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Onward and Upward ICR's year of progress





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A New Source for Stem Cells

ome scientists and policymakers claim that the moratorium on the use of human embryos for stem cell research has stifled the development of possible cures for debilitating diseases. Thankfully, a true breakthrough seems to have been reached as two labs have recently developed an alternate source that uses cells from adults. Viruses were used as a vector to deliver transcription factors that converted adult somatic cells into pluripotent stem cells. (The virus technique will never be used to actually make these available for clinical use, but creating pluripotent cells from adult somatic cells can be done!) The future finally looks hopeful for stem cell research.

The November issues of various leading science journals explained the procedure, evoking strong reaction from scientists and politiciansnot all of it positive. One would think that all concerned would welcome the news. Moral and political objections have been overcome, and the ethical concerns that hampered funding have been virtually eliminated. But many still call for the use of human embryos to harvest stem cells. So why doesn't everyone involved embrace the new technique?

Could it be that a deeper issue has come into play? Could there be a hidden agenda, either on the conscious or subconscious level, in embryonic stem cell research?

Let me call your attention to a biblical war that has been raging almost since the beginning. Lucifer was the highest created being in the angelic hierarchy. He held great power and influence, ranking second only to the Godhead. Along with the other angels, he had praised God for His creative acts "when the morning stars sang to-

gether, and all the sons of God shouted for joy" (Job 38:7). But he must have smarted as God created His own image in man (Genesis 1:27) and began a new relationship of grace with mankind, relegating angels to the role of "ministering spirits" (Hebrews 1:14).

Scripture doesn't provide the details, but we know that Satan (as he is now known) attempted to usurp God's kingship of the universe. But God will not allow pride or rebellion in His presence, and He banished Satan from the heavenly realm to the newly-formed planet earth.

No doubt he arrived in a rage against God, His work of creation, and God's image in man. In Adam and Eve he saw the potential to mock God's creative work. Thus his first order of business was to tempt them to reject God and His authority. Since that time, his empty promises have led mankind into pain, suffering, disease, and the grave.

Nothing brings Satan such great enjoyment as seeing mankind experience misery and death. Might this be the mentality undergirding embryonic stem cell research, not to mention abortion, euthanasia, and even racially-motivated genocide? Could it be that Satan is empowering and energizing his followers, either knowingly or unknowingly, to carry out his desires?

If these connections are accurate in any regard, then we would expect this negative reaction on the part of certain scientists and leaders to a scientific breakthrough that avoids the destruction of human life. After all, individual doctors may rejoice when human life benefits, but the forces of darkness do not.

Im Donio John D. Morris, Ph.D.

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2007: ONWARD

his past year was a time of great change and transition at the Institute for Creation Research. God has blessed us each step of the way by providing resources and opportunities to fulfill our mission of proclaiming the truth of God's Word around the world. Join us for a whirlwind tour of the many ICR milestones of 2007.

JANUARY



Launch of the Creationist Worldview Distance Education Program



- Board appoints Henry M. Morris III as CEO
- John D. Morris lectures at Cornerstone Seminary in San Vallejo, CA

FEBRUARY

- Henry M. Morris III debates evolutionists
 Eugenie Scott and David Seaborg on BBC radio
- John D. Morris speaks at the George Howe Lecture Series at The Master's College, Santa Clarita, CA
 - ICR presentation at the SBC Pastors' Conference in Jacksonville, FL
 - ICR CFO Don Rohrer retires after 36 years of service
 - ICR Science Editor Frank Sherwin lectures in Lima, Peru

The Museum of Creation and Earth History is featured in a full-page article in *The San Diego Union-Tribun*e and on Channel 10 news during "Museum Month" in San Diego, CA

MARCH



- John D. Morris delivers the commencement address at Antigua Bible College, Antigua
- Henry M. Morris III addresses audiences in Farmington, NY
- Oregon Loop Tour presentations



Nucleic Acids Research



and Upward

APRIL

ICR holds RATE conference in Bozeman, MT, with 1,500 in attendance at local churches and schools, and at Montana State University



- ICR presents its Back to Genesis conference
 in Colorado Springs, CO
- Dean of the ICR Graduate School Ken Cumming retires after 25 years of service
- John D. Morris is the keynote speaker at Worldview Seminar, Bellevue, WA
 - ICR Research Council holds its annual meeting in San Diego, CA
 - The Museum of Creation and Earth History expands its exhibit in the Temple Room
 - In conjunction with the Mitochondrial Eve research project, the Eve consensus sequence is completed and the findings published by Rob Carter in Nucleic Acids Research
 - Illinois-Missouri-Kansas Loop Tour presentations



MAY

- Spring faculty retreat held in Dallas, TX
- Answers in Genesis Museum ribboncutting with ICR represented by Henry M. Morris III, John D. Morris, faculty member Duane Gish, and board members David Wismer and Lt. Col. Chas Morse
 - John D. Morris speaks at the Associates for Biblical Research banquet in York, PA
 - John Sanford and John Baumgardner lecture in China and Korea with research associates
 - Henry M. Morris III and John
 D. Morris represent ICR at the funeral of Jerry Falwell, founder of Liberty University



