

Creation Matters

Volume 17 Number 4

July / August 2012

— A publication of the Creation Research Society —

Is the Human Yolk Sac Vestigial?

by Jerry Bergman, Ph.D.

It is of historical interest that the yolk sac is a misnamed structure that for decades many Darwinists claimed to be a useless remnant, a vestige left over from our supposed human evolutionary past (Kent, 1978, p. 435; Kaufmann, 1985). One typical text of the last century claimed that in humans the yolk sac was a “vestigial

structure, serving no known function” (Baker and Allen, 1967, p. 428).

Another textbook of the same era stated that “in animals that hatch from eggs” the yolk sac “provides food for the embryo,” but in humans the “sac is small and not significant,” implying that it is a remnant of a once useful organ (Otto and Towle, 1969, p. 654). No reputable embryologist makes that claim today.

but in most mammals it remains small and unimportant” (1975, p. 138).

Although for decades thought to be a useless structure, this sac has been proven to be a very important organ that serves several critical functions in the developing embryo (Carlson, 2004). However, as late as the mid-1980s Sillman (1985) claimed that both the

... yolk sac and allantois, two embryonic membranes that are definitely functional in fish, amphibian, reptile and bird embryos, are vestigial in placental mammals. Their appearance in human (or mammal for that matter) embryos certainly does indicate a genetic kinship with the other vertebrates. It doesn’t “prove” evolution occurred — but it does quite clearly, along with a host of other structures and functions, point to genetic linkage of all the vertebrates.

... continued on p. 7

← →

If you have not renewed
your CRS membership,
this will be
your final issue of
Creation Matters

← →

The way it was...

Many evolutionists had also maintained that the yolk sac was yet another proof of the biogenic law, primarily because it was regarded as a remnant left over from our putative reptilian-egg history — hence the name *yolk sac*. Typical is a text by Kent that claimed the yolk sac is “a reminder” of the mammalian “genetic relationship with egg-laying reptiles” (1987, p. 435). In a 1970’s textbook Jenkins claimed that “a few blood vessels may grow into the yolk sac,

Naturalistic Evolution: a Dangerous Humanistic Philosophy

by Gary Howell

Every public school in America, and in most of the world, teaches naturalistic evolution as a factual imperative. Insist they that all plant and animal life on planet earth came into existence as an automatic derivative of time, chance, mutation, and natural selection. These are the four players in what is commonly thought of as naturalistic processes or classic Darwinian evolution. Incidentals such as atomic structure and the cosmos, we are informed, materialized out of nothingness.

Arguments contrary to these universally accepted ecclesia are relegated as heretical buffoonery, hay-seed nonsense, likewise and worse. But pockets of rebellion contrary to the Empire persist, and this article is more at that.



Appearance of design

Design is naturalistic evolution’s greatest hindrance as an omnibus Rubicon. In fact, the word “design” cannot be used in conjunction with naturalistic evolution, because Merriam-Webster defines the verb design

as “to create, fashion, execute, or construct according to plan,” or “conceive and plan out in the mind.”¹ There’s no mind with naturalistic evolution; no intelligence, no concepts, no planning, no presuppositions, no imagination. Evolution’s working variables are time, chance, mutation, and that amorphous opiate, natural selection. This is not “hay-seed” theistic doctrine, but fundamental, naturalistic evolution pedagogy. You cannot associate design with naturalistic evolution. But the grand difficulty revealed with the study of nature and physics (science) is that ineffable, pesky, enigmatic, and inviolable *appearance of design*; it just won’t go away. Worse yet, the more layers that are peeled away, the more design is confirmed.

... continued on p. 3

Lunar Formation Theories

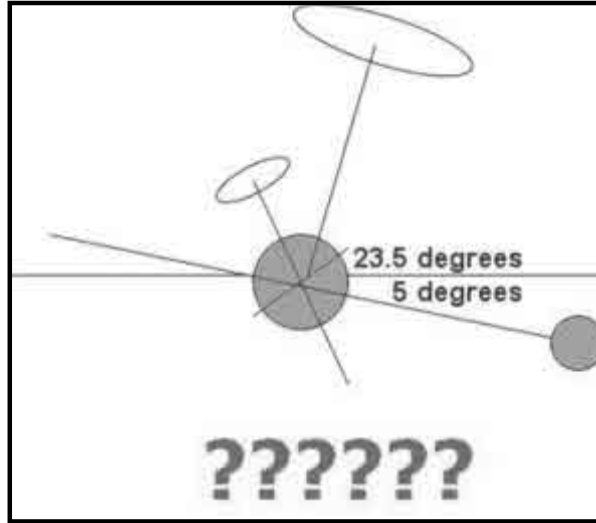
by Ron Samec, Ph.D.

Early lunar formation theories include George Darwin's fission hypothesis, the lunar capture theory, the condensation hypothesis, and the collision hypothesis. We shall briefly examine each one.

Fission hypothesis

The fission hypothesis claims that the early Earth rotated faster and faster, as more dense elements sunk to its core. When the earth exceeded breakup velocity, the material that would become the Moon tore from the Pacific Ocean Basin, leaving a scar (Ridges). The problem with this is that the initial spin or angular momentum is not conserved in the present Earth-Moon system (50% loss).

Also, the orbit of the moon and the obliquity of the ecliptic (likewise the inclination of the earth) should coincide, and they do not. The Earth's inclination is about 23.5° to the orbital plane (the ecliptic) and the Moon's orbit is inclined by some 5°. In the figure above, we symbolically represent the Moon and the Earth by different sized green circles, and by the respective planes of the Moon's orbit and the Earth's orbit (the latter indicated by the horizontal lines). The tilt of the Earth is represented by the tilt of the Earth's equator (called the obliquity of the ecliptic). The smaller ellipse shows the rotational motion of the earth,



while the larger ellipse symbolizes the orbital motion of the moon.

Lunar-capture theory

Another theory is that the Moon was captured by the Earth as it passed by in an Earth-crossing orbit. One major problem with this idea is that capture is an extremely rare event! And even if this unlikely event took place, the Moon would likely have swung by in a parabolic or an elliptical trajectory, which is a higher velocity orbit than is that of the near circular orbits of either the Earth or the present Moon. The big question is *what caused the Moon to slow down?* If captured by the Earth, we

would expect the present Moon to have a larger eccentricity and inclination. The resulting, fantastic tidal dissipation would have resulted in major distortions and destruction of the Earth. Also, if a near-collision brought the object within the Roche limit of the Earth, the Moon could have been shredded into rings.

Condensation hypothesis

The third lunar formation hypothesis, condensation, is an extension of the Laplace nebular hypotheses: the Moon formed from the solar nebula. As the sun's nebula condensed, conservation of angular momentum caused a disk to form and within the

disk, eddies or whirlpools developed. At the center of these, the planets formed. Secondary eddies led to satellites or moons of the planets. The Earth and the Moon supposedly formed in an eddy and a secondary eddy. Again, the current, strange Earth-Moon orbital-inclination would not result — the Moon's orbital plane and the Earth's equator should coincide.

