kind of crashes that would doom a program to extinction. Copying would be done with such pristine

fidelity that the ten thousandth copy would be an accurate reproduction of the original. Backups, safe-mode, and fallback routines would make this platform stable enough to run without administrators. It would be so well crafted that it would last through the generations. Yet all that stunning power and program complexity must be invisibly tucked down deep inside, far below the external surface.

But this wasn't enough. No, there was still another design priority that rose even higher in Bill's mind, one that seemed diametrically opposed to the first. His creation must attract the eye, a package of beautiful flexibility. It might seem impossible to have both incredible stability and immense flexibility, but it must be done. The capacity for variation in appearance must seem almost boundless, even though it would all be within tightly constrained variables. He could envision this operating system coming fully equipped with all the apps that it needs to run in extremely diverse situations.

A business environment might require that parameters be limited to a particular repetitive function. Yet a different implementation might benefit from incredible freedom for personal expression with shapes, themes, colors, etc. This would require simple switches that could change a cascade of features quickly and easily based on feedback, so that this product could be relevant in each scenario. He could foresee his design inside entities that flew, swam, and sped across the land. Interfaces

must allow maximum interaction with other objects encountered along the way.

But there was one more thing that lay at the bottom of it all. This wasn't just another job. It was to be a landmark. It was to be a piece of himself, his vision, his very soul. People who had never heard of him would admire his handiwork and see his creativity. Things that one might envision as totally separate operations would all be neatly tied together in one grand design. A suite of applications all smoothly incorporated into his ecosystem. Oh, there would be subtle differences in individual routines as each performed distinctive tasks. Yet a thoughtful glance at the interconnectedness of them all would clearly communicate to the viewer that a single inspired vision had been behind the whole.

Subconsciously Bill reached for the now cooling cup of Joe. The taste of the pungent fluid brought him out of his reverie. He had only seven days to complete the basic layout before it would all be reviewed. The water was still swirling around in the blackness outside his windows as he began afresh to build his masterpiece, a work that would forever change the world.

GM

The Paranasal Sinuses Are not Vestigial

by

Jerry Bergman, PhD

The paranasal sinuses are air-filled, mucus-lined cavities in the skull (Tortora, 1996, p. 130). Comprised of the frontal, sphenoid, ethmoid, and the paired maxillary sinuses (Figure 1), they are called “paranasal” because they all cluster around the nasal cavity (Marieb and Hoehn, 2013, p. 215). The sinuses develop by absorption of bone that allows the sinuses to gradually increase in size. Consequently, they are part of the innate design of the face (Schaeffer, 1920, p. 36). The reason that “children’s noses are always running” is because the sinuses are poorly developed when children are small (Blanton and Briggs, 1969).

Function debated

The function of the paranasal sinuses has been discussed at least since the time of Galen who lived from 130 to 201 A.D. (Blanton and Briggs, 1969). Many authorities argue that they are vestigial structures which are no longer needed in modern humans (Anonymous, 2015a; Spinney, 2008). For example, Gonzales (2011), after claiming that the paranasal sinuses are “vestigial,” backtracked by adding that the “biological role of these sinuses is often a topic of heated debate... [and] there is little-to-no consensus on their actual purpose.”

Gonzalez claims that one thing everyone can agree on is that “one of the only things worse than a sinus headache is when your sinuses get infected” (Gonzalez, 2011). Actually, according to the leading textbook on endodontics, “Contrary to popular belief, infection and inflammation of the sinuses rarely cause facial pain or headache. Chronic sinusitis may cause symptoms of fullness or pressure, but rarely pain” (Ingle and Bakland, 1994, p. 568).

Some anatomists attempt to prove the vestigial status of these structures by postulating a theory for their evolutionary origins. In one example, the

...nasal sinuses of our early ancestors may have been lined with odor receptors that gave a heightened sense of smell, which aided survival. No one knows why we retain these perhaps troublesome mucus-lined

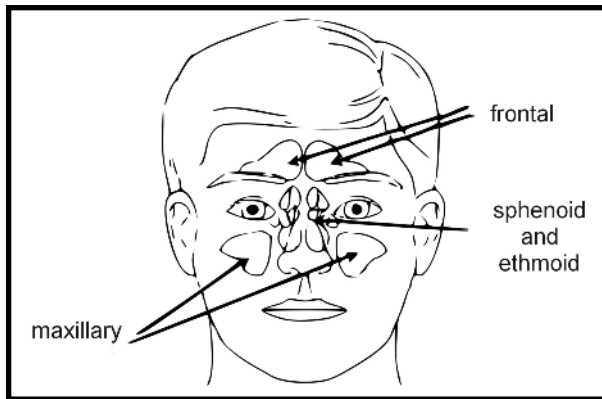


FIGURE 1. Diagram illustrating the approximate locations of the paranasal sinuses in the human skull. Note how they are clustered around the nasal region. (public domain)

cavities, except to make the head lighter and to warm and moisten the air we breathe (Selim, 2004, p. 42).

Another theory argued that the maxillary sinus is the site of most sinus infections in humans because the two maxillary sinuses drain upward when the body is vertical. This design “worked well when our ancestors were quadrupedal and they had more opportunities for drainage. For today’s humans, the evolutionists claim that they [the sinuses] drain poorly and are traps for bacteria to grow causing sinus infections” (Anonymous, 2015b). This putative problem exists only with the maxillary sinuses and not with the frontal, sphenoid, or ethmoid sinuses, which would not drain as efficiently if we moved about horizontally on all four limbs.

Unless one has cold or sinus problems, none of the paranasal sinuses drain in the normal fashion. Rather, a set of “openings connect the sinuses to the nasal cavity and act as ‘two-way streets.’ Air enters the sinuses from the nasal cavity, and mucus formed by the sinus mucosa drains into the nasal cavity” (Marieb and Hoehn, 2013, p. 215). The membranes are composed of ciliated columnar epithelium, and thus normally drain effectively regardless of the position of the person (Schaeffer, 1920, p. 268).