- Board approves move of ICR headquarters to Dallas, TX
- John Whitcomb participates in San
 Diego seminar at ICR offices
 - The Museum of Creation and Earth History adds Dead Sea Scrolls exhibit, slated to run through December



JUNE

2007: ONWARD AND UPWARD

JULY

ICR participates in the First Conference on Creation Geology at Cedarville University, Cedarville, OH

> Henry M. Morris III delivers formal application to grant degrees in Texas to the Texas Higher Education Coordinating Board (THECB) in Austin, TX





Scientists from around the country gather in Athens, OH, to discuss ICR's genome research project

Henry M. Morris III participates in Bible conference in Santa Ana, CA



AUGUST



Acts & Facts magazine gets a makeover



ICR faculty and lab building in Santee, CA, is sold

John D. Morris speaks at the funeral of longtime creation advocate Bolton Davidheiser

- Henry M. Morris III conducts a 2-day Back to Genesis conference in Aliso Viejo, CA
- The Journal of Creation publishes cosmology research by Dr. Russell Humphreys

SEPTEMBER

- ICR purchases 5-acre campus in Dallas, TX
- Henry Morris IV is appointed as Director of Donor Relations
- Fall faculty retreat held in Dallas



ICR's annual Yellowstone tour

- RATE conference is held in Denver,
 CO, with 900 in attendance
- John D. Morris lectures at Wycliffe's GIAL (graduate school for linguists) in Dallas, TX

The Museum of Creation and Earth History participates in Smithsonian Magazine's Museum Day

OCTOBEP

- Construction begins on the Dallas campus faculty / lab building
- ICR Science Editor Frank Sherwin addresses the student chapel at Pensacola Christian College, with 5,000 attendees
 - John D. Morris lectures at Winebrenner Seminary, Finley, OH
 - The Museum of Creation and Earth History installs the Genome Wall, with touch screen presentations
 - ICR launches Association of Christian Schools International (ACSI) exhibition and seminar initiative for Graduate Education
 - ACSI conference in Aurora, IL (Perez, Rajca)
 - ACSI conference in Portland, OR (Gunther, Criswell, Hoesch)
 - ACSI conference in Sacramento, CA (Rajca, Gunther)
 - ACSI conference in Seattle, WA (Rajca, Gunther)
 - ACSI conference in Indianapolis, IN (Sherwin, Gunther)

NOVEMBER

- Dallas campus academic building construction enters Phase II
- FAST research project review meeting in Kingman, AZ
- John D. Morris moderates a debate at the Near East Archaeological Society Annual Conference
- THECB Evaluation Team visits the Dallas campus in response to ICR's application to grant degrees in Texas
 - ACSI conference in Greensboro, NC (Nason, Parker, Hoesch, Gunther)
 - ACSI conference in Sturbridge, MA (Sherwin, Rajca, Wood)
 - ACSI conference in Columbus, OH (Rajca, Gunther)
 - ACSI conference in Anaheim, CA (Sanford, Hoesch, Rajca, Gunther)
 - ACSI conference in Dallas, TX (Criswell, Perez)
 - ACSI conference in Washington, D.C.
 (Sherwin, Ford)
 - ACSI conference in Orlando, FL (Parker, Nason, Wood)

DECEMBER



- John D. Morris is Plenary speaker at the Right to Life Conference in Amsterdam, Holland
- Dallas campus academic building construction is completed



Henry M. Morris III and Dean of the Graduate School Dr. Eddy Miller meet with the THECB Commission in Austin, TX









LARRY VARDIMAN, PH.D.

t the heart of ICR's work is the belief that the inspired Word of God is relevant and accurate in all areas of life. To that end, we have undertaken scientific research to underscore the truth of the biblical account of the origins and early history of our world. Dr. Henry Morris began this work with *The Genesis Flood* in 1961, and that process is continuing today with our FAST (Flood Activated Sedimentation and Tectonics) geological research project. The principal investigators of the FAST program recently met in Kingman, Arizona, to review their progress during 2007 and formulate plans for 2008.

On Friday, November 7, project participants visited the Grand Canyon. Entering from Peach Springs on the Hualapai Reservation, the team drove 22 miles down the unpaved road to the Colorado River-the only river access within the Grand Canyon by car. The team stopped at the Great Unconformity and overlying strata (which is the subject of William Hoesch's research), and then ate lunch on the bank of the Colorado River at Diamond Creek (where the Vishnu metamorphic complex is exposed). Later in the day, the group visited the Coconino Sandstone outcrop at Chino Point near the town of Seligman. John Whitmore's footprint locality and crossbedding study were scouted at Chino Point, and several constructive observations were made within the group.