Collision hypothesis

Recently, another lunar formation theory has surfaced. This involves an Earth collision with a one or two-Mars-mass planet. This premise seems to solve all of the aforementioned problems, except for the low

Contents

Is the Human Yolk Sac Vestigial?.....	1
Naturalistic Evolution: a Dangerous Humanistic Philosophy.....	1
Lunar Formation Theories.....	2
<i>Math Matters: Math Paradoxes</i>	5
<i>Matters of Fact... Designed for Domestication</i>	6
Speaking of Science	
Thank your cilia.....	8
Sun, moon, and stars in the news.....	9
Palm trees thrived in Antarctica.....	9
Left-handed puzzle remains.....	10
Maple to the rescue.....	10
<i>...without excuse! The Fallacy of "God of the Gaps"</i> ..	11
<i>All by Design: Burying Disbelief</i>	12

Creation Matters

ISSN 1094-6632

Volume 17, Number 4

July / August 2012

Copyright © 2012 Creation Research Society

All rights reserved.

General Editor: Glen W. Wolfrom

Assistant Editor: Jean K. Lightner

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

Glen W. Wolfrom, Editor

P.O. Box 8263

St. Joseph, MO 64508-8263

Email: CMeditor@creationresearch.org

Phone/fax: 816.279.2312

Creation Research Society Website:

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 CRS.

probability of such an event. In fact, it is much more improbable than is a near collision of a lunar mass dwarf planet, as in the capture hypothesis. However, the odd orbit of the Moon is easily explained by the initial orbit of the planet since it does not have to follow a particular path (except that it should be near the ecliptic).

A recent study of Moon rocks now puts even this model in doubt (Meier, 2012). The research team confined their study to a rare form of titanium (using the 50Ti/47Ti isotopic ratio) which is known to occur in widely varying amounts throughout the solar system. After correcting for the difference caused by the continued exposure of the lunar surface to the Sun's radiation, the scientists found that the isotopic abundance in Moon rocks was identical to that of the Earth. This implies that the Moon came only from Earth materials and not an alien planet that collided with the Earth. Thus, there is no evidence of the Mars-mass object in these

data. In other words, the collision theory has failed.

This gives some credibility to the fission model! We also note that in a letter in the same issue, Zhang et al. (2012) stated that the twin nature of lunar rocks and the Earth could be explained by an "efficient impact ejection" by "exchange of material between the Earth's magma ocean and the protolunar disk." It is very hard, though, to imagine such a thorough mixing of an alien planet and the Earth's crust.

The real explanation

The real explanation of the Moon's existence and orbital configuration is that God designed and created the Moon and set it in place, with a number of important purposes. These include the gyro-stabilization of the Earth, cleaning of Earth's shorelines by tidal forces, giving light in the evening, and the revealing of the Sun's corona and chromosphere to scientists during solar eclipses.

Helium was discovered because of the last listed design feature.

As we read in Genesis 1:16-18,

...God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also. And God set them in the firmament of the heaven to give light upon the earth, And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good.

References

Meier, M.M.M. 2012. Moon formation: Earth's titanium twin. *Nature Geoscience* 5:240-241.
Zhang, J., N. Dauphas, A.M. Davis, I. Leya, and A. Fedkin. 2012. The proto-Earth as a significant source of lunar material. *Nature Geoscience* 5:251-255.



Philosophy ...continued from page 1

Speaking as an engineer with 17 domestic and international patents, I maintain that the proposition of complex systematic designs emerging devoid of preparation, concepts, planning, technological building blocks, and thinking is scientifically untenable and insulting. No matter how complex the design interaction, with design interdependency built upon design interdependency, evolutionary philosophy simply insists these only "appear designed."² With decades of intensive scientific research, many of "nature's" designs, including for example the inner ear's Organ of Corti, aqueous spider silk (eluding human emulation), and the human brain, remain inexplicable.

If one were to submit a patent application to the US Patent and Trademark Office for naturalistic processes as a means of producing life and inanimate atomic structure, it would be rejected out-of-hand. Concepts are not patentable! The Patent Examiner would ask to see the design (what is the mechanism?). The applicant would restate that complex organic and inorganic mechanisms can be produced by means of the interactive variables of time, chance, mutation, and natural selection. The Examiner would again suggest, a little more forcefully this time, that this is a concept and not the substance of a working patent. Come

back when you have a working design. Naturalistic evolution is therefore a concept, a hypothesis, a thesis, or to be precise, a humanistic philosophy.

Another broadband difficulty for naturalistic evolution is in providing multiple solutions to the same problem. Take flying, for example. This feat of projecting one's self through the mixture of gasses we call air, required humankind, *with* intelligence, concepts, and planning — a combined effort through several centuries. Leonardo da Vinci dreamt of it and advanced unsuccessful designs, including the ornithopter.³ It was not until we began to get the drift of differential pressure as a result of airfoil (Bernoulli's principle) did anything near a successful flying machine emerge. But the animal kingdom solved this system-intensive problem three different ways: birds, insects, and mammals.

Bird flight

Birds fly by means of multiple technologies, but principally via a feature called feathers. Feathers are manufactured in hair-follicle variants consisting largely of finger-nail-like material, β -keratin.⁴

There are numerous feather variants that can be described within six general categories: tail, flight, semiplume, filoplume, bristle, and downy.⁵ Of these, downy or down is the simplest, having no barbs and barbules, or "hooks" latching adjacent filaments. Being the "simplest

feather" nonetheless, no manmade material to date approaches down's thermal, weight, and rebound characteristics.

It is unlikely, in fact, given modern man's technological advances in metallurgy, polymer chemistry, carbon fiber, CAD modeling, etc., to fabricate a structure equaling a feather's design. "Light as a feather" is more than a cliché as an engineering design team ponders equaling the feather's specifications: strength-to-weight ratio, modulus of elasticity, ductility, hollow-tapered-cantilevered central-support beam — and let us not underestimate the incidental design detail — it must grow in place!

Feathers must be sized and placed quite accurately, and hooked together, creating a contiguous outer surface. Bird-wing architecture is a true airfoil. Its arched geometry causes air passing over the top to travel at a greater velocity than air passing below the wing. This causes negative pressure above the wing which lifts the bird. It's fascinating for birds (that are, we're told, dinosaur derivatives) to have solved this systematic, technological difficulty without intent or intelligence!

It is exactly the means of lift utilized by 747's and F-15's. But bird wings are much more complex than modern aircraft wings, because they are variable airfoils! With anticipatory, neural-feedback networks, bird wings adjust to situational events involving propulsion, ascent/descent,

air speed, cross winds, air density, proximity, and the like. Modern aeronautical engineers can only dream of variable airfoils, as da Vinci dreamed of flying.

Insect flight

Naturalistic evolutionary philosophy alleges that insects evolved from different origins than did birds, but insects nevertheless solved the difficulties of flight with quite unusual features. Not with feathers but with chitin, a naturally-occurring, structural polymer called a polysaccharide.

Insect flight employs some elements of airfoil design, but insect propulsion and lift are largely credited to vortices which are created at the leading edge of the insect wing, and to the flapping motion that causes the vortices to spiral out to the wing tip.⁶ It is certain that man-made flight abhors vortices (turbulent air flow versus laminar air flow), but insect flight deliberately induces powerful vortices, and uses them effectively for lift, propulsion, and maneuverability!

Bird lift and propulsion are limited to the downward stroke, but insects are capable of rotating their wings fully backward so that the wing's upper surface creates lift in the upward stroke also — i.e., every stroke provides lift and propulsion. They can fly upside down, as in landing on a ceiling, or backwards and sideways. The mind staggers at the number of prototypical iterations which would be needed to accomplish this outrageous, systematic “appearance of design.” Entomologists and aeronautical engineers are just beginning to understand and appreciate the extreme airborne capability of these diminutive creatures.