Many functions

Actually, the paranasal sinuses have numerous, very important roles in humans, including humidifying and moistening inhaled air. They insulate the sensitive dental roots and

eyes from rapid temperature changes in the nasal cavity caused by breathing air at various temperatures. A more important function is to produce a highly effective dust-trapping mucus that, in addition to moisturizing the inside of the nose, helps to protect the entire respiratory tract from pollutants, microorganisms, dust, and dirt. The paranasal sinuses can become infected due to the fact that they effectively trap large amounts of bacteria.

Voice quality

The paranasal sinuses are a major part of the articulatory mechanism that significantly increases resonance, greatly improving the human voice quality, as anyone experiences who has plugged-up sinuses due to a bad cold (Seeley et al., 2003, p. 206). Honda (2008, p. 19) concluded that the human

...nasal cavity builds nasal resonance to accomplish phonetic features of nasal sounds and nasalized vowels. The paranasal sinuses also contribute to [the] acoustic characteristics of the nasal sounds, [specifically by reproducing] regional Helmholtz resonances caused by the paranasal sinuses, together characterized by a resonance peak at 200–300 Hz and spectral flattening up to 2 kHz.

Without these sinuses the human voice would lose much of its variety that enables us to determine who a person is only by his or her voice traits (Dang, et al., 1994). Another proposed function is to help absorb some head blows to assist in protecting the sensory organs of the head (Blanton and Briggs, 1969).

One function of the paranasal structures, viz., to lighten the skull and help maintain the balance of the head, has been claimed for centuries, and has been proven false. Ironically, the first evidence that this was false was in 1877 “when Braune and Clasen proclaimed that if the sinuses were filled with spongy bone the total weight of the head would be increased by 1%, which they considered a negligible amount” (Blanton and Briggs, 1969). Schwalbe concluded that the human

...head is so evenly balanced that this slight increase of one percent being entirely limited to the anterior portion of the head would tend to interfere with the proper equipoise. Zarnico, according to Skillern ... agreed with Braune and Clasen on the premise that children have no sinuses but are, nevertheless, able to balance their heads (Blanton and Briggs, 1969).

Conclusions

The paranasal sinuses have at least five main functions in humans. They provide resonance for the voice, warm and moisten the incoming air taken during breathing, insulate the dental roots against the cold air during breathing, secrete mucus to help keep the nasal chambers moist, and help to fight bacteria. All of these functions are important for life and health. As recognized 95 years ago, "Good ventilation of the paranasal sinuses is essential to health and is normally

maintained" in healthy persons (Schaeffer, 1920, p. 352).

References

- Anonymous. 2015a. 10 remnants of human body we no longer require. *Smashing Lists.com*. Retrieved January 10, 2016, from www.smashinglists.com/10-remnants-of-human-body-we-no-longer-require/
- Anonymous. 2015b. Evidence overview: Remnants. *EvolutionEvidence.org*. Retrieved January 10, 2016, from www.evolutionevidence.org/evidence/remnants/
- Blanton, P. and N. Briggs. 1969. Eighteen hundred years of controversy: the paranasal sinuses. *American J. of Anatomy* 124:135–147.
- Dang, J., K. Honda, H. Suzuki. 1994. Morphological and acoustic analysis of the nasal and paranasal cavities. *J. of Acoustical Society of America* 96:2088–2100.
- Gonzalez, R. 2011. 10 vestigial traits you didn't know you had. Retrieved January 10, 2016, from <http://io9.com/5829687/10-vestigial-traits-you-didnt-know-you-had>
- Honda, K. 2008. Physiological processing of speech production. In Benesty, J.M., M. Sondhi, and Y.A. Huang, *Springer Handbook of Speech Processing*. New York: Springer.
- Ingle, J.I. and L.K. Bakland. 1994. *Endodontics*. Fourth Edition. Baltimore, MD: Williams and Wilkins.
- Marieb, E.N. and K. Hoehn. 2013. *Human Anatomy & Physiology*. Boston, MA: Pearson.
- Schaeffer, J. 1920. *The Nose, Paranasal Sinuses, Nasolacrimal Passageways, and Olfactory Organs in Man*. Philadelphia: P. Blakiston's Son & Co.
- Seeley, R.R., T.D. Stephens, and P. Tate. 2003. *Anatomy & Physiology*. Sixth edition. Boston, MA: McGraw Hill.
- Selim, J. 2004. Useless body parts: What do we need sinuses for, anyway? *Discover*. June, pp. 42–45.
- Spinney, L. 2008. Five things humans no longer need. *NewScientist.com*. May 19. Retrieved January 10, 2016, from <https://www.newscientist.com/article/dn13927-five-things-humans-no-longer-need/>
- Tortora, G. 1996. *Principles of Human Anatomy*. New York: Harper/Collins.

GM



Math Matters
by
Don DeYoung, PhD

Vive la Différence

Is every snowflake different? Incredible as it may seem, every snowflake that has ever fallen is unique. Since the total number of snowflakes is vast, statistics must be used to answer this question. In one cubic foot of snow are about 20 million flakes. During all of earth's history, between 10^{30} and 10^{40} snowflakes likely have fallen. In contrast, the total number of known stars in the universe, 10^{22} , is a billion-billion times smaller than 10^{40} .

Now the question is, how many distinct snowflakes are possible? Let's start with a simpler question: How many different ways can nine baseball players line up for a group picture? The first player has nine possible places in the line: 1st position, 2nd position, etc. After the first person takes his place, the second player has eight possible remaining places to stand. This reasoning continues through to the final, ninth player who has just one open spot. The total number N of possible arrangements for the nine baseball players is a surprisingly large number,

$$N = 9 \times 8 \times 7 \times \dots \times 1 \\ = 362,880$$

This downward multiplying of a number N is symbolized by N! and is called "N factorial." For example, $3! = 3 \times 2 \times 1 = 6$ and $4! = 4 \times 3 \times 2 \times 1 = 24$. As the number N increases, N factorial rapidly becomes very large.

