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Winchell's Theistic Evolution Evolved into Racism

by Jerry Bergman, Ph.D.

Alexander Winchell (1824–1891) was Professor of Geology and Paleontology at the University of Michigan, an eminent scientist who had a considerable impact on science and played a major role in developing the field of geology in America (Livingstone, 1987, p. 87).

Prologue

As one of the most respected academics of his day, he was president of the American Geologist journal and was also appointed as the state geologist of Michigan (Harrington, 1891, pp. 7–8). His indefatigable efforts resulted in the assembly of one of the largest and best collections of fossils in the world, plus zoological and botanical specimens, thus laying the foundations for the University's natural history museum (Davenport, 1951, p. 190).

He had a reputation throughout the Midwest as not only a geologist, but also as an educator, a public speaker, and “an ex-

ponent of a Christian view of science” (Livingstone, 1987, p. 85). Shipley (1927, p. 188) concluded that Winchell “died in 1891, in his sixty-eighth year, venerated by his pupils and highly esteemed by men of science throughout the world.”

Today he is best known for his attempts to reconcile evolution with Christianity, and for his academic conflicts due to his acceptance of Darwinism (Engel, 1956, 1959). Winchell's efforts, through his writing and oratory, to resolve the clear conflict between evolution and religion led to a racist form of theistic evolution that influenced many persons, from church leaders to the Ku Klux Klan.

Winchell taught that the progenitor of the Hebrews and Europeans was the Adamic family, and advocated that the supposed primitive humans were derived from a pre-Adamic family line which he called Dravida. The latter, he believed, was the race with which Cain lived when he was banished, and where he found his wife (Harrington,

1891, p. 17). Winchell also taught that non-Adamic/Davida humans, such as the Negro race, could not successfully interbreed with the Adamic race.

Support for racist views

A major motivation to his development of the pre-Adamite theory was the evolutionists' conclusion that the origin of humans is much older than the then generally accepted biblical six thousand years (Nelson, 2003, p. 178). Winchell thus developed his pre-Adamite theory to harmonize Christianity and evolution. But to achieve this, he uncritically accepted the then current, putative history of human evolution. He concluded that his theory explained the existence of the evolutionists' claimed primitive pre-humans, such as the Neanderthals. In doing so he descended into racism.

Winchell's racist writings are widely reprinted and quoted even today by many racist and Neo-Nazi groups (Winchell,

... continued on p. 2

Does the Bible Have the Answers to Today's Pressing Questions?

by Stan Udd, M.A., Th.D.

Last year, *Science News* (Siegfried, 2011b) devoted a ten-page section of its publication to questions currently occupying the energies of physicists, astronomers, and cosmologists. The five questions were:

1. What happened before the Big Bang?
2. Of what is the universe made?
3. Is there a theory of everything?
4. Are space and time fundamental?
5. What is the universe's fate?

Five experts then briefly reviewed the history, development, and current thinking of each of these five questions. I found it fascinating to read about the seriousness of

these fundamental issues and the currently proposed responses to these basic questions. Can we as Christians provide better answers to these enigmas? Does the Bible even address such foundational questions? Let's see.

What happened before the Big Bang?

Until recent times, this question was thought to be scientifically meaningless. After all, according to the Big Bang model space and time did not exist prior to the Big Bang. Today, however, there are two competing theories regarding the pre-bang situation. Since the concept of cosmological inflation of the current universe has become a neces-

sary component of the Big Bang theory, it is suggested that “if inflation happened once, it could happen many times.” (Cowan, 2011) The resulting picture would be a hyper-universe with an unending sequence of attached or unattached bubbles — each bubble representing a universe of undetermined size and duration.

The second theory is more cyclical with the known universe occupying a sheet-like surface on a “brane.” This brane is suggested to be near another brane. These “branes collide and then rebound, releasing energy in what looks like a Big Bang.” (Cowan, 2011) This action of collision followed by rebound suggests that numerous universes

... continued on p. 4

1982; White, 1966). His *Proof of Negro Inferiority* is one of the most popular racist booklets in print today, complete with pictures showing how close Negro facial profiles and brains are to those of apes (Winchell, 1982). The cover of the booklet by White (1966) features illustrations from Winchell's pre-Adamite book.

Although Winchell's pre-Adamic theory was "designed to preserve post-Adamic biblical chronology intact ... he did not hesitate to marshal his pre-Adamites in the cause of white supremacy" (Livingstone, 2008, p. 186). His "Adam" began as a "savage yet [somehow] was made in the image of his maker" God (Harrington, 1891, pp. 17-18).

In 1877 he authored an article about his theory for a religious encyclopedia. This article was in such demand that in 1878 it was reprinted as a pamphlet (Harrington, 1891, p. 7). In his career Winchell authored twelve bound books and hundreds of articles. His pre-Adamite book, the largest and most successful of all the books he wrote, appeared in 1880 (Winchell, 1880) and went through three editions (Harrington, 1891, pp. 9, 17).

The pre-Adamite theory did not originate with Winchell. Others were also trying to modify biblical teachings to fit Darwin's theory in an attempt to harmonize evolution with the Scriptures and historic Christianity

(Nelson, 2003, p. 178). For example, in 1850 Harvard zoologist Louis Agassiz wrote in the *Christian Examiner* that God had "created each human race separately in its own native region and thus ... most nations were 'not related to Adam and Eve.'" Then, a few years later (Nelson, 2003, p. 161),

...Charles Lyell...introduced the reading public to compelling new scientific evidence that humankind had originated far earlier than the commonly accepted date for the creation of Adam and Eve, about six thousand years ago. In different ways Agassiz's and Lyell's announcement contradicted the deeply held Christian belief that Adam and Eve were the parents of the entire human race ... both [views] reflected vigorous debates in the years before the publication of Charles Darwin's *Descent of Man* about the unity and antiquity of humanity...