The FAST scientists gathered on Saturday, November 8, for reports from the various research teams. ICR's geological research is based on a literal interpretation of the Genesis account of the Flood. To that end, the Scripture Division investigated the structure and syntax of Genesis chapters 6 through 9. Steve Boyd discussed the usage of the Hebrew verb *wayehi* (translated "it was" or "it came to be"), especially



as it indicates chronology and sequentiality in Hebrew narrative. This verb appears to be vital to understanding the paragraph structure of the narrative text in Genesis 6 to 9. Two of Dr. Boyd's students commented further on the use of the verb *wayehi* in macrosyntax, and on the Hebrew constructions called "double infinitive absolute" in Genesis 8:3 and Genesis 8:7, and Randy Younker reviewed the Hebrew idea of *raqia* ("expanse").

For the Sedimentation Division, John Whitmore reported on the Coconino fieldwork and sample analysis by Ray Strom. Van Wingerden reviewed the ongoing fieldwork on the source formations for clasts in the Kingston Peak Formation, and Clarence Burg explained the deformable computational mesh he intends to use to simulate submarine debris flows.

On Sunday, November 9, Tim Clarey of the Tectonics Division detailed the initial synthesis of map and drillhole data constraining the geometry of the South Fork fault (a separate fault distinct from and south of the Heart Mountain fault in Wyoming). He characterized a "breakaway zone" for the South Fork fault and suggested that it was a large rockslide, like the Heart Mountain fault. Sunday afternoon concluded with a brainstorming session on topics that included superfaults and ancient DNA. A superfault is a rupture surface where huge displacement generates enough friction to melt rock, not just pulverize it. Ancient DNA, if documented in Miocene peat or fossil dinosaur bones, would be incompatible with an old earth.

We are looking forward to the discoveries and research prospects that 2008 will bring. Stay tuned to *Acts & Facts* and ICR's website at icr.org for more updates. ●

Dr. Vardiman is Professor of Atmospheric Science and Director of Research.





ICR EVENTS January 2008

January 19-20 Kenansville, NC *Genesis Presentation* (Gardner) 910.285.8110 January 24-25 Birmingham, AL ACSI Convention (Sherwin, Parker) January 31-February 1 Galveston, TX ACSI Convention (Nason)

The Declaration of Independence famously states that people have the unalienable right to "life, liberty, and the pursuit of happiness." But is genuine happiness possible? If so, how can we achieve it?



n the new, inspirational booklet *How to Be Happy in Spite of Yourself*, Dr. Henry M. Morris III explores what the Bible has to say about happiness and how it is acquired. He writes, "True happiness not only exists, but it is within reach of those who pursue it in the right way."

Begin the new year with this uplifting message from God's Word, which is available for a donation of any size. Call or write today for your copy!

RADIDCARBON *in "Ancient" Fossil Wood*

ANDREW A. SNELLING, PH.D.

Figure 1. Cresson Mine, Cripple Creek, Colorado, with Pikes Peak in the background. Photo supplied by David Vardiman.

he presence of measurable radiocarbon in fossil wood supposedly tens and hundreds of millions of years old has been well-documented.1-5 Baumgardner⁶ has similarly reported measurable radiocarbon in ancient organic materials, well above the threshold of the accelerator mass spectrometry (AMS) analytical technology used, including ten samples of US coals spanning 45-300 million years of the conventional timescale for the geologic record. Meticulous laboratory procedures rule out the possibility that this measured radiocarbon is due to contamination, so it must instead be intrinsic to these ancient organic materials. However, such is the rapid decay of radiocarbon (14C), with a half-life of 5,730 years, that even after only 250,000 years there should be no detectable radiocarbon left. Thus, organic materials supposedly millions of years old should not contain any radiocarbon whatsoever.

Cripple Creek, Colorado

Cripple Creek is the premier gold mining district of Colorado, having produced more than 23 million ounces of gold since 1891. The gold is found in veins and surrounding rocks associated with a small (six square mile) volcanic complex that is supposedly 32 million years old (Oligocene), as determined by Ar-Ar radioisotope dating.7 The complex was formed by explosive volcanism from multiple coalescing eruptive centers, episodic intrusion of alkaline igneous rocks (ranging from phonolite to lamprophyre), development of funnel-shaped breccia pipes, and repeated eruption and subsidence cycles.8 A two-phased mineralizing event closely followed emplacement of the volcanic complex. First, a high-temperature fluid flow phase caused alteration of the host volcanic rocks and increased their permeability. Then a subsequent low-temperature fluid flow phase deposited in steeply dipping veins and disseminated gold into the porous wall rocks.9

The Cresson Mine (Figure 1) exploits the

most valuable deposit in the district, having produced more than 3 million ounces of gold. Its gold mineralization is associated with an ultramafic lamprophyre pipe, which at supposedly 27 million years old was one of the last volcanic events to occur in the district.10 The gold in the Cresson deposit is generally less than 20 microns in size and occurs in three principal forms: native gold as embayments or replacements along the margins of pyrite grains, or even intergrown with pyrite; as native gold associated with hydrous iron and manganese oxides after tellurides; and as gold-silver tellurides primarily in quartz-fluorite veins.

Oxidation of the deposit is strongest and deepest along major structural zones, but generally has a nominal depth of 400 feet.