Now let's apply the factorial idea to snowflakes. Snow crystals have distinct feathery edges and show great variety in the length and detail of their six points. One can easily imagine at least 100 separate features, or variables, in the outward pattern of a snowflake. And beyond the outside shape can be included impurity atoms, dust particles, crystal defects, and the exact number of included water molecules which number in the trillions. Somewhat similar to the possible lineups of nine baseball players, the total number of possible distinct snowflakes is a number beyond comprehension,

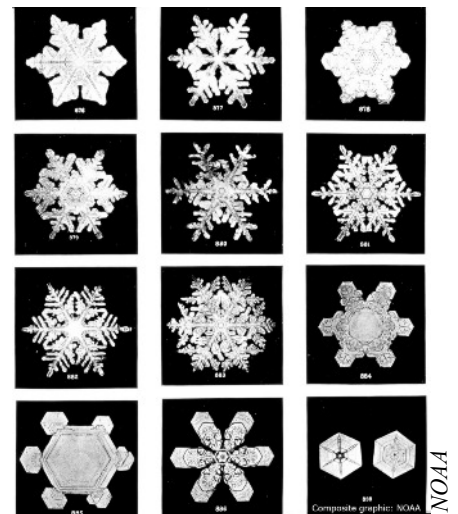
$$N = 100! \\ = 9.33 \times 10^{157}$$

This number is approximately 1 followed by 158 zeros: 100,000, . . . The number is far larger than the estimated total snowflakes that have fallen during all of history. The number 100! also surpasses by far the estimate of total atoms in the visible universe, about 10^{80} .

The conclusion is that every snowflake is unique, at least so on the inner, microscopic level. By similar reasoning every sand grain, blade of grass, person, and star is likewise unique. We should not be surprised at this conclusion. The creation demonstrates the infinite ability of God to design and also care for what he has made. God performs wonders without number (Job 9:10).

Reference

- DeYoung, Don. 2014. *101 Questions and Answers about the Weather and the Bible*. Baker Books, Grand Rapids.



GM

Editor's note: You may submit your question to Dr. Jean Lightner at jean@creationresearch.org. It will not be possible to provide an answer for each question, but she will choose those which have a broad appeal and lend themselves to relatively short answers.

Q Why do the bears in the constellations have long tails?

A Ursa Major and Ursa Minor are constellations, also known as the Big Bear and the Little Bear, respectively, which are often depicted with long tails. Examples include illustrations by Johannes Hevelius, a seventeenth century astronomer, and in *Urania's Mirror*, a set of constellation cards published in London around 1825 (Figure 1). Some people are familiar with the Big Dipper and Little Dipper. These constellations comprise portions of Ursa Major and Ursa Minor, with the stars in the handles corresponding to the tails of the bears. Could it be that, although bears living today don't have long tails, their ancestors might have had them?

Origin of the constellations

Ursa Major and Minor are two of the 48 constellations listed by the second century astronomer Ptolemy. The Greeks derived their constellations from the Egyptians, who got them from the Babylonians. According to creation astronomer Dr. Danny Faulkner (personal communication, 2015),

...through precession, we can trace our 48 constellations from antiquity back to an origin around 2300–2500 BC, around latitude 35 degrees north. This coincides nicely with the biblical dates of the Flood and Babel, giving a great explanation of the origin of the constellations.

It is important to realize that not all civilizations identify the same constellations with the same names. However, the bear constellations are common in many regions around the world, from the Middle East to Northern Europe, and to the North American Indians. This is a bit of a problem

in a secular timeframe, since the American Indians supposedly arrived in North America around 10,000–12,000 years ago.

Why were these regions of the sky also recognized as two bears among most of the Amerindians if they arrived in North America before the origin of the concept, and were isolated for many years before Euro-

lutionists claim, but rather co-existed with man. That is the most logical explanation for why we have descriptions of dinosaur-like dragons by different people in different cultures from around the world. Could there have been bears in the past that had tails? Some fossil evidence exists to suggest this might have been the case.

There are two groups of animals, known only from fossils, that are bearlike and have tails: Hemicyonidae and Amphicyonidae. Hemicyonidae is known from limited fossil remains in France that are considered by evolutionists to be between 11 and 16 million years old (Anonymous, n.d.) The more abundant fossils of Amphicyonidae have been found in North America, Europe, Asia, and Africa in depos-

its ranging from Miocene to early Pleistocene (estimated to be from 40.4 to 4.9 million years ago; Anonymous, n.d.). Both groups are thought by evolutionists to have become extinct before modern humans (*Homo sapiens*) came on the scene (around 200,000 years ago; O'Neil, 2013).

Could Hemicyonidae and/or Amphicyonidae be the remains of creatures from the bear kind? Possibly. All are within the order Carnivora, and the suborder Caniformia (dog-like). Hemicyonidae, sometimes known as dog-bears, are usually placed taxonomically very close to bears (Ursidae), or even in the same family. Amphicyonidae, also known as bear dogs, were originally placed close to bears, but now are usually placed alone within the suborder (Anonymous, 2015). Since all we have are some fossil remains, it is impossible to determine with certainty whether they were actually part of the bear kind. Either way, though, it appears this creates a problem for the evolutionary worldview and timeframe.

If tailed “bears” or bear-like animals became extinct before humans appeared in history, why are tailed bears a part of the constellations recognized by civilizations around the world?

If tailed “bears” or bear-like animals became extinct before humans appeared in history, why are tailed bears a part of the constellations recognized by civilizations around the world?

peans arrived? It makes more sense that the idea has a common source. Since the traditions predate known European contact, the secular dates don't fit well. Instead, it seems more reasonable that the Amerindians arrived later than believed, after the Babel dispersion according to the biblical timeframe.

What about the tails?