Winchell's firing

Winchell first published his pre-Adamite theory during his tenure as a professor at Vanderbilt University. The Vanderbilt administrators recognized that the theory detailed in Winchell's 1880 book, that gave little attention to animal or plant evolution, was both unbiblical and racist (Davenport, 1948, p. 516). As a result, he was terminated, beginning a long attack on Christianity and Vanderbilt by evolutionists for what they argued was Vanderbilt's anti-science. In chapter 6 of science writer Maynard Shipley's work titled "The Shame of Ten-

nessee," (1927, p. 187) it was noted that the "war on evolution in Tennessee" started

...when the trustees of Vanderbilt University unceremoniously dismissed Prof. Alexander Winchell from the faculty. They had been thoroughly alarmed upon discovering that an evolutionary wolf had been let loose among the Fundamentalists lambs.

The result of his termination was "universal criticism from the secular, and even part of the religious press" (Harrington, 1891, p. 7). Andrew White, then president of Cornell University, wrote that Winchell's termination from Vanderbilt University was ironic because Winchell was "one of the truest of men, devoted to science but of deeply Christian feeling, ... [and] was driven forth for views which centered in the Darwinian theory" (White, 1955, p. 84). White added that "an institution calling itself a university ... violated the fundamental principles on which any institution worthy of the name must be based" (White, quoted in Harrington, 1891, p. 7). Livingstone (2008, pp. 144-145) opined:

In the minds of many, Winchell included, evolution was his downfall. As he noted of his chief adversary: "Evolution! this is the bugbear so big and black that nothing else could be heard or read by Dr. Summers, whenever I employed tongue or pen." But there are good reasons to suppose that evolution was not the only factor in Winchell's removal from office. Far from it. After all,

Contents

Winchell's Theistic Evolution Evolved into Racism.....1
 Does the Bible Have the Answers to Today's Pressing Questions?.....1
Membership Matters: Check Your Quartelies; Renew 3
Matters of Fact... Variation in Size of Finch Beaks.....6
Speaking of Science
 Small Animals Show Even More Design.....7
 Fish Came from the Land.....8
 Innovation as a Dodge.....8
 Lunar Upsets Challenge Paradigms.....9
...without Excuse! Testimony of the Origin of RNA...10
Math Matters: Curved Space.....11
All by Design: Electrifying Skate Sense.....12

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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

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his views on the subject must surely have been known prior to his appointment. Indeed, it turns out that other matters were implicated, matters having to do with human racial difference and non-adamic humanity.

One major problem with the conclusion that he was fired due to his evolution views was that they were known by the Vanderbilt faculty *before* he was hired because (Livingstone, 2008, pp. 144–145),

Before coming to Vanderbilt, he had written two long essays for his fellow Methodists on the religious nature of savages and barbarians in which he surveyed a wide range of natural historical, archaeological, and anthropological literature.

White told the story of Cornelius Vanderbilt who, in 1875, endowed the Southern university that bore his name. The school, White (1955, pp. 313–314) claimed, was

... given into the hands of one of the religious sects most powerful in that region, and a bishop of that sect became its president. To its chair of Geology was called Alexander Winchell, a scholar who had already won eminence as a teacher and writer in that field, a professor greatly beloved and respected in the two universities with which he had been connected, and a member of the sect which the institution of learning above referred to represented.

White (1955, pp. 313–314) added that Winchell's relation to Vanderbilt University was

... destined to be brief. That his lectures at the Vanderbilt University were learned, attractive, and stimulating, even his enemies were forced to admit; but he was soon found to believe that there had been men earlier than the period assigned to Adam, and even that all the human race are not descended from Adam. His desire was to reconcile science and Scripture.

The publication of a series of articles on pre-Adamites, contributed by Winchell to a Northern religious newspaper, appeared to have (White, 1955, pp. 313–314)

... brought matters to a climax; for, the articles having fallen under the notice of ...the denomination controlling the Vanderbilt University, the result was a most bitter denunciation of Prof. Winchell and of his views. Shortly afterward the professor was told by Bishop McTyeire that "our people are of the opinion that such views are contrary to the plan of redemption," and was requested by the bishop to quietly resign his chair.

The dialog continued, first with Winchell's curt reply (White, 1955, pp. 313–314),

"If the board of trustees have the manliness to dismiss me for cause, and declare the cause, I prefer that

they should do it. No power on earth could persuade me to resign." "We do not propose," said the bishop, with quite gratuitous suggestiveness, "to treat you as the Inquisition treated Galileo." "But what you propose is the same thing," rejoined Dr. Winchell. "It is ecclesiastical prescription for an opinion which must be settled by scientific evidence." Twenty-four hours later Dr. Winchell was informed that his chair had been abolished, and its duties, with its salary, added to those of a colleague...

In spite of Winchell's being fired (White, 1955, pp. 313–314),

... the banished scholar was heaped with official compliments, evidently in hope that he would keep silence. Such was not Dr. Winchell's view. In a frank letter to the leading journal of the university town he stated the whole matter. The intolerance-hating press of the country, religious and secular, did not hold its peace. In vain the authorities of the university waited for the storm to blow over. It was evident, at last, that a defense must be made, and a local organ of the sect, which under the editorship of a fellow professor had always treated Dr. Winchell's views with the luminous inaccuracy which usually characterizes a professor's ideas of a rival's teachings, assumed the task.