Ancient Fossil Wood

Historic reports are common of early miners encountering pieces of petrified and coalified wood in the deep workings of the mines.¹¹⁻¹³ Many tree parts, ranging from small pieces of wood up to logs, trunks and a whole stump, have been found mixed in with the Cripple Creek Breccia that hosts the gold mineralization. Coalification of the fossil wood was common, and growth rings and other woody structures such as knots and bark had been retained. The original trees were undoubtedly conifers, probably belonging to a species of *Pinus*.

Carbonized fossil wood was also found in the Cresson Mine, including a log, at depths of 800 feet or more down from the surface.¹³ In July 1947, a small piece of coalified wood, measuring almost 3 centimeters in length (Figure 2), was found in a "sand bed" within rock, possibly sand-sized volcanic breccia (tuff and rock fragments) intruded by the lamprophyre pipe, on the 17th level of the underground workings,



Figure 2. Carbonized fossil wood found in the Cresson Mine. Photo taken by Mark Armitage.

some 1,700 feet below the surface.¹⁴ Furthermore, a cored exploration hole drilled in 2003 intersected a small piece of carbonized fossil wood in tuff and rock fragments of the Cripple Creek Breccia at a vertical depth of 3,079 feet beneath the surface under the mine.¹⁵

The postulated mechanism responsible for burying this fossil wood so deeply within this volcanic complex is the subsidence that followed many violent volcanic eruptions. When the magmas rose through cracks and conduits they encountered groundwater, resulting in phreatic explosions. Violent jets of volcanic ash and billowing clouds of steam shook the landscape, sweeping away trees and other vegetation, brecciating the surrounding rocks to great depths, and thoroughly mixing all of the shattered materials. As these eruptions finished, the resultant breccias subsided into the deep holes from which the magmas had been blasted into ash and steam, taking with them the wood debris and burying it.

Radiocarbon Analyses

Some very small splinter-like fragments, collectively weighing 128 milligrams, were gently broken off from one end of the piece of carbonized fossil wood that was found in July 1947 in the Cresson Mine. The specimen was kindly provided by geologist David M. Vardiman, who at the time was working for the Cripple Creek & Victor Gold Mining Company, the current operators of the mine. After being carefully packaged and labeled, this sample was submitted with the required documentation to Professor Roelf Beukens at the IsoTrace Radiocarbon Laboratory at the University of Toronto in Ontario, Canada.

At this laboratory, the sample was prepared for analysis with a modified AAAOx pretreatment,¹⁶ the standard procedure developed to guarantee the elimination of any contamination. First, though, the sample was demineralized to remove any contaminant inorganic minerals. This involved drenching the samples in hot and strong hydrochloric acid to dissolve away any calcium, barium, or strontium salts (which is

done to avoid producing insoluble fluorides in the next step), and then soaking the sample for at least a week in a hot and strong mixture of hydrochloric and hydrofluoric acids. After this, the acid-soluble humics were removed from what remained of the sample

with an extended hot and strong hydrochloric acid. This was followed by an extended cold and fresh alkali extraction. The laboratory reported that the dried residue consisted of needles with a carbon content normal for organic material. A very short chlorite bleach treatment then had to be used because the sample rapidly oxidized. Before subsequent combustion, the sample was degasified under vacuum.

The resultant graphite was then analysed for radiocarbon using the laboratory's stateof-the-art AMS system. Four separate highprecision analyses were averaged and corrected for natural and sputtering isotope fractionation using the measured ¹³C/¹²C ratios. The averaged radiocarbon analysis reported by the laboratory, after the laboratory "background correction" of 0.077 percent modern carbon was subtracted, was 0.588 ± 0.069 percent modern carbon. This equates to an apparent uncalibrated radiocarbon age of 41,260 \pm 540 years before present (BP), using the Libby meanlife of 8,033 years. The quoted errors represent the 68.3% confidence limits.

Discussion

The volcanic rock materials in which this piece of carbonized fossil wood was found are claimed to be 32 million years old, yet the wood yielded a radiocarbon age of only 41,260 years, well within the measurement limits of this dating method. The usual response to such a glaring and enigmatic discrepancy is to claim that the wood had obviously been contaminated with modern carbon, making it date young when in fact it really is extremely old.

Four sources of potential contamination could be invoked in this instance. First, any con-

The volcanic rock materials are claimed to be 32 million years old, yet the wood yielded a radiocarbon age of 41,260 years.

> tamination in the laboratory can be immediately ruled out, because extreme handling and preparation measures were used in this highly respected academic laboratory, measures that have proved effective in removing any potential contamination. This included extended use of strong acids to guarantee removal of any carbonate and other minerals that might have contributed modern radiocarbon to the wood. Second, any contamination due to handling of the sample-for example, from human hands or plastic storage bags-can also be definitively ruled out, because any such contamination would only have been on the sample's surface and would have been immediately eliminated by the laboratory's extreme sample preparation techniques.