Then what about the tails on the bear constellations? Creationists often point to legends of dragons, whose descriptions sound like dinosaurs, as evidence that dinosaurs didn't die out millions of years ago as evo-



“Ursa Major,” plate 9 in *Urania's Mirror*, 1825, a set of celestial cards accompanied by *A familiar treatise on astronomy ...* by Jehoshaphat Aspin, London. (public domain)

Babel origin

Evolutionists already believe that the earth is much older than the Bible indicates, so they tend to assign ages that are consistent with these previously held beliefs. Evidence that doesn't fit is largely ignored. While the evolutionists' dates don't fit the biblical model, the pattern seen in the fossil record does. The apparent spread of tailed "bears" across continents is consistent with a post-Flood dispersal of these animals as they filled the earth (Genesis 8:16–19). There are no human fossils in these strata because people living at that time failed to disperse, choosing instead to build Babel in rebellion against God. Dispersal of humans occurred later, after God confused their language (Genesis 11:1–9). The Bible,

being written documentation of events of the time, provides a stronger basis for estimating the dates of the fossils.

Multiple lines of evidence are consistent with our constellations originating from Babel. These people had seen the tailed "bears," and had incorporated them into their description for parts of the night sky. Ursa Major, in particular, does look much like a tailed bear in a very dark sky. After the confusion of languages, this understanding of the constellations was carried around the world as people were dispersed. In some cultures, new descriptions arose, but the bear constellations were seen in the sky by people worldwide, from the Celts and Germanic tribes of Northern Europe to most of the Amerindians.

References

- Anonymous, n.d. "Quick search" summaries of Hemicyonidae and Amphicyonidae retrieved from the Paleobiology Database. *Fossilworks*. Retrieved January 14, 2016, from <http://fossilworks.org>.
- Anonymous, 2015. See entries for "Caniformia," "Hemicyonidae," and "Bear dog." *Wikipedia*. Retrieved January 15, 2016 from <https://en.wikipedia.org/wiki/Caniformia>; <https://en.wikipedia.org/wiki/Hemicyonidae> and; https://en.wikipedia.org/wiki/Bear_dog
- O'Neil, D. 2013. Early modern *Homo sapiens*. In D. O'Neil, *Evolution of Modern Humans*. Retrieved January 15, 2016, from http://anthro.palomar.edu/homo2/mod_homo_4.htm

GM

...without excuse!

by Timothy R. Stout

Editor's note: This is the final article in this series by Mr. Stout which was initiated in Volume 13, Number 4. The unique perspective he brought to the discussion over the past 7½ years has benefited us all. We pray that the Lord will bless him in his role as pastor of a new church in Greenville, Texas.

It can be very frustrating for creationists as they try to pin down evolutionists on the details of evolutionary dogma. Many claims are made by modern evolutionists, who present large-scale, Darwinian evolution as "fact." Yet, whenever these claims are carefully examined, it seems that all kinds of contradictions and deficiencies can be uncovered. The typical evolutionist seems to respond to challenges against his assertions by mocking, slandering, and ridiculing the person bringing up the objections, while avoiding a discussion of the issues. Behind-the-scenes power plays are used to insure the dominance of evolutionary dogma, not true scientific debate.

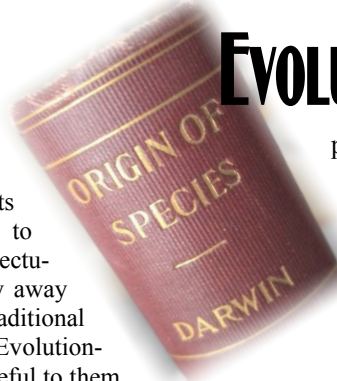
This is not surprising. Peter J. Bowler, a historian specializing in "the history of evolutionism," wrote a book titled *Evolution: The History of an Idea*. In this book he clearly presents himself as an evolutionist. But writing as a historian, not as an advocate for any particular position, he noted that (Bowler, 1989)...

...[Thomas] Huxley was typical of

a new generation of scientists determined to wrest intellectual authority away from the traditional sources. Evolutionism was useful to them precisely because it demonstrated that science could now determine the truth in areas once claimed by theology (Fichman, 1984). Huxley went on to become a leading public figure, serving as a scientific expert on numerous government commissions. He was also a member of the "X-club," an informal but extremely influential group of men whose behind-the-scenes activity shaped much of late Victorian science. It was by exploiting their position with this network that Huxley and his fellow converts ensured that Darwinism had come to stay (Ruse, 1979a). They avoided open conflict in scientific journals, but used their editorial influence to ensure that Darwinian values were incorporated gradually into the literature.

Additionally, Bowler (1989) pointed out that *Nature*, a scientific journal, was in

THE TESTIMONY OF THE HISTORY OF EVOLUTION



part begun as a means to promote Darwinism, and that faculty positions were filled with younger scientists who were Darwin sympathizers. He continued,

So successful was this takeover of the British scientific community that by the 1880s, its remaining opponents were claiming that Darwinism had become a blindly accepted dogma carefully shielded from any serious challenge.

It is no wonder that modern evolutionists fight so viciously against any kind of exposure of the weakness of their theory. This has been the pattern since *Origin* was published. The practice of avoiding an open discussion of issues was established by Huxley and those in the X-club, as they worked behind the scenes to manipulate acceptance of their ideas in journals and universities. So, it is not surprising that open discussion of the issues is still avoided even today.

Tampering with journal articles to favor evolutionary dogma, while avoiding serious discussion of its problems, underscores the importance of peer-reviewed creation journals like the *Creation Research Society Quarterly*, which discuss important findings that are taboo in typical secular journals, despite their importance and well-docu-

mented evidence.

Just how strong is the opposition to open discussion? Jerry Fodor is a professor of philosophy and cognitive science at Rutgers University. Massimo Piattelli-Palmarini is a biophysicist and a professor of cognitive science at the University of Arizona. They collaborated on a book, *What Darwin Got Wrong* (Fodor and Piattelli-Palmarini, 2010). Their book is an analysis of the inadequacy of natural selection to account for the scope of the changes required for Darwin's fishes-to-mammals evolution to work.