Membership Matters

by Glen Wolfrom, Ph.D.

Check Your *Quarterlies*

We have had a few reports of "damaged" *Quarterlies* (Winter, 2012; Volume 48, No. 3). The problem appears to be ink smudges on a few pages, rendering them unreadable. The affected pages are 214, 215, and 250. If your print copy is similarly or otherwise damaged, please contact me (see below) for a replacement copy. We apologize for the inconvenience.

It's Renewal Time

Because the terms of all memberships and subscriptions correspond to the publishing year of the *Quarterly* (June through May), renewals are now due for those whose terms expire May 2012. Renewal notices have been mailed. If you have access to the

Premium Area of the CRS Website, you may check your status there.

Please renew as early as possible. This saves the Society considerable time and money, because *Quarterlies* for late renewals in the US have to be mailed individually rather than as bulk mail.

Students and Seniors

It is now possible for students and seniors to receive their discounted rates online. They must first contact me (see below) to obtain a special coupon code, which is to be entered at checkout. Please be aware that the online discounted rates are available for one year only.

Membership / Subscriber Correspondence

We would like to remind you that correspondence related to memberships and subscriptions should be directed to the Membership Secretary using the contact information below. There is a delay in processing renewals and other requests if contact is made via our Arizona office.

Membership / Subscription Contact Information

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

816-279-2312
glen@creationresearch.org

Epilogue

Shipley (1927, p. 187) wrote that he (Shipley) was skeptical of Winchell's attempt to harmonize evolution with theism, noting that

Winchell was indeed an evolutionist — one of the first professors in our American colleges to espouse the theory so ably set forth in “The Origin of Species” and “The Descent of Man.” But this gifted scientist and teacher was not an “atheistic evolutionist,” one of his most popular works being his “Reconciliation of Science and Religion.” Nevertheless, the good churchmen of Vanderbilt University did not wish to see evolution and the Book of Genesis “reconciled” even if Winchell thought it could be done. It is only fair to say that Vanderbilt is much broader nowadays, and that almost alone among Tennessee colleges it helped to denounce the ... [1925] anti-evolution law.

Winchell saw clear “evidence of design” in the world, such as the earth's being “especially fitted for the advent of man, but [he] accepted [human] evolution and the evidence for pre-humans before Adam” (Harrington, 1891, pp. 17–18). He also had reservations about organic evolution and the

struggle for existence as taught by Darwin (Harrington, 1891, p. 19). He eventually accepted these ideas, yet had an “unswerving faith in [the] immortality” of humans (Harrington, 1891, p. 26).

However, the result of “Winchell's description of black inferiority, and the intensity of his disgust at miscegenation [racial intermarriage]” made racists “exuberant” because they could claim not only that science justified their racism, but that it also was supported by a “highly esteemed” scientist from one of the premiere American universities, the University of Michigan (Livingstone, 2008, p. 188). Ultimately, Winchell's attempt to harmonize evolution and theism produced a form of theistic evolution that supported and encouraged racism in America and elsewhere.

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Pressing Questions ...continued from page 1

may and will exist.

When inspired revelation written by the One who created this universe is compared to these theories, the contrast is remarkable. The Bible starts with the statement that the material universe had a quiet beginning. “In the beginning, God created the heavens and the earth” (Genesis 1:1). There were no bubbles, collisions, or chaos from which our universe sprang. But we do not know this by means of science — we know this on the basis of faith. “By faith we understand that the universe was created by the word of God, so that what is seen was not made out of things that are visible” (Hebrews 11:3 ESV).

Prior to the creation of this universe the Godhead made significant decisions regarding our salvation (Ephesians 1:4; 1 Peter 1:20) and exchanged love and glory (John 17:5, 24). The Bible would suggest that there was give-and-take sequence before the

creation of this physical universe sans any bubbles or branes.

Of what is the universe made?

If one assumes the concept of deep time, then in order to explain the observed motions within galactic objects from a purely mechanistic standpoint, there would appear to be significant amounts of undetected gravitational mass scattered throughout the universe. On the other hand, based on observed relationships *between* galaxies, there would appear to be an even more significant *repulsive* energy force throughout our universe. This has resulted in the invention of “dark matter” and “dark energy.” (Witze, 2011) It is currently believed that the observable universe makes up less than 5% of the total mass and energy of the system. An additional 23% of the universe is constituted of undetectable “dark matter” while a whopping 72% exists in that “mysterious entity” (Witze, 2011) known as “dark energy.”

The scientific community has invested billions of dollars in particle colliders, telescopes, and satellites, hoping to find actual

evidence for these two illusive concepts. Perhaps they do not exist! If the universe is a recent creation of God as the Bible suggests and these galactic objects were created in situ, there is no need for this frantic search for these mysterious entities.

According to the Genesis record God created the sun, moon, and stars on the fourth day of creation (see Genesis 1:14-19; Psalm 33:6). They would each have the observable motion at the instant of creation which would render the need for dark energy null. And God's placement of the stars is repeatedly described as having “spread them out” across the heavens (see Isaiah 42:5; 44:24; 45:12). This action on God's part better explains the observable universe than does some esoteric dark energy.

Is there a theory of everything?

The field of physics today has two competing views of reality: 1) quantum mechanics, and 2) general relativity. “Ever since these two very different views of the universe emerged early in the 20th century, generations of physicists have tried to unite them in a single theory that would ideally describe

all four of nature's basic forces to boot. Even Einstein tried, and failed" (Crenson, 2011).