> > The third potential source of contami-

nation would have been the source area in the ground from which the sample was taken. Here there were definitely many relevant factors. At the time of burial of this wood in this volcanic complex, there were the hot temperatures of the volcanic ash and of the waters in the surface sediments in which the original trees grew and in any sedimentary strata beneath. Once the wood was buried, there would have been circulation of these waters as hydrothermal fluids through the volcanic pile when the gold mineralization was deposited. The resultant hydrothermal alteration is pronounced and complex, but includes carbonate and silicate minerals, and silica (quartz).17 However, no carbonate minerals or silica were in any way visibly evident within or clinging to the wood when the sample was collected, stored, and then sent to the laboratory. In any case, such minerals would have been removed from the wood, even from within it, by

> the severe demineralizing treatment in the laboratory. Furthermore, the hydrothermal fluids at the time of introducing dissolved minerals to the volcanic pile and altering it, supposedly 32 million years ago, would have only contained old carbon, which if

anything would have swamped any radiocarbon in the wood so that it should have yielded an infinite radiocarbon age, consistent with it being supposedly that old.

This only leaves, finally, the fourth potential source of contamination—namely, the groundwater percolating through the volcanic rocks and the carbonized fossil wood right up until the present. This can be likewise ruled out, because at 1,700 feet below the present land surface, any groundwater within the rocks and wood would have virtually no connection with any modern radiocarbon in the atmosphere, soils, and weathered rocks well above them. Furthermore, as a consequence of the many interconnected mining tunnels, and then the drilling in 1941 of a drainage tunnel some 3,100 feet below the surface under the mines, the

This carbonized wood could arguably be dated as late Flood or even post-Flood, and thus only about 4,300 years old.

whole area has been gradually de-watered by gravity so that water saturation in the rocks is now rarely encountered above 2,460 feet below the surface. In any case, any soluble inorganic carbonate carbon in the groundwater would not have exchanged with the insoluble organic carbon in the wood, because the two forms of carbon are incompatible. Also, any carbonate mineral deposited within or onto the wood by the groundwater would have also been removed by the severe demineralizing treatment in the laboratory.

It can only be concluded, therefore, that the radiocarbon measured by the laboratory must be real in situ radiocarbon intrinsic to the original wood, and not contamination of any sort. This does not imply that this radiocarbon is a reliable measure of the wood's true age. In fact, other fossil woods analyzed for radiocarbon have yielded various other "ages." However, it does indicate that the wood is young, and not 32 million years old. Clearly, the long-age radioactive Ar-Ar dating method used to determine that age for the volcanic rocks hosting the carbonized wood is totally unreliable, due to the unproven assumptions on which it is based and the well-documented problems associated with it.18 On the other hand, radiocarbon testing of ten coal beds spanning a significant portion of the fossil-bearing strata record of the Genesis Flood yielded "ages" of 48,000-50,000 years;19 so at 41,260 years this carbonized wood could arguably be dated as late Flood or even post-Flood, and thus only about 4,300 years old.

It should also be noted that this radiocarbon "date" was calculated on the assumption that this carbonized wood had similar radiocarbon content when it was buried to the radiocarbon content of modern trees. However, this assumption can be shown to be false for at least two reasons. First, the Flood removed so much carbon from the biosphere and buried it. Second, the earth's magnetic field was much stronger in the recent past back to the Flood, resulting in a much lower radiocarbon production rate in the atmosphere. These two factors thus would have meant that there was much less radiocarbon in ancient buried organic materials. Therefore, the required recalibration of the radiocarbon "dates" for these supposedly ancient organic materials would significantly reduce their true ages to make them compatible with the biblical timescale of earth history.

Conclusions

Carbonized fossil wood was found in July 1947 in volcanic "sand" within the Cripple Creek Breccia at 1,700 feet underground in the Cresson Mine, Cripple Creek, Colorado. Fragments from a sample of this wood were submitted for radiocarbon analysis to the IsoTrace Radiocarbon Laboratory at the University of Toronto, Canada. The high-precision AMS analyses of the wood revealed an average radiocarbon content of 0.588 ± 0.069 percent modern carbon (after subtraction of the laboratory's "background correction" of 0.077 percent modern carbon), which equates to an apparent uncalibrated radiocarbon age of 41,260 ± 540 years BP. Because any and all sources of potential contamination were removed by the laboratory's severe chemical pre-treatment and can thus be discounted, this radiocarbon was concluded to be real, in situ, and intrinsic to the original wood. This age conflicts starkly with the Ar-Ar radioisotope date of 32 million years for the volcanic rock in which the wood was buried, rendering that method totally unreliable. On the other hand, comparison with radiocarbon dates for coal beds deposited during the Flood year suggests that this carbonized fossil wood is likely only about 4,300 years old, buried by the late Flood or even post-Flood volcanic activity that also generated the Cripple Creek gold deposits.

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Dr. Snelling is the Director of Research at Answers in Genesis.



BACK TO GENESIS

Sunlight Before the Sun

JOHN D. MORRIS, PH.D.

ccording to Scripture, God "created the heaven and the earth" on Day One of Creation Week (Genesis 1:1). Initially all was dark, until God said, "Let there be light" (v. 3). Days Two and Three saw the oceans, firmament (or atmosphere), continents, and plants formed, as the earth was being progressively prepared for man's habitation. It was on Day Four that God created the sun, moon, and stars, proclaiming, "Let there be lights in the firmament of the heaven" (v. 14), one purpose of which was "to give light upon the earth" (v. 15).