These two men have a problem. They believe they have uncovered truth that requires them to work outside of the expected parameters in their field of cognitive science. However, there is very little willingness by those in the field to have these kinds of concerns discussed openly. Apparently, and for good reason, they fear the ammunition such discussion would have in the attempt to expose evolutionary theory for the fraud that it is. So, the book opens with the following monologue:

This is not a book about God, nor about intelligent design, nor about creationism. Neither of us are into those. We thought we'd best make that clear from the outset, because our main contention in what follows will be that there is something wrong—quite possibly fatally wrong—with the theory of natural selection...

...We do want, ever so much, to be secular humanists. In fact, we both claim to be outright, card-carrying, signed-up, dyed-in-the-wool, no-holds-barred atheists. We therefore

seek thoroughly naturalistic explanations of the facts of evolution....

Indicating that their book is primarily a criticism of the current theory, viz., Darwinism, they admit that they have little if anything to offer in its place.

In fact, we don't know very well how evolution works. Nor did Darwin, and nor (as far as we can tell) does anybody else. "Further research is required," as the saying goes. It may well be that centuries of further research are required.

In all of these [areas of study], neo-Darwinism is taken as axiomatic; it goes literally unquestioned (see Appendix). A view that looks to contradict it, either directly or by implication, is *ipso facto* rejected, however plausible it may otherwise seem. Entire departments, journals and research centers now work on this principle.

This opening to the book reveals a lot. Most importantly, in order to get any possibility of an audience in a field which is so hostile to discussion of problems related to Darwinism and natural selection, they come out with the strongest possible affirmation of their atheism, as well their commitment to naturalistic explanations of the facts of evolution. They admit that not only do they not understand how evolution could actually take place, but that Darwin didn't either. Furthermore, to the best of their knowledge no one else does either. These conclusions are based on an extensive study of the issues as ones recognized in the field to be qualified to do the study.

It has been over 150 years since Darwin wrote *The Origin of Species*. Yet, despite

the passage of all this time, the details of how evolution takes place are not any clearer now than they were 150 years ago. Actually, the problem is worse than anticipated by those in Darwin's time. Darwin started from a clean slate. The book by Fodor and Piattelli-Palmarini shows all kinds of obstacles to a working theory that have now been discovered and need to be overcome. Perhaps the seriousness of these problems is why they mentioned in their opening that "there is something wrong—quite possibly fatally wrong—with the theory of natural selection."

It is interesting. Among themselves, atheistic scientists readily acknowledge that they do not have the slightest clue how such major problems with their theory of evolution could be resolved. However, acknowledgment of these problems outside the inner circles is suppressed. Open discussion of key, important issues is not even considered. Those given over to this approach do not realize that the day is coming when they will stand before a holy, omnipotent, omniscient, eternal God who is not pleased with their deceit. He will reveal them as truly without excuse.

References

- Bowler, P. 1989. *Evolution: The History of an Idea, Revised edition*. University of California Press: Berkeley, p. 196.
- Fodor, J. and M Piattelli-Palmarini. 2010. *What Darwin Got Wrong*. Profile Books: London, pp. xv–xvi.

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Speaking of Science

from the Creation-Evolution Headlines

by David F. Coppedge

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Possible Super-Grand Canyon Found Under Antarctica

Another record-breaking canyon may exist under the ice of the south polar continent, carved by water.

It's a thousand kilometers long, compared to the Grand Canyon's 433. It's a kilometer deep, comparable to the Grand Canyon. So far, it has been detected from surface depressions and ice-penetrating radar. If confirmed, it could be called "World's largest canyon ... hidden under [the] Antarctic ice sheet."¹ The main canyon is part of a canyon system including five or more parallel canyons, as seen in a diagram on the *BBC News*.² *Science Daily* says,

Although the discovery needs to be confirmed by direct measurements, the **previously unknown canyon system** is thought to be over 1,000km long and in places as much as 1km deep, **comparable in depth to the Grand Canyon in USA, but many times longer**.¹

How did these canyons form? There are two theories. One would require believing the South Pole was much warmer long ago.

The researchers believe that the **landscape beneath the ice sheet has probably been carved out by water** and is either so **ancient** that it was **there before the ice sheet grew** or it was **created by water flowing and eroding beneath the ice**.

*Live Science*³ only mentions the latter hypothesis, that it formed from flowing water under the ice. It would seem a heavy overburden of ice would inhibit transport of large quantities of sediments out the mouth of a flowing river, but this was not mentioned; it may be too early to tell.

Interestingly, a similar canyon was found in 2013 under the Greenland ice, almost twice as long as the Grand Canyon but half as deep.⁴ Years before, fossil DNA found 2km under the ice showed that the land once sported pine trees, butterflies, beetles, and other temperate life.⁵ And in 2004, remnants of pine needles, bark, and grass were found at the bottom of an ice core 10,400 feet long, two miles below the icy surface.⁶ A scientist then commented that the Greenland ice sheet "formed very fast." In that case, scientists believed the canyon formed before the ice sheet covered the land.

Experts from Durham University remarked that the surface of Mars is better understood than the bed of Antarctica here on our own planet.

1. Durham University. (2016, January 13) World's largest canyon could be hidden under Antarctic ice sheet. *ScienceDaily*. Retrieved January 20, 2016, from <http://www.sciencedaily.com/releases/2016/01/160113132334.htm>

2. Amos, J. (2016, January 13) 'Gigantic chasm under Antarctic ice.' *BBC News*.

Retrieved January 20, 2016, from <http://www.bbc.com/news/science-environment-35303779>

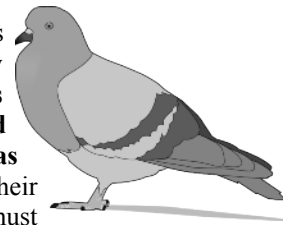
3. Pappas, S. (2016, January 14) Enormous canyon may be hidden beneath Antarctic ice. *Live Science*. Retrieved January 20, 2016, from <http://www.livescience.com/53380-enormous-canyon-hidden-beneath-antarctic-ice.html>
4. Anonymous. (2013, August 29) Grand Canyon demoted by new discovery. *Creation Evolution Headlines*. Retrieved January 20, 2016, from <http://crev.info/2013/08/grand-canyon-demoted-by-new-discovery/>
5. Anonymous. (2007, July 6) Greenland was forest green. *Creation Evolution Headlines*. Retrieved January 20, 2016, from <http://creationsafaris.com/crev200707.htm#20070706a>
6. Anonymous. (2004, August 16) Plants found two miles under Greenland ice. *Creation Evolution Headlines*. Retrieved January 20, 2016, from <http://creationsafaris.com/crev200408.htm#fossil1134>

News to Enhance Your Birding

Birdwatching is more fun when you learn what's going on in those feathered bodies.