Mammalian flight

Bats are mammals — live birth, warm bodies, milk-fed young — and quite different from bugs and birds, but they are creatures that once again solved the flying enigma by altogether different design stratagem and materials selection. Perhaps the flying gig is no “big deal,” but just happened to take intelligent humans surprisingly long to accomplish. Bats, after all, “simply” stretch a skin membrane over a bony structure and take to the air. But it's hardly that simple, as the skin/bony structure must make up the aforementioned airfoil, with the neuro-muscular systems in place to vary wing geometry and, thus, to sustain intrepid, long-distance flight and crazy acrobatics.

Oh, and dare we mention the incidental, fully integrated, co-developmental echo-location feature! No big deal, according to our best collegial biology professors, but

these cavalier academics never designed and developed anything themselves! It is scientifically antithetical and a hopelessly vacuous proposition (let alone a factual imperative) to suggest the mechanisms purported by naturalistic philosophy could produce any of these flying machines, and especially to do so by three distinctly differing methodologies.

Speech

Linguists suggest that human language is one trait that significantly differentiates us from apes,⁷ but within evolutionary dictum, it's troubling to find our nearest relative unable to mutter a solitary human-like word. The embarrassment is consistent with all ape groups in spite of considerable long-term, investigative prompting by the evolutionary empire. Should we not find this revelation scintillating, perhaps amusing, and even scandalous? While our nearest “progenitor” cannot muster any word semblance (which is quite unexpected), an extremely distant, non-mammalian relative can “talk the talk” just fine, and with very little human coercion — an unholy, unexpected reality to be sure.

It is well known that numerous bird species including parrots, cockatoos, macaws, and parakeets can perform at this bastion of human domain without difficulty, with African Greys' being capable of speaking hundreds of words!⁸ Primates have larynges (“voice boxes”) like ours, but our “nearest relative” can only muster occasional vowels, not consonants, and therefore cannot replicate a single recognizable human word. They (primates) are excused from speaking in public, by evolutionary philosophers, because the primates' hyoid bones are out of proper location for forming words, said they...that's too bad — we'd really like hearing from our cousins!

So...what's going on here? While the mammalian larynx is located at the top of the trachea, the bird's sound box (called the “syrinx”) is located farther down the trachea, at the junction of the two bronchi leading to the lungs. Separate membranes within the syrinx, one in each bronchus, are controlled by an intricate neuromuscular system, producing separate sounds.⁹ With this “adaptation,” by in effect contorting their trachea, and by varying the speed of expelled air, they are able to “sing” perfectly recognizable human words. Try that next time you're in the shower singing “I did it my way!”

Final thoughts

The evolutionary empire has grown so vast and powerful that no other viewpoint is tolerated at any venue. This is especially true in agencies associated with government. No competing view is permitted at schools or work places with government tentacles. Those who dare are ridiculed at best, but most often spurned, dismissed, and persecuted. No written, oral, private, or public dissent is tolerated.

There are great gaping holes in naturalistic evolution as a scientific explanation for all that exists. Only a very brief selection is presented above. There is no causal entity or first-cause basis in naturalistic evolution theory. Devotees of the religion simply insist that it occurred, while simple logical deduction requires a cause for every event.

Unbridled naturalistic evolution, as a national and international religion, leads to (has lead to) the decline of human culture. Even the basic mitigating injunction “to do unto others as you would have others do unto you” (Matthew 7:12 and Luke 6:30) is contrary to evolutionary religious dictates. Scriptural premise, especially Christianity, as a competing religion to that of naturalistic evolution, will not be tolerated.

This is no exaggeration. From Wall Street to Mayberry, the new operational thesis is Survival of the Fittest, not the Golden Rule. Since its introduction in the mid-nineteenth century, evolutionary philosophy can be traced to numerous tragic holocausts, including Hitler's extermination camps. It is responsible for the lack of civility in the public classroom, and for cutthroat corporate and public/political demeanor. It will be the end of America if not pointed out for what it truly is — a dangerous, technically baseless, atheistic philosophy which is bent on eviscerating all competing ideologies.

References and notes

1. Anonymous. 2012. Design. *Merriam-Webster Online* Retrieved August 11, 2012, from www.merriam-webster.com/
2. Dawkins, R. 2006. *The God Delusion*. Houghton Mifflin Company, Boston, MA. [See p. 139, “We live on a planet where we are surrounded by perhaps ten million species, each one of which independently displays a powerful illusion of apparent design.”; and p. 158, “Darwin and his successors have shown how living creatures, with their spectacular statistical improbability and appearance of design, have evolved by slow, gradual degrees from simple beginnings. We can now safely say that the illusion of design in living creatures is just that — an illusion.”]

3. Fuller, J. 2012. Top 10 bungled attempts at one-person flight: 9. Leonardo da Vinci's Complex Ornithopter (c. 1505). *HowStuffWorks*. Retrieved August 11, 2012, from <http://science.howstuffworks.com/transport/flight/classic/ten-bungled-flight-attempt2.htm>
4. Anonymous. 2012. Feather. *Wikipedia*. Retrieved August 11, 2012, from <http://en.wikipedia.org/wiki/Feather>
5. Kazilek, C.J. 2012. Feather biology. *Ask A Biologist, Arizona State University*. Retrieved August 11, 2012, from <http://askabiologist.asu.edu/explore/feather-biology/>
6. Anonymous, 2004. *Animal Flight Group: Aerodynamics*. Department of Zoology, University of

Cambridge. Retrieved August 11, 2012, from www.zoo.cam.ac.uk/zoostaff/ellington/aerodynamics.html

7. Bolles, E.B. 2010. Are humans unique? *Babel's Dawn (blog)*, July 11, 2010. Retrieved August 12, 2012, from www.babelsdawn.com/files/are-humans-unique-071110.pdf. [Bolles referred to Corballis who "points to three things — language, tools, and mental time travel — that distinguish humans from apes. *Language* uses sentences, while apes trained in sign language produce signals that 'are devoid of syntax...parts of speech...tenses...moods...diathesis...in effect no sentences.'"]
8. Morgana, A. 2002. Audio clip and transcript of N'Kisi the African Gray Parrot talking with

Aimee Morgana. *The N'kisi Project: Avian Contextual Language Use in Interspecies Social Interactions*. Retrieved August 12, 2012, from www.sheldrake.org/nkisi/nkisi1_text.html

9. Davies, G.H. n.d. Bird songs. In D. Attenborough, *The Life of Birds*. Public Broadcasting Service (PBS). Retrieved August 12, 2012, from www.pbs.org/lifeofbirds/songs/index.html

◁ CM ▷



Math Paradoxes

Many mathematical truths are surprising and several counter-intuitive examples follow. To begin, every person on earth connects with every other person through a chain of about six mutual contacts (with some exceptions). This means that friends of friends of friends of... through six levels, will include the entire earth's population of seven billion. This truth was verified in a limited test using e-mail contacts (Klarreich, 2003).

The implications are many. On the practical side, through the phenomenon called the "strength of weak ties," people often find new job opportunities through distant acquaintances rather than closest friends. In evangelism, consider that each person on earth is just six-persons removed from knowing every other person.