The current permutation of this attempt at unification is called 'superstring theory.' It requires the addition of seven dimensions to our concept of space — beyond the familiar height, length, depth, and time. If mathematical equations were developed that could demonstrate that the eleven dimensions somehow "compactify" down into the more normal four dimensions, then perhaps something definitive could be said about ultimate reality.

The Bible on the other hand states clearly that: "The LORD by wisdom founded the earth; by understanding He established the heavens" (Proverbs 3:19). As a Christian, I am not able to answer every question that I can ask, but I do know the ultimate source of all things. "All things came into being by Him, and apart from Him nothing came into being that has come into being" (John 1:3; Colossians 1:16). I find that knowledge intellectually satisfying. The Bible also makes it clear that God accomplished creation by speaking. "By the word of the LORD the heavens were made and by the breath of His mouth all their hosts" (Psalm 33:6; 148:5). Repeatedly the first chapter of Genesis uses the phrase "And God said, 'Let there be'"

Are space and time fundamental?

Whether he thinks about it or not, everyone understands the concepts of time and space. But the question remains "whether space and time are fundamental building blocks of natural existence, or are themselves built from more primordial ingredients, so far unperceived" (Siegfried, 2011a). A major shift occurred about 100 years ago when Albert Einstein proposed that both time and space could be manipulated. His 'thought experiment' suggested that the passage of time depended on the viewpoint of the observer and that mass is fundamentally tied to time and space. It is now generally believed that "mass and motion warp space and alter the flow of time" (Siegfried, 2011a).

The fact that God existed prior to the creation of the earth and that logical, sequential thought occurred prior to Genesis 1:1 (see above) suggests that time and space are fundamental concepts that are expressions of existence. As a Christian I believe that God has existed forever in the past. Taking that as a given, it would follow that an investigation into the component aspects of either time or space would not lead to any

fruitful outcome.

What is the universe's fate?

As one might suspect, cosmic questions regarding the future are no more definitive than are cosmic questions relating to origins. For the naturalistic theoretician the injection of dark energy has only expanded the quandary. There are now three scenarios:

1. Too little energy and gravity stops the cosmic expansion and the universe experiences the "Big Crunch."
2. If the dark energy:gravity ratio is in balance, then the gradual expenditure of useful energy to useless heat will result in the "Big Freeze."
3. But if instead dark energy mysteriously grows stronger, it is theorized that the galaxies, stars, even atoms will explode under the repulsive force, resulting in the "Big Rip" (Quill, 2011).

The only certainty in each of these prognostications is the certainty of our demise. Naturalistic science does not know the concept of hope.

The Bible speaks with certainty regarding the future of this created universe — and these statements about the future are anything but bleak. "For the creation waits with eager longing for the revealing of the sons of God. For the creation was subjected to futility, not willingly, but because of him who subjected it, in hope that the creation itself will be set free from its bondage to decay and obtain the freedom of the glory of the children of God. For we know that the whole creation has been groaning together in the pains of childbirth until now. And not only the creation, but we ourselves, who have the firstfruits of the Spirit, groan inwardly as we wait eagerly for adoption as sons, the redemption of our bodies. For in this hope we were saved. Now hope that is seen is not hope. For who hopes for what he sees?" (Romans 8:19-24 ESV)

The Apostle Peter gives us additional information about the transformation of this sin-cursed universe into an eternal new heavens and new earth in which righteousness dwells. "But the day of the Lord will come like a thief, and then the heavens will pass away with a roar, and the heavenly bodies will be burned up and dissolved, and the earth and the works that are done on it will be exposed. Since all these things are thus to be dissolved, what sort of people ought you to be in lives of holiness and godliness, waiting for and hastening the coming of the day of God, because of which the heavens will be set on fire and dissolved,

and the heavenly bodies will melt as they burn! But according to his promise we are waiting for new heavens and a new earth in which righteousness dwells" (2 Peter 3:10-13 ESV).

The current scientific community cannot answer the most fundamental questions regarding our origin, our current existence, or our future. Ultimate truth lies only with God.

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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 does beak size vary in finches?

A At creation and after the Flood, God blessed birds (and other creatures) with the capacity to adapt so they would be able to reproduce and fill the earth (Genesis 1:22; 8:17). The variation in beak size and shape has played an important role in allowing finches to fill their respective ecological niches on the earth.

The finches of the Galápagos islands (*Geospiza* species) appear to be related to other finches, sparrows, cardinals, and black birds. Hybrids have been formed between birds across these different families of perching birds, suggesting they all descended from a single created kind (Lightner, 2010). Thus, God has endowed this created kind with an amazing ability to adapt in many ways.

Variation in beak size is one of the best studied means of adaptation, and recent research provides a glimpse into God's astounding wisdom and provision for his creatures. Beaks are three dimensional and can vary in length, width, and depth. The size of the beak in an adult bird is largely determined by events during embryonic development. Two phases of development have been identified which contribute to beak dimensions. In each phase, differences in gene expression correspond to differences in the size and shape of the beak.

The first phase involves the formation of the prenasal cartilage which determines the initial beak skeleton. Herein, the expression of two genes was found to be important in affecting beak size. Increased expression of one (Calmodulin) was found to increase beak length. Increased expression of the other gene (Bmp4) was found to increase beak depth and width. Because finch beaks will sometimes vary in depth and width independently, researchers knew that something more must be involved.

In the second developmental phase, formation of the premaxillary bone, the expression of three different genes were identified as being related to beak shape (TGFβ receptor type II, β-catenin, and Dickkopf-3). Further studies in chicken embryos

revealed that increased expression results in greater beak depth and length, with beak width being relatively unchanged (Mallarino et al., 2011).