Record migration (*PhysOrg*¹): It's been called "one of the most impressive bird migrations in the Americas." The little Black-poll Warbler, a gold-colored handsome bird that could fit in your hand, undertakes a migration each year from New England to South America. Scientists have banded and studied these little birds for 40 years now. "Migration is one of the most **understudied, important, and perilous** times in a songbird's life cycle," a researcher noted. The systems for navigation, metabolism, and hazard avoidance must be incredible to fit into a bird that small.

Pigeon leadership (*Current Biology*²): In this dispatch, James Herbert-Read says, "A new study has decoded **which birds become leaders** in homing pigeon flocks, finding an **unexpected benefit of leadership: faster birds emerge as leaders**, and these leaders learn more about their environment than do their followers." There must be some benefit to the followers since there are so many of them.



Parrot toolkit (*PhysOrg*³): New evidence has been found that parrots can use tools. Psychologists watched ten parrots grind calcium from sea shells with pebbles. Not only that, they shared their pebbles with other parrots. "This behaviour, never before seen in this species, is the **first evidence of a nonhuman using tools for grinding**, and one of the few reports of nonhuman animals **sharing tools** directly."

How birds stay colorful (*ScienceDaily*⁴): Because blue jays use structural color instead of pigments for their bright blues, those colors don't fade. Understanding how they construct these patterns "could pave the way for the creation of paints and clothing colours that won't fade over time." What's even more amazing is that the structures, made up of tiny holes in well-organized arrays, don't become disorganized as the bird ages.

The researchers found that the Jay is able to **demonstrate amazing control over the size of the holes in this sponge-like structure and fix them at very particular sizes**, determining the colour that we see reflected from the feather. This is because when light hits the feather the **size of these holes determines how the light is scattered** and therefore the colour that is reflected. As a result, larger holes mean a broader wavelength reflectance of light, which creates the colour white. Conversely, a smaller, more compact structure, results in the colour blue.

How would you like jeans that stay as bright as when you bought them?

“Current technology cannot make colour with this level of control and precision — we still use dyes and pigments. Now we’ve learnt how nature accomplishes it, we can start to develop new materials such as clothes or paints using these nanostructuring approaches. It would potentially mean that if we created a red jumper using this method, it would retain its colour and never fade in the wash.”

Kestrel drone (*ScienceDaily*⁵): Ever wonder how hunting birds can hover for long periods without moving their wings? Try building a glider that can do that. Australians are working on that problem, getting inspiration from how kestrels use updrafts efficiently by adjusting their wing feathers. Hovering without flapping allows these birds to focus their eyes precisely. If the engineers can mimic that on their micro-aerial vehicle (MAV), the technique could be “used for many tasks in urban environments, such as delivering packages, performing surveillance, and search and rescue,” the article says.

Hummingbird thermostat (*BBC News*⁶): Have you ever worried about your hummingbirds overheating at the feeder? All that fast flapping and zipping around would seem to make the little birds get heat exhaustion, especially on warm days. It turns out that they effectively shed excess heat in the feather-free “windows” around their eyes, shoulder joints, feet, and legs. Scientists in Oregon found this out using thermal cameras.

Penguin dinosaur (*BBC News*⁷): Here’s another claim of “convergent evolution.” Long before penguins evolved, evolutionists are now saying, marine reptiles swam like they do. Penguins literally “fly through the water” with their water wings, and that’s how plesiosaurs swam, according to new models, *PhysOrg* concurs.⁸

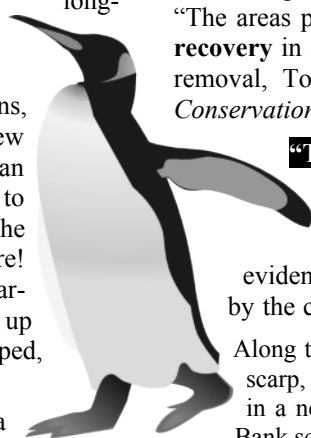
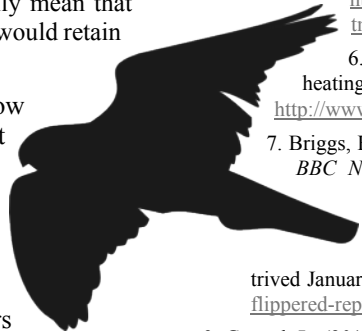
Speaking of plesiosaurs, an “enormous” fossil specimen has been found near Patagonia. *Live Science*⁹ tells the story of its discovery and excavation. The flippers alone are four feet long on this beast, estimated 23 feet in length. Most of the long-necked plesiosaurs have been found in North America, so this one seemed out of place.

Huddle of the penguins: Speaking again of penguins, how many “March of the Penguins” movie fans knew that “Penguin huddling is more complicated than thought?” That’s a phenomenon *PhysOrg*¹⁰ tries to untangle. Who would have thought that the ones in the middle can overheat? It can get up to 100° in there! Scientists observed some of them eating snow, apparently in an effort to cool off. Outsiders try to break up the huddles, but the ones in the middle might feel trapped, wanting to get out.