Tie a yellow ribbon

The earth's circumference C is about 25,000 miles. Suppose a ribbon could somehow be wrapped completely around the earth with one foot of slack. That is, after tying, the ribbon length is 25,000 miles long, plus 1 foot. How much room remains beneath the ribbon? Is it the size of an atom? Would it be finger width?

Writing the earth radius as r , $C = 2\pi r$, let ΔC be a change in the earth's circumference, and let Δr be the amount of space beneath the earth-encircling ribbon. Then,

$$\Delta C = 2\pi \Delta r$$

$$\Delta r = \Delta C / 2\pi = 1 \text{ foot} / 2\pi = 0.16 \text{ foot} = 1.9 \text{ inches}$$

The surprising answer to the question is 1.9 inches. One's entire hand could slip under the ribbon around the earth if it is given just one extra foot of slack. Even more curious, this same result of a nearly two-inch gap occurs for a ribbon (with one extra foot of length) wrapped around *any* sphere, whether the earth, a basketball, or a marble. The reader is challenged to try this activity.

Happy birthday

In a group of 23 people there is a 50/50 chance that two of them will have the same birthday. This *birthday paradox* works as follows. The probability of the first person's having a birthday sometime during the year is obviously 365/365, or certainty. When a second person is asked her birthday, the probability of a different date from the first person is nearly one, 364/365. For the third person, the probability of a unique birthday is 363/365.

Continuing this process for 23 people, and multiplying the individual probabilities, the total probability of 23 unique birthdays becomes about 0.5, or conversely, the probability of two people having the same birthday.

$$p = \frac{365}{365} \times \frac{364}{365} \times \frac{363}{365} \times \frac{362}{365} \times \dots \times \frac{343}{365} = 0.507$$

In a room with just 50 people, the odds are 99% in favor of at least two matched birthdays.

Take a breather

Every breath you take contains molecules of air also breathed by Abraham Lincoln,

Isaac Newton, and Old Testament saints. Each breath takes in about 10^{22} molecules (0.5 liters) of air, while the earth's atmosphere totals about 10^{44} molecules. Since air is in constant motion, each new breath contains, on average, one molecule that was in any other half-liter of air centuries ago. This assumes a thorough uniform mixing of the atmosphere over time (Swenson, 2000).

Infinite series

Consider the sum of the infinite series of terms $1/n$ where $n=1, 2, 3, \dots$

$$\text{sum} = 1 + 1/2 + 1/3 + 1/4 + \dots$$

The terms rapidly decrease in value. However, as n becomes large, the sum diverges to infinity rather than converging.

In contrast, the sum of the following infinite series converges to the value of 2.

$$\text{sum} = 1 + 1/2 + 1/4 + 1/8 + \dots + 1/2^n + \dots$$

These and many other paradoxes show some surprises in math, the language of creation.

References

- Klarreich, E. 2003. Small world after all. *Science News* 164(7):103.
- Swenson, R.A. 2000. *More Than Meets the Eye*. Navpress, Colorado Springs.

◁ CM ▷

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 tame foxes have so many characteristics in common with dogs?

A The similarities between tame foxes and dogs are very intriguing and of great interest to creationists (Lightner, 2011). Tame foxes and dogs not only exhibit behavior which is different from their respective wild counterparts, but these two species, when domesticated, share many physical traits with each other as well. They have an increased variation in size, color, and hair coat texture compared to their wild ancestors. Floppy ears, shortened tails, and changes in the muzzle show up quite frequently, too. They tend to reach reproductive maturity sooner and are less seasonal in their breeding than wild animals tend to be.

Those who have conducted research on taming foxes have pointed out that these traits arise more frequently than would be expected by chance, i.e., random mutation. How interesting that selecting for a behavior (tameness) seems to increase variation in physical traits!

Given what we know, it would almost seem that dogs and foxes were designed to be able to be domesticated. Perhaps this is actually the case. Given that these animals are both considered part of the same created kind, it might not be that surprising that both have been successfully tamed with similar results. However, this phenomenon extends far beyond members of the family Canidae (Trut, 1999). The same patterns show up in completely unrelated animals (see table).

Patterns in domestication

Domestication was in the mind of God when He created humans to “rule ... over all the earth” (Genesis 1:26). Plants reproduce not only to provide vegetation throughout the earth (Genesis 1:11-12), but also, through human effort (breeding and selection) can change in very productive ways that directly benefit people. There seem to be endless agricultural varieties of grains, legumes, and numerous other food crops. In addition to breeding for high yield, there are varieties developed to do well under specific condi-

Table 1. Examples of increased variety often seen in domesticated species.

Type of variation	Domesticated species (selected examples)
size	horses (pony, draft), chickens (bantams) dogs, pigs, cattle, sheep, goats
floppy ears	dogs, cats (Scottish fold) pigs (Landrace), sheep (Awassi), goats (Nubian)
piebald (uneven patches or spots, usually black and white)	all
wavy or curly hair coat	sheep, horses, donkeys, pigs, dogs, goats mice, guinea pigs
short tails (fewer vertebrae)	dogs, cats, sheep
reproduction	all

tions, such as wet or dry environments, and the presence of specific pests or diseases. It is an amazing testimony to the fact that God provides and cares for our needs, even in this fallen world.

These patterns of high productivity can be seen in animal agriculture as well. In fact, there are often several choices as to what final product can be pursued. Cattle can be bred for meat or for milk and reach astonishingly high levels of production (especially compared to what is needed in the wild). Sheep can be bred for meat or wool (or milk). Ducks and chickens can be bred for either meat or eggs.

Then there are breeds which, although they don't top the charts in production, can do well in extreme environments such as high altitude (e.g., the yak) or very arid conditions (e.g., zebu cattle). God has given us the ability to feed even a well-populated planet through proper management and good stewardship of our resources. Unfortunately, war and human greed are major contributors to famine.

The changes that are seen during domestication involved more than just rearranging previously existing variety. New mutations arise during this process. Interestingly, the genes where they occur are often found clustered together in the DNA. Some mutations have a pleiotropic effect, which means they affect several different traits. There also appear to be mutations in nearby genes that are involved in expression of these traits (Wright et al., 2011). It almost seems that these creatures were designed with specific modules of genes that are involved in allowing them to be domesticated and useful to mankind!

Isn't this evolution?

When evolution is used in its broadest sense to mean simply genetic change over time, then yes it could be called that. However, no serious creationist disputes the fact that populations can and do change genetically over time. The contentious aspect of evolution is universal common ancestry, which includes the idea that humans came from apes. This facet of evolution involves more than just change over time, but would have to incorporate specific patterns of change which are not seen in the world around us.

Evolution in the common-ancestry sense requires that naturalistic processes, such as chance mutations and natural selection, must be able to produce the complexity found in life today. Genes are organized into complex networks which must function properly for life to exist. Some gene networks are set up so that mutations in certain places can be potentially useful. The types of mutations we see in domestication are merely a shifting of the balance in previously existing gene networks. They do not explain the origin of those networks.

In the evolutionary paradigm, not only is there no good explanation for the origin of gene networks, but there is also no good reason why the genes involved in domestication should be clustered together in the DNA. There is no persuasive explanation why these genes should have remained organized this way, in diverse animals throughout millions of years of supposed evolution, when they weren't needed for domestication.