The astounding complexity of embryonic development should be enough to convince anyone of a wise Creator. But the amazing design, which includes multiple factors that can each be fine-tuned to allow for adaptation, is clear evidence of a God who provides for his creatures.

What does this variation have to do with evolution?

That depends on which definition of evolution one is using (see Lightner, 2010b). Biologists often use the word evolution to describe changes which occur in a population over time. For example, after a severe drought on the Galápagos Islands, the average beak size changed in a population of finches living there. Many smaller birds with smaller beaks disappeared from the population. Birds with larger beaks were better able to crack the large, hard seeds that were the major food source during the drought. So the variation in beak size appeared to be a valuable asset that allowed this population to survive the extreme conditions of that year (Boag and Grant, 1981).

On the other hand, most people think of evolution as the grand idea that all life shares common ancestry. In other words, finches descended from creatures that were not birds and didn't even have beaks. In this case, understanding the underlying basis of beak variation has significant implications.

Because biologists generally view both definitions of evolution as part of one big package, it has been easy for many to miss the obvious. Evolutionists assume common ancestry. Since there are similar molecules involved in the craniofacial development of mammals, it is very easy for evolutionists to assume that the similarities are due to common ancestry.

Sometimes such similarities are offered as evidence for common descent. In reality, it is simply evidence which has been interpreted within a paradigm that assumes it. A designer will often reuse, with adjustment as necessary, the same design features in completely separate creations. This fact is usually overlooked or ignored by those who promote an evolutionary worldview, but

appears to be what is actually going on.

Interpreting the evidence within a paradigm that assumes a Creator who created creatures according to their kinds is far less problematic. The fact that two different regulatory networks are involved in beak formation certainly is compatible with the notion of intelligent design. The fact that this arrangement allows different dimensions of the beak to vary, either in tandem or independently, certainly suggests considerable forethought in the design. The fact that mammals and birds, despite their similarities, have developmental pathways specifically tuned to their unique needs, suggests that common design is a more reasonable explanation for the similarities.

Chance variation and natural selection are not robust mechanisms to explain the origin of finches. They fail to account for the origin of the beak and the complexity of design that allows for adaptation. Naturalistic processes cannot account for the complex design of living things anymore than I could write this column by generating random keyboard characters and filtering them through a software program for meaningful words and sentences. Then again, even if I could do the latter, it still wouldn't eliminate the necessity for intelligent design to write such a program. No wonder I find a biblical worldview more intellectually satisfying.

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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.

Small Animals Show Even More Design

Your smart phone is a triumph of miniaturization. The first computers were room-filling monstrosities; now, you can hold more computing power than a Univac in the palm of your hand. In the living world, we shouldn't despise small creatures. They can pack a lot of technology into a small space. Here are some record-setting examples of living miniatures reported recently.

Migratory mini-champ: You're an aerospace engineer, and your job is to design an aircraft that can fly across the world. There's a catch; the weight limit is one ounce. Odds are, you could never come up with a machine that could compete with the Northern Wheateater (*Oenanthe oenanthe*) — a humble little bird that flies 18,000 miles from the Arctic to Africa on its annual migration, though weighing less than two tablespoons of sugar (0.9 ounce).

Scientists who tracked them with geolocators were stunned at their endurance. "They are **incredible migratory journeys, particularly for a bird this size,**" reported *PhysOrg*.¹ "Scaled for body size, this is **one of the longest round-trip migratory journeys of any bird in the world and raises questions about how a bird of this size is able to successfully undertake such physically demanding journeys twice a year, particularly for inexperienced juveniles migrating on their own.**"

Micro-frogs: Imagine having to sift through leaf litter to find out what's making a high-pitched clicking noise. That's what Chris Austin and team did in New Guinea (see video on *LiveScience*²) to discover the world's tiniest vertebrate: a frog named *Pseudophryne amauensis*. This little croaker makes a dime look like a large lilypad (photo on *NewScientist*³).

Micro-chameleon: If a frog on a dime is amazing, imagine seeing a tiny chameleon, wandering eyes and all, perched on the tip of a matchstick. Look at *National Geographic News*⁴ and wonder. "The **extreme miniaturization of these dwarf reptiles might be accompanied by numerous specializations of the body plan,**" a German zoologist said.

Micro-wasp: Can a multicelled animal with wings, a digestive system, muscles, nerves and a brain be smaller than a single cell? It sounds unbelievable, but a picture on *Science NOW*⁵ shows the fairy wasp competing with an amoeba and a paramecium for size. *ScienceDaily*⁶ shows how these tiny flying machines crawl around the faces of other insects, hitchhiking rides and licking the mouth parts for nourishment. But these tiny wasps don't need to hitchhike; they have fully functioning wings.

In fact, it took Flight Artists, a film company in the Netherlands, a camera running 22,000 frames per second to show the wings flapping in detail. The wings flap at 300 times per second in these tiny creatures and, though they are not the most graceful of flyers (see video on YouTube⁷), they get where they need to go. How can an animal made of cells get so small? *PhysOrg*⁸ reported that scientists found that many of the cells, including more than 95% of its 7,400 neurons, have no nucleus. Apparently the cells lose their nuclei during development.

Micro-survivors: We already know that cells are tiny. Microbes reported by *LiveScience*,⁹ though, get along by living underneath one of the driest, saltiest, most life-unfriendly spots on Earth: the Atacama Desert of Chile. Hidden within salt crystals just under the pavement-like surface are bacteria and archaea with factories of molecular machines carrying on the normal life processes of reproduction, motility, growth, signal processing, and respiration, as if they have a paradise of their own. Whether similar organisms are thriving on Mars, as the article suggests, is a separate question.