1. The Auk. (2015, December 9) Forty years of data on furthest-migrating warbler reveals new insights. *PhysOrg*. Retrieved January 25, 2016, from <http://phys.org/news/2015-12-forty-years-furthest-migrating-warbler-reveals.html>
2. Herbert-Read, J. 2015. Collective behaviour: Leadership and learning in flocks. *Current Biology* 25:R1127–R1129.
3. University of York. (2015, December 15) New evidence of tool use discovered in parrots. *PhysOrg*. Retrieved January 25, 2016, from

<http://phys.org/news/2015-12-evidence-tool-parrots.html>

4. University of Sheffield. (2015, December 21) Nature’s unique way of controlling color explains why birds never go gray. *ScienceDaily*. Retrieved January 25, 2016, from <http://www.sciencedaily.com/releases/2015/12/151221071504.htm>
5. IOP Publishing. (2015, December 18) Kestrel inspires unpowered, autonomous glider to climb higher. *ScienceDaily*. Retrieved January 25, 2016, from <http://www.sciencedaily.com/releases/2015/12/151218085931.htm>
6. Gill, V. (2015, December 16) How hummingbirds avoid overheating. *BBC News*. Retrieved January 25, 2016, from <http://www.bbc.com/news/science-environment-35104379>
7. Briggs, H. (2015, December 18) 200-year-old fossil mystery resolved. *BBC News*. Retrieved January 25, 2016, from <http://www.bbc.com/news/science-environment-35115195>
8. Public Library of Science. (2015, December 17) Ancient four-flipped reptile flapped like a penguin. *PhysOrg*. Retrieved January 25, 2016, from <http://phys.org/news/2015-12-ancient-four-flipped-reptile-penguin.html>
9. Geggel, L. (2015, December 14) Enormous plesiosaur once swam around ancient Patagonia. *Live Science*. Retrieved January 25, 2016, from <http://www.livescience.com/53085-patagonia-plesiosaur.html>
10. Yirka, B. (2015, December 9) Penguin huddling found to be more complicated than thought. *PhysOrg*. Retrieved January 25, 2016, from <http://phys.org/news/2015-12-penguin-huddling-complicated-thought.htm>



Geology Theories Are Not Set in Stone

To be a geologist, you have to have a big imagination and always be ready to have your favorite theory overturned.

Rapid recovery: Geologists and ecologists were surprised at how rapidly a river system recovered after a dam was removed in Washington. *ScienceDaily* says the response of the ecosystem was “incredible” and “faster than some experts expected.”¹ Christopher Tonra, ecologist at Ohio State, “watched reservoir beds that looked like moonscapes return to vibrant, rich habitat and cascades emerge where none had been, at least for the last century.”

Today, songbirds sing in the trees, river dippers hunt in the waters, and salmon are well on the road to recovery—all in one generation. That must have been shocking to geologists accustomed to thinking of slow and gradual change over millions of years. “The areas previously depleted of salmon are on a **fast track to recovery in a shorter time than he ever expected** after the dam removal, Tonra said.” His paper was published in *Biological Conservation* last month.²

“This was very surprising to us” (*PhysOrg*³): A long, straight scarp in the Wabash River Valley in Illinois is being reinterpreted. Geologists had thought it was formed tectonically, by earthquakes. Instead, new evidence suggests it was gouged out by flood water released by the collapse of ice age dams holding glacial meltwater.

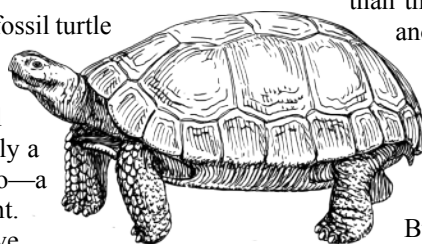
Along the western edge of the Wabash River Valley lies a scarp, or short cliff, about 10 to 20 feet high and running in a nearly straight line for about 6 miles. The Meadow Bank scarp runs nearly perfectly parallel to a fault zone one mile to the west. **Geologists suspected the Meadow Bank was formed by some past seismic activity along the fault**, perhaps an earthquake that caused the scarp to shear upwards.

In an effort to assess earthquake hazard, the ISGS researchers set out to probe the relationship between the fault and the scarp and instead **found a deeper mystery: There was no relationship at all.**

“This was very surprising to us,” said Larson. “You look at it, you see how parallel it is to the fault. We know that historically there were earthquakes in the area. **It just begs to be related. But it turns out it’s not possible.**”

Further investigation led to a completely different theory. The scarp was carved by a **“quick, strong force — such as a flood surge** from a melting glacier.” This recalls the reluctant reinterpretation of the Channeled Scablands in Washington State (see “Did Lyell Lie a Little?”⁴).

Tortoise races up the Andes (*PhysOrg*⁵): A fossil turtle is upsetting a race about how fast the Andes rose. A researcher from Case Western Reserve University found the specimen at a level that he says indicates the mountains were only a kilometer or less in height 13 million years ago—a half or a third the height previously thought. Turtles of this type don’t usually live above 500 meters, he says.



The remains are the first records of fossil turtles from the Miocene epoch in Bolivia, and their presence **challenges a recent isotope-based study** that estimated the massive plateau, called the Altiplano, near what is now the town of Quebrada Honda, was **2 to 3.2 kilometers** high at that time.

The new height limit requires speeding up the subsequent rise of the Andes to get them as tall as they are today. Additionally, the scientist says the five-foot-long tortoise, which is in the same genus as the Galapagos tortoise, indicates the climate was much wetter back then. So what evidence are geologists going to trust, the isotopes or the turtles? Being off by 200 to 300 percent is apparently OK in geological science.

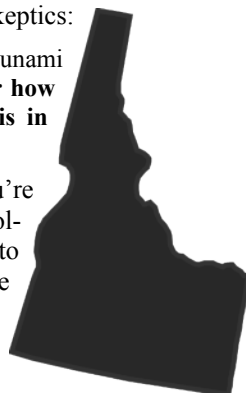
Megatsunami? I’m unconvinced (*National Geographic*⁶): Dallas Abbott is having a hard time convincing some of her geological colleagues that a megatsunami formed chevron-shaped features on Madagascar. She posits a meteor strike left a gaping crater near Australia that sent a huge tsunami blasting African coastlines. The water wave would have reached 300 feet, three times higher than the record tsunami that struck the Indian Ocean in 2004.