Instead, the biblical framework makes more sense of these observations. The

complex gene networks were created by our omniscient Creator, designed to allow for some changes. These changes may help animals adapt, add interesting variety, and/or allow for productive agriculture. These patterns we see in the creatures around us should remind us that we are cared for by an awesome Creator.

References:

- Lightner, J. 2011. Selection for behavior, and the phenotypic traits that follow. *Journal of Creation* 25(3):96–101.
- Trut, L.N. 1999. Early canid domestication: the farm-fox experiment. *American Scientist* 87(2):160–169.

- Wright, D, C-J. Rubin, A.M. Barrio, K. Schütz, S. Kerje, H. Brändström, A. Kindmark, P. Jensen, and L. Andersson. 2010. The genetic architecture of domestication in the chicken: effects of pleiotropy and linkage. *Molecular Ecology* 19(23):5140–5156.

< CM >

Yolk Sac

...continued from page 1

Which of course is precisely the significance of vestigial organs.

Sillman (1985) added that, in all his years as a biologist scanning the scientific literature, he cannot “recall a single reference in the scientific literature to a ‘proven’ function for the yolk sac in the human embryo.”

The way it is...

Both the “biogenic law” and the claim that the yolk sac is “small and unimportant” now have been fully refuted. As Exalto (1995) concluded:

For a long time the human yolk sac has been considered to be a vestigial organ, an evolutionary remnant. This misconception was more or less based on the fact that it does not contain any yolk. In the last decade, however, the human yolk sac is proving to play an active and critical role during organogenesis.

This research has resulted in rewriting of the textbooks. For example, Kent (1978, p. 435) in the fourth edition of his text stated that the “yolk sac of the mammalian embryo is vestigial,” but in the sixth edition he expanded his discussion of the yolk sac considerably, discussing in detail its many critical functions (1987, p. 435).

The yolk sac is a highly differentiated adnexal organ consisting of a comparatively large, membrane-surrounded, beach ball-like structure attached to the “belly” of the embryo (the underside of the embryonic disc) by a tube (the yolk stalk). During one stage of early development, the so-called yolk sac is actually larger than the embryo itself (Exalto, 1995).

The sac wall consists of well defined endodermal, mesenchymal, and mesothelial layers (Pereda and Motta, 1999). The sac is filled with vitelline fluid, and is lined by endoderm tissue. In the human embryo, the yolk sac appears during the second week

and, by the fourth week, develops into a small pear-shaped vesicle.

Development and function

The yolk sac has been proven to be a multifunctional organ, critical not only for embryonic life but also for reproduction. In humans one of its first functions is to produce gonocytes, cells that eventually develop into gametes in both males and females (Pereda, Correr, and Motta, 1994). These primordial germ cells then migrate by amoeboid movement from the yolk sac to the genital ridge at from 4 to 6 weeks (Larsen, 1998).

We now know that the yolk sac structure is also critical for organogenesis. During development of the body’s organs (Lindsay et al., 1992),

... and before the placental circulation is established, the yolk sac (YS) is the primary source of exchange between the embryo and the mother. The YS has nutritive, endocrine, metabolic, immunologic, secretory, excretory, and hemopoietic functions ... [serving in the] transport of critical substances from the mother to the fetus at a time when the YS is the sole or principal maternofetal transport system.

Furthermore, Lindsay et al. (1992) concluded that the yolk-sack is so important that a persistently abnormally-shaped yolk sac is very useful as a predictor of abnormal development: “When the YS shape was persistently abnormal ... the outcome was always abnormal.” One reason this is true (Lindsay et al., 1992) is because the yolk sac

... plays an important role in the maternal-fetal transport system. Gross changes in its size or shape, therefore, could indicate or reflect significant dysfunction of this transport system.

Evidence for this view supports the conclusion that the yolk sac plays a “crucial role in the development of spontaneous abortion and structural congenital defects” (Exalto, 1995).

The yolk sac also transfers nutrients to the embryo during the second and third weeks, while the uteroplacental circulation system is developing (Moore, 1988, p. 121). The yolk sac mesenchyme gives rise to a network of vessels that provide the embryo with nutrients and a means of waste disposal (Pereda and Motta, 1999). These exchange functions are all taken over by the placenta later in development (Docherty, et al., 1996).

Its other embryonic functions include its being the first structure to produce blood cells in the early stages of development (Oberlin, et al., 2002; Moore, 1988). Hematopoietic cells develop in the yolk sac’s developing blood vessels (Oberlin, et al., 2002). The sac also produces stem cells that enter the bone marrow to produce various kinds of blood cells. Other functions, in addition to its hematopoietic role, include (Shier, Butler, and Lewis, 1999, pp. 905–906):

...[its giving] rise to the stem cells of the immune system. Portions of the yolk sac form the embryonic digestive tube as well. Part of the membrane derived from the yolk sac becomes incorporated into the umbilical cord, and the remainder lies in the cavity between the chorion and the amnion near the placenta. The allantois forms during the third week as a tube extending from the early yolk sac into the connecting stalk of the embryo. It, too, forms blood cells and gives rise to the umbilical arteries and vein.

As development proceeds, the dorsal part of the yolk sac is incorporated into tissues of the developing embryo, giving rise to the epithelium of the trachea, bronchi, lungs, and digestive track (Moore, 1988, p. 121).

The yolk sac forms early in development because of its critical importance to the embryo. As the fetus develops, the yolk sac’s roles are taken over by other structures in the growing embryo (Sadler, 2004). For example, as noted above, the yolk sac has a temporary role in producing blood cells, prior to formation of functional bone marrow. This role continues until the sixth

week when most hematopoietic activity is taken over by the bone marrow (Moore, 1988, p. 121).

Not long after the bone marrow develops, the yolk sac almost totally disappears. It begins to regress at about nine weeks and is no longer a distinct structure by the end of the first trimester (Exalto, 1995).

Portions of the yolk sac are also involved in the formation of the embryonic digestive tube. Part of the membrane becomes incorporated into the umbilical cord, while the remainder lies in the cavity between the chorion and the amnion near the placenta (Kaufmann, 1985). For this reason, the term used today is not yolk sac (it contains no yolk) but “umbilical vesicle.” This term describes it quite well because it is a vesicle extending from the umbilical cord away from the embryo and toward the placenta.

Conclusions

We have seen in this brief overview that the yolk sac, more properly referred to as an umbilical vesicle, is not a useless vestige serving only as a reminder of our supposed evolutionary past. Rather, it is important to the developing embryo, playing critical roles in the formation of blood cells, sex cells, and a network of vessels that provides the embryo with both nutrients

and a system of waste disposal.

Acknowledgements. I wish to thank Wayne Frair, Ted Siek, and MaryAnn Stuart for their comments on an earlier draft of this article.