This light was directional, coming from a particular source. The earth was evidently rotating underneath it, causing alternating periods of light and dark. "And God called the light Day, and the darkness he called Night" (v. 5).

Skeptics have long ridiculed the science of biblical creation over this point. How could there be light bathing the earth before the sun was created? Obviously the Bible must be in error. But as always, this apparent error drives us to look more closely at the relevant data, both scientific and biblical.

Actually there are many sources of light, not just the sun. There are also many types of light, not just visible light. Short-wave light includes ultraviolet light, X-rays, and others. Long-wave light includes infrared light, radio waves, etc. Light is produced by friction, by fire, by numerous chemical reactions, as well as the nuclear reactions of atomic fission and fusion, which is what we think is occurring in the sun. God had at His fingertips many options to accomplish His purposes. Light does not automatically require the sun. Furthermore, we have important data given by the Hebrew words used in the creation account. When God created "light" in verse 3, the word used connotes the presence of light only, while the word used for "lights" on Day Four is best translated "light bearers," or permanent light sources. Their purpose was not only to give light, but to serve as timekeepers for man once he was created. According to the best stellar creation theory now available, light from stars created anywhere in the universe on Day Four would reach earth in two earth days, and would be useful to Adam on Day Six. (For more information, see Dr. Russell Humphrey's cosmology articles on www.icr.org.)

Keep in mind that the Creation Week was a uniquely miraculous time, and we are justified in speculating that miraculous events may have been taking place outside of today's natural laws. Especially when we realize that "God is light" (1 John 1:5) Himself, thus no outside natural source is necessarily mandated.

For semi-creationists who claim that the "days" of Genesis 1 must have been long periods of time, a more serious problem arises. Genesis plainly teaches that plants appeared on Day Three, and the sun on Day Four. But plants need sunlight for photosynthesis and cannot wait in darkness for millions of years. If the days were long epochs, as demanded by critics of a literal Creation Week, plants could not survive.

How much better and more satisfying it is to accept Scripture as it stands. It doesn't need to be fully understood and explained by modern scientific thought; it just needs to be believed and obeyed. ●

Dr. Morris is President of the Institute for Creation Research.

Food, Fasting, and Physiology

FRANK SHERWIN, M.A.

asting is an important, personal matter involving intense spiritual discipline (Daniel 9:3). Clearly, the Lord Jesus fasted (Matthew 9:14-15; 17:21). It is not intended for salvation or to "punish the flesh" or as a badge of personal pride (Luke 18:9-14). It is intended to change us.

God has created our bodies to use starch, glycogen, and disaccharides (e.g., good old table sugar) as sources of energy on a day-to-day basis. These are carbohydrates and make up about half of most diets. As important as protein and fat (yes, *fat*—the average adult needs 80-100 grams of dietary fat per day) are in our diet, they are not intended to be the primary source of energy (although muscles do use free fatty acids first during light exercise).

In fact, people typically have about two pounds of carbohydrates stored as glycogen in the liver and skeletal muscle as energy backup (glycogenesis). This is why distance runners load up on high-carb foods (such as pasta) for several days before a marathon. They know the body will process these stores into glycogen that will be used gradually during the race. When this glucose polymer (glycogen) is needed, our incredibly designed liver delivers glucose units into the bloodstream (glucose, a monosaccharide, is called blood sugar).

But glycogen lasts for only so long, and before these reserves run out the body begins to use a more complex, energy-rich source called lipids (fat). The person who fasts, drinking only water, will deplete his glycogen reserves in a timeframe ranging from hours to a day or two (depending on energy demands) and will then be in fat respiration (breakdown).

While fasting for some can be harmful af-

ter only a few days, the Creator has uniquely designed our bodies to maintain this altered metabolism during a fast that He leads His people to endure, such as Moses on Mount Sinai (Exodus 34:27-28) or Elijah traveling from Beersheba to Mt. Horeb (1 Kings 19:3-9) or Jesus before His temptation by Satan in the wilderness (Matthew 4:1-11). Throughout this time, the body breaks down fatty acids (lipolysis) by the liver and produces ketone bodies and other compounds that are released into the bloodstream (ketosis). As long as one remains quiet, with a minimum of physical exertion (such as during fasting and prayer-Ezra 8:21-23; Psalm 35:13; Acts 13:1-3), this ketoacidotic condition is not threatening.

On the fortieth day of Jesus' fast, the Bible indicates that Jesus was "hungry," no doubt famished without food or water for over a month. At this physical low point, Satan struck. By this time, Jesus was on the verge of breaking down His own body protein as a final food source, since His carbohydrate and fat reserves were virtually depleted. Starvation victims tell of these later stages of gastric turgor, which result in intense pain or hunger pangs. But even under these extreme conditions, the Lord rebuked the Deceiver three times with Scripture, refusing to engage in dialog. At the end of this trial, "behold, angels came and ministered unto him" (Matthew 4:11).

