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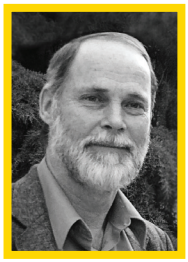
Creation Weekend 2017

In Science + Faith Worldview Matters!



Creation Science Association of Alberta is delighted to announce two wonderful speakers for Creation Weekend on Friday October 20 and Saturday October 21, 2017.

On **Friday evening (7:30 p.m.)** Carson Lueck B.Sc., B. Ed., is scheduled to speak on "How the Authority of Scripture Impacts Science". This session will be aimed at youth and young adults. So bring your busloads of students to this event!

On Saturday October 21 come to hear Dr. John Byl, professor *emeritus* from Trinity Western University in Langley, B.C. His research interests include astronomy, physics, mathematics and the interaction between Christian faith and science, he has lectured in a large number of countries all over the world.

John Byl was born in the Netherlands but educated in Canada. He graduated with a B.Sc. degree in mathematics from University of British Columbia (UBC) in 1969 and a Ph.D. in astronomy in 1973 from the same institution. Later he worked as a visiting professor in the physics department at Dordt College, Iowa before arriving at Trinity Western University in Langley BC in 1978. From the beginning of his teaching career, Dr. Byl never lost sight of the importance of the **relationship between faith and science**. Indeed in 1999 he was awarded the Templeton Award in the category of Science/Religion Courses for a course he developed and taught (Math 480: Foundations in Mathematical Sciences: Theological and Philosophical Issues). The Templeton Foundation is international, so this was very significant recognition.

The scope of Dr. Byl's scientific interests is impressive. In the field of astronomy he wrote *God and Cosmos*: *A Christian View of Time, Space and the Universe* (2001). This book is still in print and still extremely relevant because it points out ill-founded assumptions which were used to develop the Big Bang model of origins. Later he wrote *The Divine Challenge: on Matter, Mind, Math and Meaning* (2004) in which he portrays God as challenging mankind to explain why math works to describe physics and astronomy. If everything lacks purpose, we should not see so much order in the natural world.

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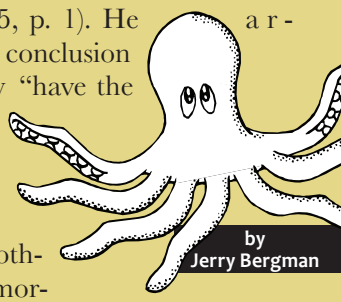
The Octopus
A Mixed-up Wonder

The Octopus is considered a primitive invertebrate, below chordates such as fish, yet it has advanced traits rivaling even those of humans. In the words of one scientist, "With its eight prehensile arms lined with suckers, camera-like eyes, elaborate repertoire of camouflage tricks and spooky intelligence, the octopus is like no other creature on Earth." (Abbott, 2015, p. 1). He arrived at this conclusion because they "have the largest nervous systems among the invertebrates and present other striking morphological innovations including camera-like eyes, prehensile arms, a highly derived early embryogenesis, and a remarkably sophisticated adaptive coloration system." (Albertin, at al., 2015, p. 220). In short, the octopus is utterly different from all other animals, even other mollusks. For this reason and other reasons, its origin has stymied Darwinists.



by Jerry Bergman

Octopuses are classified as mollusks along with snails and clams. They are, however in the class Cephalopoda (meaning brainy feet) and the order Octopoda (eight feet). Their four pairs of arms are covered with hundreds of suction cups. The suction cups contain chemoreceptors that allow the octopus to taste everything it touches. The eight arms contain tension sensors to inform the octopus about how far its arms are stretched out (Judson, 2016). Their eight arms are the source of

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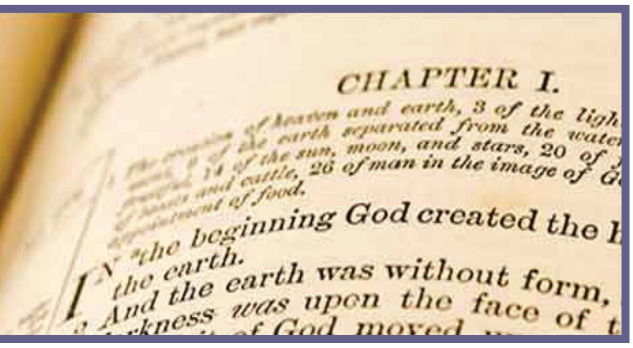
Creation Weekend 2017

In Science + Faith Worldview Matters!