References

- Baker, J. and G. Allen. 1967. *The Study of Biology*. Reading, MA: Addison-Wesley.
- Carlson, B.M. 2004. *Human Embryology and Developmental Biology*, third edition. Mosby: St. Louis, MO.
- Docherty, S.M., R.K. Iles, N. Wathen, and T. Chard. 1996. The temporary anatomical structures prominent in the first trimester may be fulfilling exchange functions assigned to the placenta in the second and third trimester. *Human Reproduction (Oxford)* 11(6):1157–1161.
- Exalto, N. 1995. Early human nutrition. *European Journal of Obstetrics Gynecology and Reproductive Biology* 61(1):3–6.
- Jenkins, M.M. 1975. *Embryos and How They Develop*. Holiday House: New York.
- Kaufmann, D. 1985. Further comments on baleen fetal teeth and functions for yolk sacs. *Origins Research* 8(2):13–14.
- Kent, G.C. 1978. *Comparative Anatomy of the Vertebrates*, fourth edition. Mosby: St. Louis, MO.
- Kent, G.C. 1987. *Comparative Anatomy of the Vertebrates*, sixth edition. Mosby: St. Louis, MO.
- Larsen, W.J. 1998. *Essentials of Human Embryology*. Churchill Livingstone: New York.
- Lindsay, D., I.S. Lovett, E.A. Lyons, C.S. Levi, X. Zheng, S.C. Holt, and S.M. Dashefsky. 1992. Yolk sac diameter and shape at endovaginal

US: Predictors of pregnancy outcome in the first trimester. *Radiology* 183:115–118.

- Moore, K.L. 1988. *The Developing Human: Clinically Oriented Embryology*. W.B. Saunders: Philadelphia.
- Oberlin, E., M. Tavian, I. Blazsek, and B. Peault. 2002. Blood-forming potential of vascular endothelium in the human embryo. *Development (Cambridge)* 129(17):4147–4157.
- Otto, J. and A. Towle. 1969. *Modern Biology*. Holt, Rinehart and Winston: New York.
- Pereda, J., S. Correr, and P.M. Motta. 1994. The structure of the human yolk sac: A scanning and transmission electron microscopic analysis. *Archives of Histology and Cytology* 57(2):107–117.
- Pereda, J.T. and P.M. Motta. 1999. New advances in human embryology: Morphofunctional relationship between the embryo and the yolk sac. *Medical Electron Microscopy* 32(2):67–78.
- Sadler, T.W. 2004. *Langman’s Medical Embryology*, ninth edition. Lippincott Williams and Wilkins: Philadelphia.
- Shier, D., J. Butler, and R. Lewis. 1999. *Hole’s Human Anatomy and Physiology*, eighth edition. McGraw Hill: New York.
- Sillman, E.I. 1985. Further comments on baleen teeth and functions for yolk sacs. *Origins Research* 8(2):13.

◁ CM ▷

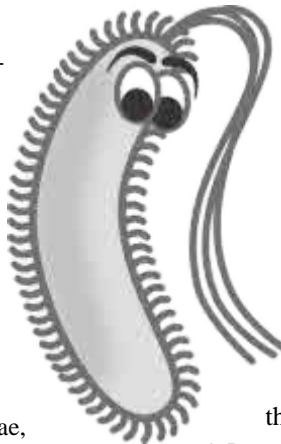
Speaking of Science

Editor’s note: Unless otherwise noted, S.O.S. (Speaking of Science) items in this issue are kindly provided by David Coppedge. Opinions expressed herein are his own. Additional commentaries and reviews of news items by David, complete with hyperlinks to cited references, can be seen at: <http://crev.info/>. Unless otherwise noted, emphasis is added in all quotes.

Thank your cilia

Throughout your body, cilia (hair-like protrusions on cells) are monitoring the environment and sweeping your passages clean. *LiveScience*¹ posted an article which illustrates that these simple-looking projections are anything but simple. “**These hairs are tiny, but mighty,**” the article began. Your life depends on them. Here are some wonders of cilia:

- “A **single cilium** is made up of **some 600 protein pieces** — more than many other cellular structures.”
- Primary cilia (non-motile) act like antennae, sensing the cells’ external environment. Filled with proteins that amplify the signal, they act as a communications hub for the cell.



- During embryonic development, motile cilia direct the liver to the right side of the body, and the heart to the left.
- Cilia sweep the airways clean of mucus by moving in concert, in a wave-like motion.

- Motile cilia direct the female egg to the uterus. An extra-long cilium propels a sperm cell toward the egg. (This is called a flagellum, but it does not work the same as the rotary flagellum found in bacteria.)
- Cilia “circulate the fluid needed for proper brain function.”
- “More than a dozen rare but serious genetic disorders stem from cilia glitches.”

Reporter Amber Dance did not discuss how these organelles might have evolved. Instead, she reported that scientists at Brandeis University are trying to imitate them.

1. Dance, A. (2012., June 27). Cilia: biology’s brooms. *LiveScience*. Retrieved August 20, 2012, from www.livescience.com/21211-cilia-biology-brooms-nigms.html

Sun, moon, and stars in the news

What's up in astronomy? Surprises, by heavens.

Spherical sun: The sun is closer to being a perfect sphere than is expected theoretically, a finding that is “baffling” to astronomers. “Definitive” measurements by the Helioseismic and Magnetic Imager (HMI) show that “if the Sun were shrunk to a ball one meter in diameter, its equatorial diameter would be only 17 millionths of a meter larger than the diameter through its North-South pole,” according to *PhysOrg*.¹

The shape is also remarkably constant over time. Even with its slow rotation, it should flatten into more of an oblate shape than is observed; besides, it is a turbulent surface filled with magnetic disturbances and flares. “For years we’ve believed our fluctuating measurements were telling us that the sun varies, but these new results say something different,” the team leader said. “While just about everything else in the sun changes along with its 11-year sunspot cycle, the shape doesn’t.”

Another new moon theory: How long have the textbooks said that a glancing blow from a Mars-size object hit the earth and formed the moon? Time for another revision. *ScienceNow*² entertained a new theory that it might have been a direct hit. The article came ready-made with new artwork.

Some 4.53 billion years ago, a Mars-sized impactor slammed into Earth, forming a young, molten moon. But was it a **head-on collision or a glancing blow**? New **computer simulations** argue for the former, indicating that the impactor scored a **direct hit**, crashing into Earth at a **steeper angle and with a higher velocity than previously thought**. The resulting **smashup** would have **ejected far more Earth debris into space** than other models have indicated, with much hotter temperatures. And that would mean the moon formed from more Earthlike material **than previously thought**. **The origin of the impactor itself remains an open question.**

As usual, the phrase “than previously thought” avoids stating who thought such notions. Note: a smashup is not like a mashup; no intelligent design is involved.

Lunar helium: Helium, a slippery molecule that should not have a long lifetime, has been detected in the moon’s tenuous atmosphere by the Lunar Reconnaissance Orbiter, according to *PhysOrg*.³ It’s too early to say if it comes from the interior or is added by the solar wind; observers of lunar origin theories may want to take note and follow up on the developing story.

Getting the dates right: “**Dating features on the Moon and Mars is guesswork**. Scott Anderson is building a tool to change that.” So begins a *Nature News*⁴ feature about Anderson’s cool new tool to date meteorites, that can fit on a spacecraft. But he has his critics, who reveal some dirty laundry about radiometric dating methods:

Anderson will have to show not only that his chronometer is fast and light, but **also that his dates make sense**. **Radiometric dates are some of the trickiest, most delicate and most disputed measurements on Earth**. Anderson wants to transform what has been a laborious process of chemical



extraction and analysis into a laser-based system, automate it and shrink it into a robot small and reliable enough to send to another planet. “**We’re extremely sceptical of these things working**,” says Lars Borg, a chemist ... whose three-person lab usually produces just two dates a year. “**We really struggle to get these ages ourselves**.”