What's more amazing: a condor with a 9-foot wingspan that soars effortlessly on air currents, or a bird the "size of an undernourished sparrow" that flaps its little wings and flies across the world? Living organisms on this planet are so diverse and incredibly complex, we must never lose our sense of wonder at them, realizing that such things are only possible with embedded instructions directing molecular machines that not only carry on the processes of life, but accurately copy those genetic instructions and *proofread* them to ensure the continuation of their species.

Each one of us began as a miniature, too — a single fertilized cell that grew into a man or woman composed of trillions of diversified cells. In each stage of your own life, whether micro or

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macro, you maintained the same genetic instructions that characterize you as a member of *Homo sapiens*. Act like “man, the wise” and love your fellow creatures for the wonders they are.

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Fish Came from the Land

If you were taught that fish evolved in the ocean, think again. There’s a new idea that most fish evolved on land.

An article on *NewScientist*¹ has the surprising title, “**Most fish in the sea evolved on land.**” It doesn’t mean that legs evolved into fins; the new idea is that three quarters of fish species appear to have fresh-water ancestors. This requires fish to first evolve in the ocean, then move to fresh water, where they diversify and proliferate, then some return to the ocean. Maybe salmon like to re-live their heritage. Reporter Colin Barras said, without embarrassment, “**We’ve seen this kind of topsy-turvy evolution before.**”

Great. Now we have an officially-endorsed new phrase to use for describing Darwin’s theory: **topsy-turvy evolution**. It’s similar to the phrase John Herschel used after reading the *Origin of Species*. He called it the “law of higgledy-piggledy.” This leads us to list the synonyms for topsy-turvy found on Thesaurus.com: chaotic, cluttered, cockeyed, confused, disarranged, disheveled, disjointed, dislocated, disordered, disorderly, disorganized, down-side-up, inside-out, inverted, jumbled, littered, luxated, messy, muddled, overturned, pell-mell, riotous, tangled, tumultuous/tumultuous, unhinged, untidy, upended, upside-down, upturned. Take your pick; they all fit Darwin like a straitjacket.

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Innovation as a Dodge

This is not a truck commercial. It’s not about a Dodge as an innovation, but innovation as a dodge. It’s about how a word, *innovation*, is used as a euphemism in evolution articles. The word seems to mean, “we have no clue how this evolved, but it must have for evolution to be true.” It’s a handy rhetorical trick, because without it, a reader might be tempted to think the evidence supports creation. Some recent articles show how the trick is employed.

Proton pump: An article on *PhysOrg*¹ describes cytochrome oxidase, a sophisticated “proton pump” in aerobic organisms, as an “**evolutionary innovation.**” Researchers in Japan found a molecular machine of comparable complexity in an anaerobic organism, leaving it unclear how they could call it an evolutionary ancestor: “The finding thus establishes first-ever evidence for a proton pump in anaerobic organisms, **shedding light** onto the **mysterious** mechanisms governing the production of nitrogen oxide and **the evolutionary path that led to their emergence.**”

Katvidid song: An international team of researchers claims to have reproduced the song of 165-million-year-old katydid. The abstract of the *PNAS* article² states, “Contrary to previous scenarios, **musical songs were an early innovation**, preceding the broadband songs of extant katydid.” This statement leaves begging the question of whether broadband or narrowband sound production is more advanced in evolutionary terms. It also overlooks the fact that ears are required to hear sound. To hear the reconstructed sound of Jurassic katydid, view the video clip on *NewScientist*.³ The write-up on *LiveScience*⁴ claims that sound production by insects may go back to the Triassic — again failing to state how evolution invented ears and “sound-making structures.”

Feathery fluff: A double euphemism is evident in the opening sentence of a story on *PhysOrg*⁵ about birds: “**powered flight might be the innovation that drove the feather’s evolution from that point forward.**” It would be hard to think of anything in the animal kingdom more difficult to explain by evolution than powered flight. Feathers are only one aspect of coordinated systems in a bird that make flight possible, but that’s what scientists at the University of South Carolina focused on. They studied fossil feathers and believe they found differences between them in creatures that evolutionary theory claims came before flying birds. All they actually found were differences in the

composition of beta-keratin, a molecule in feathers. But then they claimed flight evolved to put pressure on feather evolution, presupposing two innovations: feathers and powered flight. **“The conclusion is tentative, but compelling: powered flight may well have been the innovation that evolutionary pressure subsequently began to refine,”** the article claimed.

Anyone see evolution here? It’s all evidence for abrupt appearance of complex, functional structures — i.e., creation. But the evidence is artfully concealed as evolutionists glibly use words like *innovation* and *emergence*. To unmask a charlatan, first disarm him of his rhetorical tricks.

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Lunar Upsets Challenge Paradigms

Forty years after the last moonwalkers came home, new discoveries about the moon are calling into question what scientists know about our celestial partner. But is it legitimate for scientists to invoke mystery forces when a favored theory faces falsifying evidence?

Shocking physics: Looking into the crystal balls Apollo astronauts brought back from the moon, namely zircon minerals, geologists at Curtin University decided their data **“challenges”** the **“current paradigm”** known as the Late Heavy Bombardment. *PhysOrg*¹ reported about **“impact-related shock features** in lunar zircon, giving scientists a **new conceptual framework** to **explain the history and timing** of meteorite impact events in our solar system.” When a **“new conceptual framework”** challenges a **“current paradigm,”** the ripple effects can undermine textbooks and other related theories. Since theories about the **“timing of meteorite impact events”** are built on lunar data, this puts theories of the entire history of the solar system at risk.