While not a command in Scripture, fasting is assumed to be a Christian discipline for spiritual purposes (Matthew 6:16-18). Depriving the body of food should not be undertaken lightly or for the wrong reasons. In fact, some with certain medical conditions should not fast at all, and all fasts lasting more than a few days should not be started without consulting one's physician. However, the Creator knows our limitations and has designed us with an incredible nutritional cascade system that will allow us to endure the fast He calls us to undertake. For an encouraging and sensible resource on the Christian discipline of prayer and fasting, read Dr. Bill Bright's *7 Steps*

to Successful Fasting and Prayer (www.billbright.com/7steps/).

Mr. Sherwin is Science Editor for the Institute for Creation Research.



The Hualapai and the Flood

t rained for 45 days, and the whole earth was flooded. All the people were destroyed, except for one old man atop Spirit Mountain. Many days passed and a dove brought him instructions from the Creator to drive a ram's horn into the earth. The old man obeyed and the waters were drained. He sent the dove forth, and when it returned with fresh grass in its beak, he rejoiced for the land had become dry.

When the old man died, the Creator made "a younger brother and an older brother." In obedience to a dream, the two scraped, cleaned, and laid out canes. Before the next dawn the canes turned into a great population, and older-brother's rule over them was good. When he died, younger-brother commanded Cousin Coyote to fetch fire for the funeral pyre from faraway Fire-starter. But Coyote was disobedient and looked back, only to see that the fire had started without him. Dashing back to the pyre, he reached into the blaze, snatched older-brother's heart, and fled with it in his clenched teeth. (To this day, coyotes bear the mark of rebellion in their upturned, disfigured mouths.)

The land became irrevocably "not good" by this act, and younger-brother led the people "across the water" to a new land in the east. Overcrowding soon ensued, and youngerbrother chief dispersed the people into three major people groups (Navajo, Mojave, and Hualapai).

WILLIAM A. HOESCH,

This is the Flood story of the Hualapai Indians of northwestern Arizona.1 Like hundreds of Flood traditions, it was apparently handed down orally over the centuries. The Hualapai account corresponds to petroglyphs-one depicting a vessel carrying eight people (including younger-brother chief) across the floodwaters-inscribed on the flanks of Spirit Mountain in the area of Davis Dam, California, near the Colorado River. Some of the finest rock strata evidence we have for a global Flood is found on Hualapai lands in the westernmost Grand Canyon. Research by ICR geologists has been carried out there for the past ten years with the kind cooperation of the Hualapai. On these lands, song, rock, and petroglyphs agree-on a global flood.

Obviously the dove, the 45 days, the eight people aboard a vessel of deliverance, and a fall that marred even the animal kingdom, bear a remarkable resemblance to the biblical account. One might suspect it was a corruption of the Bible story, but this is unlikely for three reasons: 1) it is at least 150 years old, pre-dating all but the earliest Christian influences; 2) the Hualapai are fiercely proud and, for the most part, eschew "white man's" ways, including his religion; and 3) it matches with petroglyphs known to be ancient (though they cannot be absolutely dated). The account appears authentic.

Peach Springs Canyon, in the heart of Hualapai country

The God who made the world and all things in it...He made from one [blood] every nation of mankind to live on all the face of the earth, having determined their appointed times and the boundaries of their habitation, that they would seek God, if perhaps they might grope for Him and find Him, though He is not far from each one of us. (Acts 17:24-27, NASB)

Jesus was not white, nor did He found a "white man's religion." God loves the Hualapai and sent His Son to earth to prove it. This is a love story begun in the book of Genesis, and the modern Hualapai retain a memory of the events recorded there. ●

 Paraphrased by the author, based on the story in the following publication: Talieje, Paul. 1984. Wikahme. In Hinton, Leanne

and Lucille Watahomigi (eds.), Spirit Mountain: An Anthology of Yuman Story and Song, Tucson, AZ: Sun Tracks and the University of Arizona Press, 15-42.

Mr. Hoesch is Research Assistant in Geology.









Beginning a new year traditionally provides us with an opportunity to take stock of where we have been and where we wish to go. Most people make resolutions in the hope of improving their health, finances, or appearance, but all are made in an attempt to become "better people" in some way. As Christians, however, we know we are nothing outside of our Lord's saving grace, so our focus should be much different than that of the secular world. Whether or not you participate in making resolutions, consider the following truths that should motivate us all to seek a closer walk with our Creator this coming year.

Number Your Days

Psalm 90, the majestic prayer written by Moses toward the end of his life, contains a beautiful summary of God's power and provision for Israel throughout the ages. The overwhelming theme concerns the brevity of our lives, and the urgency to finish the work the Lord has given us. Moses wrote that "all our days are passed away in thy wrath: we spend our years as a tale that is told [literally, a brief sigh]" (v. 9). And because life is so short, Moses asks the Lord to "teach us to number our days, that we may apply our hearts unto wisdom" (v. 12).