1. University of Hawaii at Manoa (2012, August 16). The Sun’s almost perfectly round shape baffles scientists. *PhysOrg*. Retrieved August 20, 2012, from <http://phys.org/news/2012-08-sun-perfectly-baffles-scientists.html>
2. Dorminey, B. (2012, August 3). *ScienceShot*: Moon formed from head-on collision. *ScienceNow*. Retrieved August 20, 2012, from <http://news.sciencemag.org/sciencenow/2012/08/scienceshot-moon-formed-from-hea.html?rss=1>
3. NASA (2012, August 15). Lunar Reconnaissance Orbiter spectrometer detects helium in Moon’s atmosphere. *PhysOrg*. Retrieved August 20, 2012, from <http://phys.org/news/2012-08-lunar-reconnaissance-orbiter-spectrometer-helium.html>
4. Hand, E. (2012, July 25). Planetary science: The time machine. *Nature News*. Retrieved August 20, 2012, from www.nature.com/news/planetary-science-the-time-machine-1.11049

Palm trees thrived in Antarctica

Evidence for tropical trees has been found 5 km deep off the coast of Antarctica. The *BBC News*¹ reported that explorers dropped a drill rig 4 km down into the ocean, off the east coast of Antarctica, then drilled another kilometer through sediment. The drill core included pollen grains of palm, and trees resembling baobab and macadamia. Remnants of single-celled archaea were also found. “The lowland coastal region sported **palm trees**, while slightly inland, hills were populated with **beech trees and conifers**,” the article said.

The Integrated Ocean Drilling Program (IODP) dates the sediments as Eocene, 53 million years old in the evolutionary timeline. The researchers infer from the flora that global temperatures were some 5°C warmer than today. That would have created no sharp division between the poles and equator. Even in the darkest part of winter, temperatures at the poles probably did not drop below 10°C (50°F).

“The **early Eocene was a period of atmospheric CO₂ concentrations higher than the current 390 parts per million (ppm)** — reaching at least **600 ppm and possibly far higher**,” the article said. Scientists believe these data can help improve computerized climate models. Even though the article claimed that “Eocene represents heightened levels of CO₂ that will not be reached any time soon, and may not be reached at all if CO₂ emissions abate,” it went on to argue that current climate models are making good predictions of future warming.

Well, isn’t this remarkable. First, what’s the worry about human-caused global warming if it got much warmer in the past when evolutionists say people weren’t around? Obviously all the land animals and plants survived this episode, including the living fossils that are so delicate, they tell us, that humans are making them go extinct. And pray tell how they can prove that “Archaea hold on to their structure through millions of years.”

Second, and even more important, evolutionists have no theory for why the earth should have warmed up at that time. Many Biblical creationists, though, without the millions-of-years timeline, believe that the pre-Flood world sported a moderate climate without a large difference between the poles and equator, just like

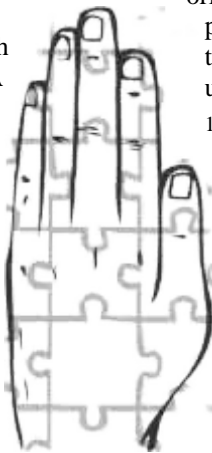


these drill-core data indicate. The Flood, however, changed all that, burying the antediluvian world beneath miles of sediment — and ushering in a much more recent Ice Age whose effects are still damping out. Which account is a better match to the data?

1. Palmer, J. (2012, August 1). Palm trees 'grew on Antarctica.' *BBC News*. Retrieved August 20, 2012, from www.bbc.co.uk/news/science-environment-19077439

Left-handed puzzle remains

A new suggestion of how life ended up with left-handed amino acids comes up short. A *NASA Goddard*¹ press release reported that amino acids found in the Tagish Lake meteorite (British Columbia, 2000) showed some preference for left-handed aspartic acid, but less excess for alanine. As usual, the science news media (e.g., *Astrobiology Magazine*,² *ScienceDaily*,³ *PhysOrg*⁴) and blogs (e.g., *Darwiniana*⁵) all echoed the press release uncritically, graphics and all, so we will have to do the job they should have done: evaluate the significance of the claim and see whether it solves the long-standing homochirality problem in biology.



Here are the problems admitted by the press release:

- Only 2 of the 20 amino acids used by life were mentioned.
- The excess of one-handedness was 4x for aspartic acid, but only 8% for alanine.
- The scientists do not know what process created the excess, but it was not polarized light, because it must have occurred inside the meteorite. “Perhaps” it was due to properties of crystallization.
- The meteorite amino acids were enriched in carbon-13, not the carbon-12 common in life.
- An astrobiologist admitted, “Synthetic proteins created using a mix of left- and right-handed amino acids just don’t work.”
- Left-handed amino acids and right-handed sugars were noted as “a prerequisite for life.”
- All ordinary methods of synthetically creating amino acids result in equal mixtures of left- and right-handed amino acids.
- The finding complicates searches for extraterrestrial life, because it means finding one-handed molecules may not be a biomarker.

But here are more problems which were not mentioned in the press release:

- Life requires 100% purity of one-handedness.
- A mere “excess” is not enough; one wrong-handed amino acid ruins the protein chain.
- The astrobiologists still have no theory for how the meteorite enriched one hand in the aspartic acid.
- The astrobiologists still have no theory for how a pre-biotic “cell” ended up with 100% pure amino acids.
- Their “snowball” analogy for how crystals might amplify the excess is worthless, because cells had to incorporate

amino acids in solution, not as crystals.

- The article used wishful-thinking words like *perhaps*, *could*, and *might* a dozen times.
- The article said further experimentation is needed.

In summary, since the press release proposes no physical theory for the excess, and no testable hypothesis for how the excess originated, could have been sustained, or could have been incorporated into life, the press release adds little more than anecdote to the puzzle of one-handedness, and nothing in the way of understanding.

1. Steigerwald, B. (2012, July 25). NASA and university researchers find a clue to how life turned left. *NASA*. Retrieved August 20, 2012, from www.nasa.gov/topics/solarsystem/features/life-turned-left.html
2. NASA/Goddard press release (2012, July 27). How life turned left. *Astrobiology Magazine*. Retrieved August 20, 2012, from <http://www.astrobio.net/pressrelease/4912/how-life-turned-left>
3. NASA/Goddard Space Flight Center (2012, July 25). How life turned left: Meteorite fragments help explain why living things only use molecules with specific orientations. *ScienceDaily*. Retrieved August 20, 2012, from www.sciencedaily.com/releases/2012/07/120725120706.htm
4. Steigerwald, B. (2012, July 25). Researchers find clue to how life turned left. *PhysOrg*. Retrieved August 20, 2012, from <http://phys.org/news/2012-07-clue-life-left.html>
5. ScienceDaily (2012, July 25). How life turned left. *Darwiniana*. Retrieved August 20, 2012, from <http://darwiniana.com/2012/07/25/how-life-turned-left/>

Maple to the rescue

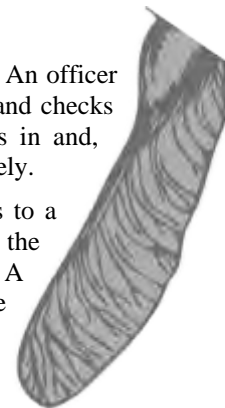
The SWAT team surrounds the compound. An officer tosses a maple seed into an open window and checks the readout on his computer. The team bursts in and, surprising the terrorists, rescues the hostages safely.