Alternative energy source: The moon had a long-lasting dynamo. That statement should floor you if you are a typical planetary scientist. To see why, read on *Space.com*² why physicists are scrambling to find alternative power, like homeowners frantically searching for a backup generator when the lights just went out. The data come from crystals in basalt sample #10020 from the moon that, according to the evolutionary view of radiometric dating, is 3.7 billion years old — yet has remnant magnetism. In their dating scheme, that’s almost a billion years after the formation of the moon. Any primeval dynamo that could have magnetized the rock should have been long gone by then. *PhysOrg*³ put the surprise in the first sentence: **“The moon has this protracted history that’s surprising.** This provides evidence of a **fundamentally new way of making a magnetic field** in a planet a **new power source** [sic].”

That quote was from Benjamin Weiss, an associate professor of planetary science at MIT, one of the authors of a paper in *Science*.⁴ **“Such a long-lived lunar dynamo probably required a power source other** than thermochemical convection from secular cooling of the lunar interior,” they wrote, referring to the consensus dynamo theory. **“The inferred strong intensity of the lunar paleofield presents a challenge to current dynamo theory.”**

What powered it? **“[A]n alternative energy source,”** they suggested. Have they found one? No. They tossed out a couple of possibilities at the end of the paper: maybe stirring from precession did it. Maybe a big meteor walloped the interior into a temporary molten stir. It hardly seems they considered those options seriously when they ended, **“the late, intense paleomagnetic record from 10020 presents a challenge to current dynamo theory.”**

Rav tracing algorithm: This story’s not from our moon, but from the asteroid Vesta, where the DAWN spacecraft is undertaking an orbital reconnaissance. A new photograph displayed on *PhysOrg*⁵ shows a crater with both dark and light rays. **“There is dark and bright material located across Vesta,”** the article said, **“but it is unusual to have a crater with both bright and dark ejecta rays.”** Although the press release didn’t say so, the darkness of crater rays is usually taken as an indicator of age. Looking at our moon, planetary scientists assume that crater rays begin bright and darken over time due to **“space weathering,”** the effect of solar wind particles on lunar dust. The new Vesta combo crater shows that dark and light rays can originate from the same impact, potentially undermining the ray-dating algorithm.

Which moon? We may not be able to talk about **“the moon”** in our nighttime sky. *NewScientist*⁶ just announced that **“Hundreds of tiny moons may be orbiting Earth.”** The idea is that wandering asteroids may get captured in Earth orbit from time to time. The Earth sits in a gravity well, after all, so it’s not surprising that it would pull objects into its tractor beam. **“They orbit at distances between five and 10 times as far from Earth as the moon,”** the article said. **“Most stay in orbit less than a year, although some stay much longer. One object in the team’s simulations stayed in orbit for almost 900 years.”** This could provide some water cooler conversation. When someone talks about **“the moon,”** you might respond, **“To which moon are you referring?”** They’ll think you are Looney Tunes till you explain. You can even quote Shakespeare; **“There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy.”**

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The Cold Spring Harbor Laboratory recently posted online a collection of articles about the origin of life (Deamer and Szostak, 2012). The laboratory is one of the world's foremost private research laboratories, with 8 Nobel Prize winners associated with it over the years. There were nineteen articles in the collection, totaling well over 300 pages. They represent current scientific opinion on issues related to origins by the world's leading researchers in this field. To a creationist, these articles are a gold mine of data documenting all kinds of problems and barriers against a natural origin of life.

There is one article in the collection which was particularly intriguing, "Planetary Organic Chemistry and the Origins of Biomolecules" by Steven Benner et al (Benner, et al., 2010). This quote is from the abstract.

According to various models for the origin of life on Earth, biological molecules that jump-started Darwinian evolution arose via this planetary chemistry. The grandest of these models assumes that ribonucleic acid (RNA) arose prebiotically, together with components for compartments that held it and a primitive metabolism that nourished it. Unfortunately, it has been challenging to identify possible prebiotic chemistry that might have created RNA. Organic molecules, given energy, have a well-known propensity to form multiple products, sometimes referred to collectively as "tar" or "tholin." These mixtures appear to be unsuited to support Darwinian processes, and certainly have never been observed to spontaneously yield a homochiral genetic polymer. To date, proposed solutions to this challenge either involve too much direct human intervention to satisfy many in the community, or generate molecules that are unreactive "dead ends" under standard conditions of temperature and pressure.

One might think that Dr. Benner and his colleagues had obtained their list of problems from the creation literature, because these are the kinds of issues that

concern creationists. To his credit, he is simply being honest about the issues and their significance. Notice, he refers to a number of problems:

1. *It has been challenging to identify prebiotic chemistry that might have created RNA.* They still haven't identified it. Instead, they have identified a long list of obstacles that would only interfere with its appearance. So, he is saying in effect, "We don't have a clue how RNA actually made its initial appearance."
2. *Organic molecules have a "well-known" tendency to form tar instead of biologically useful molecules.* Laboratory experiments which mimic origin-of-life scenarios invariably produce mainly tar, with a few other components, on their way to becoming tar or nothing at all. He begins his discussion alluding to this problem.
3. *Thus, they are unsuitable for use in Darwinian processes.* In other words, whenever various models using assumed pre-life conditions are tested in the laboratory, they neither give results nor demonstrate principles consistent with a natural origin of life. Indeed, the products they yield are unsuitable for use in chemical evolution. To a creationist, the failed products demonstrate the presence of natural barriers against chemical evolution. The reasons for failures in the laboratory would be even more pronounced outside the lab; i.e., under uncontrolled pre-life conditions.
4. *A homochiral genetic polymer has certainly never been observed.* This is a significant admission and observation. The world's most brilliant scientists have never been able to produce a single RNA molecule starting with their choice of raw materials, their choice of environmental conditions, using processes that might reasonably be available under prebiotic conditions. Yet, such freedom of choice would not exist on the pre-life earth.
5. *Proposed solutions to this challenge either involve too much direct human intervention....* All one needs to do to understand this statement is to glance through the nineteen Cold Spring Har-