The word "teach" here literally means to acknowledge or recognize. And in order to do this, we first must know how many days have passed since birth, and then roughly estimate how many days may remain to us. Anticipating a normal lifespan of 70 to 80 years (v. 10), this exercise forces us to consider "the work of our hands" (v. 17) to determine if we have applied "our hearts unto wisdom" (v. 12). This New Year, take time to consider your "number of days" and how you can effectively use the remainder for His glory!

Walk Circumspectly

The great Apostle Paul, writing some 1,500 years after Moses, similarly counseled the Christians at Ephesus to "walk circumspectly, not as fools, but as wise, redeeming the time, because the days are evil" (Ephesians 5:15-16). The term "walk circumspectly" means to be diligently aware of potential consequences, and implies that we must have a firm understanding of biblical truths in order to distinguish foolishness from wisdom. The word "redeeming," as used in this context, literally means to rescue from loss. Therefore, by walking diligently with our Lord in wisdom, we are to "rescue from loss" the time He has allotted to each of us.

Poor health can sometimes be corrected, and lost money or possessions can often be regained. But time wasted is gone forever! This New Year, carefully consider how you can "redeem the time" to bring honor and glory to our Creator.

At ICR, we are committed to knowing, following, and teaching the truth of our Creator as expressed in His perfect Word. And as we enter another year, we are reminded of the brevity of our days, and earnestly seek to redeem the time until the Lord comes. Our agenda for 2008 is packed with new initiatives, and we pray that our Creator will provide the resources needed to see

them to fruition. Won't you prayerfully consider how you can help? ●

Mr. Morris is Director of Donor Relations.



LETTERS *to the* EDITOR



The Institute for Creation Research thrills my heart! There is no doubt that God has created all things in the space of six, twenty-four hour days. As the truth is forthcoming from scientific research, it will only *confirm* that God, indeed, is the great Creator, and it will *confirm* that there was a universal flood. *Acts & Facts* is such an encouraging publication because it keeps us updated with the latest research that gives credence to what we know is truth in the first place.

— М.М.

Keep up the good work. I taught biology for 27 years and you helped to keep me focused and prepared to fight the religion of evolution. God's blessings to you all at ICR.

-B.P.

I am thoroughly enjoying the course work [of the Creationist Worldview online program]. The lessons are well written and the Web presentation and flow excellent.

— D.B.

Thank you for sending *Acts & Facts*. As a new reader of the magazine, I'm very impressed with the beautiful format. William Hoesch's article on Mount Moran really caught my attention as we have family living in Wyoming and have visited the Tetons on occasion. May the Lord continue to bless the ministry.

— *R.H.*

Thanks for *Days of Praise* and *Acts & Facts*. I get a continual education. — *B.G.*

I deeply appreciate the *Days of Praise* devotional booklet. I truly enjoy every article in it; I even preach from it sometimes. This booklet is biblically sound. I thank the Lord for you dear people. May God continue to give you deep insight into creation and into His Word.

— *M.W*.

Just a quick note to tell you how much I like the new *Acts & Facts.* It's simply wonderful that you have increased the font size for us older readers....I use *Days of Praise* every morning before I start my Bible Study and devotions. I always pray for ICR and all your endeavors. We certainly need you. — *K.S.*

Awhile back I received a "questionnaire" of some kind from ICR asking for comments. One of my suggestions was changing *Acts & Facts* from inserts to more of a traditional magazine format. I was surprised and happy to find the change was implemented. Looks great and is now easier to read. — *S.C.*

Have a comment? Email us at editor@icr.org. Or write to Editor, P. O. Box 59029, Dallas, Texas 75229.



Radio

WEEKEND OF JANUARY 5

Alaska—The Great Land, Part 1

The Creator's handiwork is displayed throughout the earth, but one area rich in splendor is Alaska. Abundant wildlife and glacier-filled bays make Alaska a nature lover's paradise. However, it's also a geological gem and a massive testimony to Noah's flood. In part one of this two-part special, we'll focus on Alaska's geology and learn about its unique plant life. Tune in!

WEEKEND OF JANUARY 12

Alaska—The Great Land, Part 2

Alaska's natural beauty awaits the wide-eyed visitor and thrills the longtime resident! Many who visit hope to observe the wildlife that thrives there. Not only do these creatures delight tourists, they show us the mighty hand of the Creator! Join us for the second half of our two-part special on Alaska.

WEEKEND OF JANUARY 19

Victims of the Wrong Choice

According to Genesis, man is God's supreme creation, made in His image with an eternal soul. Why then does modern society value human life so little, destroying children before birth? What about the mother who has an abortion—is she also a victim of this disrespect for life? Join us as we consider abortion's victims.

WEEKEND OF JANUARY 26

The Great Dinosaur Dilemma

Dinosaurs have long been the center of controversy, used by secular paleontologists to support an ancient earth. Creationists, however, aren't the only ones disagreeing with evolutionary interpretations of dinosaurs; it seems evolutionists are at odds with each *other* over dinosaur fossil discoveries. Listen in to this fascinating discussion!

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