This scenario may become a reality, thanks to a new flying robot called Samarai, fashioned after the winged “samara” shape of the maple seed. A high-energy video clip at *LiveScience*¹ tells the story of a tiny drone developed by Lockheed Martin for the military. Engineers analyzed the shape of the seed’s wing and studied its flight dynamics. Then they outfitted a plastic replica with a motor and a camera to create their miniature surveillance tool.

Like a maple seed, Samarai has the advantage of very stable flight. It can be launched from the floor, by a flick of the wrist, or from an elevated platform. A remote control allows the operator to make it rise or turn in any direction, or hover indefinitely.

One problem was how to produce images on a spinning camera. The team developed software that can take out the blur and stitch together the frames into a normal, wide-angle, motion picture, providing a stable 360° image. This would allow our imaginary SWAT team to see inside the building to pinpoint the location of the terrorists and hostages. The military would love to have these on the battlefield for reconnaissance. Someday, Samarais could be standard equipment for law enforcement, search and rescue, and other applications — thanks to the common, humble, ordinary maple seed.

1. Anonymous. (2012, July 9). Tiny spy drone flies like a maple seed. *InnovationNewsDaily* via *LiveScience*. Retrieved August 20, 2012, from www.livescience.com/21476-spy-drone-maple-seed.html



...without excuse!

by Timothy R. Stout

THE FALLACY OF "GOD OF THE GAPS"

While on a recent trip to California, I had the opportunity to hand out creationist literature on several university campuses. The literature stressed various problems concerning the origin of life, and made the case that the use of information in a living cell ultimately points to its origin by a living Creator God. While distributing the literature, I frequently discussed its contents with students.

At each of three different campuses, my arguments were met by a student responding, "This is just the God-of-the-gaps argument." The students did not seem to care how strong the evidence might have been for my case, or how formidable were the scientific obstacles against abiogenesis. Rather than dealing with the actual evidence, they would simply discount every point I would try to make, giving the clichéd response, "Again, that is only a God-of-the-gaps argument."

Each of the three students argued more or less like this:

Historically, whenever man could not find a rational explanation for events taking place in the world around him, he attributed them to the activity of some god. For instance, at one time people attributed thunder to "the voice of a god." Today, we know better: that thunder, once attributed to the activity of a god, is produced by an electrical discharge in the atmosphere, the outworking of a simple scientific principle.

Therefore, just because science does not have answers today concerning the issues that creationists bring up, does not mean that it won't have them tomorrow. As science continues to give us more understanding of the world around us, there is becoming less for God to do. Eventually, God will have nothing left to do. This is going to be embarrassing for those simple people who still believe in God despite all of the scientific advances we have made.

There are a number of fallacies with this train of thought. First and foremost, the argument is in direct contradiction to Romans 1:19–20, "...because what may be known of God is manifest in them, for God



has shown it to them. For since the creation of the world His invisible attributes are clearly seen, being understood by the things that are made, even His eternal power and Godhead, so that they are without excuse..." In other words, God has already shown Himself to each of these students through the things that are made.

Therefore, the kinds of arguments I was presenting were valid. Science should be viewed as an effective tool for better understanding God's testimony of Himself. Efforts of evolutionists to hijack science for their own purposes do not destroy the power of science properly used to give testimony of God. Beyond this, recent advances in biochemistry have shown that a living cell is far more complex than anyone had anticipated only a few years ago. It is abiogenetic theory that is running into dead ends, explaining less and less, and leaving more and more for God to do (Stout, 2010; 2012).

These students also made a fundamental error of methodology. They assumed that science would eventually demonstrate the plausibility of abiogenesis, even if it cannot do so today, attributing any discrepancy between abiogenetic theory and experimental observation to our current lack of progress in scientific understanding. It was almost humorous to listen to them. *They* were the scientific ones, and I was not. *They* were the rational ones, and I was not.

Yet, when I pointed out that my position was based on a clear discussion of strong, scientific evidence and the rational implications of this evidence, whereas their position was based on empty speculation, they responded that my position was invalid since it was only a matter of time until science proved me wrong. It was interesting that they were such authorities on the nature and implications of what are still undiscovered principles of science!

It seemed obvious that these students were not interested in truth; they only wanted an argument they could use to justify their rejection of the truth. God gives a strong warning to those who do this: He will send them strong delusion to believe

the lies they love (2 Thessalonians 2:10–12). However, this ultimately will lead to their condemnation.

I was intrigued by the Wikipedia discussion on "God of the gaps." It says (Anonymous, 2012) that:

The term *God-of-the-gaps fallacy* can refer to a position that assumes an act of God as the explanation for an unknown phenomenon, which is a variant of an argument from ignorance fallacy...One example of such an argument, which uses God as an explanation of one of the current gaps in biological science, is as follows: "Because current science can't figure out exactly how life started, it must be God who caused life to start." Critics of intelligent design creationism, for example, have accused proponents of using this basic type of argument.

However, this specific example of the argument from ignorance is none other than the position which was being taken by the students. My argument was not based on ignorance, but on the observation of numerous well-known, fundamental scientific principles. By contrast, it was the students who, rejecting clear scientific testimony, expressed their faith that science will someday overturn our understanding of these scientific principles. They were the ones whose positions represent an argument from ignorance, not the creationist!

The God-of-the-gaps argument is nothing more than word games. However, word games are not going to make a living God disappear. God considers those who play these kinds of games to be "without excuse."

References

- Anonymous, 2012. God of the gaps. *Wikipedia*. Retrieved September 9, 2012, from http://en.wikipedia.org/wiki/God_of_the_gaps
- Stout, T. 2010. The testimony of physical life. *Creation Matters* 15(5):6.
- Stout, T. 2012. The testimony of minimum genome size. *Creation Matters* 17(1):11.



All by Design

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

Burying Disbelief

The Bible teaches that God is not the author of disorder, but of peace, and that the Lord created the earth and all the life upon it. A corollary is that His creation was designed to function harmoniously. In fact, we find many such examples in our study of the world around us.

The American burying beetle is a large black beetle with orange spots, nearly an inch and a half in length. Living most of their lives underground, they are rarely seen. These beetles feed on carrion, which they have a “nose” for finding. A mating pair will bury a small dead animal, say, a bird or a rat, in an underground chamber, where they lay their eggs. There, they strip the carcass of muscle tissue, roll it into a ball, and preserve it with anti-bacterial and anti-fungal secretions.

The parents work together to raise their young. When the larvae hatch, the parents make a special sound with their wings to attract their young, which they feed with



American burying beetle,
Nicrophorus investigator (Zetterstedt, 1824)

Photo credit: Joseph Berger,
Bugwood.org, Image Number: 5403285

the preserved meat. When the young are ready to enter the pupae stage, the mother beetle punches holes through the chamber wall to let the young migrate into the soil to pupate.

Everything about this fascinating beetle testifies loudly to an intelligent design, and thus a Creator.

Bibliography

- Graham, B. 2012. Endangered American burying beetles return to Missouri. *MDConline*, Missouri Department of Conservation. Retrieved September 3, 2012, from <http://mdc.mo.gov/newsroom/endangered-american-burying-beetles-return-missouri>
- Anonymous. n.d. Center for American Burying Beetle Conservation. Saint Louis Zoo. Retrieved September 3, 2012, from www.stlzoo.org/conservation/wildcare-institute/americanburyingbeetleconse/