Other geologists suspect megatsunamis almost three times bigger than that (885feet) deposited huge boulders onto Santiago island. Their skeptics are “unconvinced” that catastrophic causes are needed. They think local sand could explain the dunes Abbott claims were washed up by the huge water waves. **“In fact, none of the new results require any kind of catastrophic event or extraterrestrial intervention,”** one critic says. **“Just wind blowing over the beach.”** Abbott counters that microfossils she says are 10,000 years old could not have survived wind transport; they would have been ground to dust. Her reaction to skeptics:

“Most of the people who are against [the megatsunami theory] are **never going to be convinced no matter how much data I bring** to the table. **That is how it is in science.**”

The four rivers flowing out of Idaho (*Geology*⁷): You’re going to have to think big to swallow this theory. Geologists examined Cretaceous sandstones from Alaska to California and found a surprise: detrital zircons that are much, much older, according to the standard geological timescale. How did they get there?

Upper **Cretaceous** sandstones from 17 localities from



California to southeastern Alaska (United States) contain **unexpectedly large populations of detrital zircons** with **Proterozoic** U-Pb ages, with age peaks at 1800–1650 and 1380 Ma. These peaks are **indicative of a sediment source region** in the southern part of the Proterozoic Belt Supergroup basin in **central Idaho**, which hosts 1800–1650 Ma detrital zircons and which was intruded by rift-related 1380 Ma bimodal plutons and sills.

These zircons would have to be a billion and a half years older than the sandstones that contain them. To explain these anomalies, they propose that there were four rivers flowing out of central Idaho toward California, Washington, Wyoming, and (indirectly) Alaska. They even give names to the mythical rivers: the Lemhi Pass-Hawley Creek system, the Kione River, the Swakane River, and the Yakutat River.

But were those real rivers, or just rescue devices to preserve the long-age interpretations? Well, a geologist does what he has to do. **“Recognition of a major source area in central Idaho for zircons with an uncommon age of 1380 Ma helps constrain the ca. 85–65 Ma paleogeography and paleotectonics of major sectors of the North American convergent margin orogen.”**

1. Ohio State University. (2015, December 28) River ecosystems show 'incredible' initial recovery after dam removal: Fate of one songbird species indicates fast rebound. *ScienceDaily*. Retrieved January 20, 2016, from <http://www.sciencedaily.com/releases/2015/12/151228124655.htm>
2. Tonra, C.M., K. Sager-Fradkin, S.A. Morley, J.J. Duda, and P.P. Marra. 2015. The rapid return of marine-derived nutrients to a freshwater food web following dam removal. *Biological Conservation* 192:130–134.
3. University of Illinois. (2015, December 23) Geologic formation could hold clues to melting glacier floodwaters. *PhysOrg*. Retrieved January 20, 2016, from <http://phys.org/news/2015-12-geologic-formation-clues-glacier-floodwaters.html>
4. Anonymous. (2008, July 25) Did Lyell lie a little? *Creation Evolution Headlines*. Retrieved January 20, 2016, from <http://creationsafaris.com/crev200807.htm#20080725a>
5. Case Western Reserve University. (2015, December 29) Reptile fossils offer clues about elevation history of Andes Mountains. *PhysOrg*. Retrieved January 20, 2016, from <http://phys.org/news/2015-12-reptile-fossils-clues-elevation-history.html>
6. Casey, M. (2015, December 22) Scientists debate evidence of ancient megatsunami. *National Geographic*. Retrieved January 20, 2016, from <http://news.nationalgeographic.com/2015/12/151221-ancient-megatsunami-madagascar-debate-science/>
7. Dumitru, T.A., W.P. Elder, J.K. Hourigan, A.D. Chapman, S.A. Graham, and J. Wakabayshi. 2016. Four Cordilleran paleorivers that connected Sevier thrust zones in Idaho to depocenters in California, Washington, Wyoming, and, indirectly, Alaska. *Geology* 44(1):75–78.



All by Design

by Jonathan C. O'Quinn, D.P.M., M.S.

Tidepool Trickster

The rock goby is a small fish commonly found in shallow tidepools from Europe to North Africa. It apparently also tastes good to many predators, especially birds at low tide and larger fish at high tide. In this tiny creature we find another example of physical abilities that defy explanation apart from the deliberate design of an intelligent Creator.

The rock goby is a master of camouflage, able to make itself virtually invisible. If the fish swims in an area where the background color changes, it is able to change and “tune” both its color and brightness within one minute, essentially disappearing from view. How do gobies do this? Well, they possess special cells in their skin, called chromatophores, which are found in many other animals, even seemingly unrelated animals, such as cuttlefish and chameleons.

Chromatophores function to condense or to spread various colored pigments over the body, changing color, brightness, and even creating patterns of colors. This process



Rock Goby, *Gobius paganellus*

is automatically triggered by the rock goby’s visual system when it moves over a new background.

If living things developed purely by chance, how then can one explain the step-wise, “accidental” development of this ability? For example, the coordinated linkage between the visual system and specialized skin cells would have had to work properly from day one, in order to confer any survival advantage to the rock goby’s ancestors. Furthermore, how could a putative ancestral creature recognize the need to, say, change

its color only in certain circumstances, and then go out and do it?

Belief in an evolutionary origin of the goby would require more faith than believing in a deliberate creation by an intelligent Designer.

References

1. Anonymous. (October 15, 2014) Riddle of the rock pools: How tiny fish camouflage themselves. *ScienceDaily.com*. Retrieved February 1, 2016, from www.sciencedaily.com/releases/2014/10/141015143149.htm
2. Anonymous. (October 15, 2014) Study shows rock gobies use rapid color change camouflage to hide from predators. *Phys.org*. Retrieved February 1, 2016, from <http://phys.org/news/2014-10-gobies-rapid-camouflage-predators.html>

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