bor articles. The proposed solutions require trained scientists, using expensive laboratory equipment, implementing intricate sequences of steps, using purchased chemicals of laboratory-grade purity. Even then, the "progress" they make is insignificant from the perspective of the overall problem. The discussions in the various articles only confirm the seriousness of the issues facing chemical evolution; not a single article discusses an experiment which can start with simple, raw, non-living chemicals and make significant progress towards the appearance of a living cell.

6. *...or generate molecules that are unreactive "dead ends."* This statement speaks for itself. Laboratory experiments that reasonably mimic natural conditions do not produce chemicals useful for an origin of life. The authors seem to be tacitly acknowledging that to get beyond the observed "dead ends" requires action by an intelligent being who is capable of understanding the problems, and who has the power to implement solutions.

I would agree with Dr. Benner and his colleagues, that it would require intervention by an intelligent being to overcome the myriad observed and documented problems which are counter to a natural origin of life. However, I would go one step farther. Man's inability to produce even a single, useful, genetic polymer starting from any assortment of assumed raw chemicals shows that a Being more intelligent and more powerful than man is required.

In Romans 1:20 we read, "For since the creation of the world His (God's) 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...."

This verse tells us that God designed His creation in a manner that gives testimony of Himself. I believe the article by Dr. Benner and his colleagues illustrates this verse perfectly. Creating a single RNA molecule from plausible raw materials is beyond the capability of the world's most brilliant scientists, even given their choice of raw materials, assumed processes, and assumed environmental conditions. Their efforts to

create such a molecule have only unveiled the problems that effectively prevent the desired progress. The natural conclusion to their observations should be that some One more intelligent and more powerful than man is needed to create living organisms out of the dust of the ground.

Therefore, the things we have learned from science give evidence of an intelligent,

powerful Creator God. God counts this evidence as being so clear that a person who does not recognize it is without excuse.

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Curved Space

Just what does this title mean? The concept was introduced by Albert Einstein in 1915 to explain gravity. He suggested that objects such as the sun distort the *fabric* of nearby space. As a two-dimensional analogy, consider a bowling ball placed in the center of a trampoline. The surface warps downward, most noticeably near the ball. If a tennis ball is now tossed onto the trampoline, it may be drawn into an inward spiral motion around the bowling ball.

In the solar system, planets are said similarly to move along orbit-shaped *geodesic* slopes or depressions in space caused by the sun. Unlike the tennis ball which soon comes to rest, the planets continue moving in the frictionless vacuum of space. Curved space is less obvious in three dimensions. It is as if the familiar straight lines of space could somehow be bowed or twisted.

As often happens, the mathematics of curved space were already established before Einstein's application. These equations

for "non-Euclidean" geometry were first published by Bernhard Riemann in 1854. Hermann Minkowski also prepared the way for Einstein by developing early space-time ideas in 1907.

It remains uncertain whether the curved space explanation for gravity is valid. We cannot easily observe a "warping" of space because we are embedded within it. However, there is evidence that rapidly spinning stars and even the rotating earth cause a distortion or *winding up* of nearby space (Perroto, 2011).

The term space curvature also applies to the overall geometry of the universe. If the universe is *closed*, its curvature is said to be positive. In such a universe, parallel lines at a great distance will eventually meet. If you travel outward into this space, you will eventually return to the starting point.

In contrast, an *open* universe has a negative curvature and parallel lines diverge and never meet. Thus far, astronomy data suggest that the universe is *flat*, carefully balanced in its geometry between closed and open geometries.

We actually know very little about the geometry of deep space, or the mechanism of universal gravity. Curved space may be a partial explanation of gravity, but it does not explain *why* space is curved. One is reminded of Colossians 1:17, "[God] is before all things, and in him all things hold together."

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What Are Creationists Thinking about ...?

As new scientific discoveries make the headlines, have you ever wondered how your fellow creationists are reacting? Have you ever thought of a "crazy" new idea about origins and wanted to bounce it off another creationist?

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All by Design

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

Electrifying Skate Sense

Evolution views animals as existing in a hierarchy, with some being more “highly evolved” and complicated than others. The Bible, however, teaches a deliberate act of creation of living things according to kinds.

Skates are flat fishes, very similar to sharks in many respects. They typically live near the ocean bottom where light is faint or even absent. Despite this apparent handicap, they get along just fine and are equipped to find their favorite foods without even using their eyes. Skates have in their skin a vast array of electrical receptors called ampullae of Lorenzini, each one linked to a gel-filled pore, opening to the skin surface.

These pores detect minute electrical fluctuations created by muscle movement in prey animals close to the skate. The skates even tune out the electrical signals from their own movement! As a skate and a prey



organism come within close proximity, the electrical sensors closest to the prey activate and send a three-dimensional message to the skate's brain, of the exact location of the prey in real time. The skate can tell precisely both its distance to the prey and its relative orientation to the prey.

Never believe the evolutionist's attempt to cheapen the value of the living things the Lord hath made, by suggesting they are the products of random chance. Nothing could be further from the truth.

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Photo credit:

Big skate, courtesy of NOAA Photo Library, Jean DeMarignac / Monterey Bay National Marine Sanctuary

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