It only makes sense if mathematical con cepts come from a designer, who decreed that math and the physical world would agree.

In keeping with his insistence on the close connection between science and faith, Dr. Byl has published numerous articles in a variety of Christian journals. Other topics more focused on science itself, he has published in such journals as *Galilean Electrodynamics, Quarterly Journal of the Royal Astronomical Society* and *The Astronomical Journal.*



In recent years, Dr. Byl has also turned his attention to issues of worldview and apologetics. In this context, he twice served as guest speaker in Dr. Tom Goss's science course sessions at Summit Pacific College in Abbotsford B.C., nearby to Trinity Western University in Langley. In 2014, the two professors agreed to collaborate on an apologetics booklet. Both recognized that many Christians (in the face of widespread evolutionary teaching) do not know what the Bible teaches about truth, and the foundational doctrines of our faith. So they collaborated for two years and produced the booklet *How Should Christians Approach Origins?*

Thus Dr. Byl brings a lot of scientific information, philosophical insights and experience to the discussions which he has promised to provide for us at Creation Weekend! Firstly, on **Saturday morning (10:00 a.m.)** he answers the question "Do we need the Biblical Adam?" Over the past century and a half, many Christians have felt pressured by the prestige of secular science to conclude that the early chapters of Genesis do not describe historical events. A very important result of this approach is the rejection of the historical Adam. Dr. Byl shows that this approach has serious implications for the Christian faith.

Secondly on **Saturday afternoon (2:00 p.m.)** Dr. Byl plans to discuss "The Christian Worldview and Origins". In this lecture, he focuses on the implications of the Christian worldview regarding origins. He considers "God's two books" (scripture and nature) including general revelation, common grace and the anti-thesis. He also discusses various forms of theistic evolution and their theological implications.

In the keynote lecture Dr. Byl plans to address the compelling question "Has science killed God? Christianity versus naturalism" on **Saturday evening (7:30 p.m.)** He examines various claims about science which purport to disprove Christianity. In this context, he discusses the nature of science, actual observations versus models (data vs theory). He wraps it up with a comparison of what impact these ideas have on society at large and on the church in particular.

Do not miss these highly relevant and exciting presentations!! The venue is **Mill Woods Assembly, 23 Avenue and 66 Street NW,** a beautiful facility with plenty of parking. On Saturday morning CSAA provides a complimentary continental breakfast at 9 a.m. During the dinner hour on Saturday evening a delicious banquet is provided (at a cost) for those who register in advance. See information on our website.

October 20 and 21, plan to come to Creation Weekend 2017.

A challenge for all in what matters in faith and science!!

Dialogue

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Its purpose is to discuss the creation model of origin in terms of scientific details.
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Appreciating the Creation

by Moxie

Many people claim they are not interested in science, but this is not really true. Perhaps they never really studied nature, but there are few people who do not notice how interesting and beautiful the surrounding countryside is. Did you realize for example that magpies are common in the western half of North America, but not in central Canada? Some people say that these distinctive birds are so common in Edmonton that this is the "magpie capital of Western Canada" (a dubious distinction).

Moreover the jackrabbits that hop so happily around much of western North America, are not common in central Canada either. One visitor from southern Ontario, upon viewing a local jackrabbit, called it a bunny on steroids!! Do these observations (or other similar ones) strike you as interesting? This would be a great excuse to investigate local biodiversity. Perhaps you would like to find out why some animals or plants occur in your region and not someplace else. See? Maybe you are more interested than you thought!

One interesting topic is the range distributions of organisms (for example plants). When we drive from Edmonton to central Canada, we always notice when the first majestic white pine trees appear (near Kenora, and especially near Thunder Bay.) Also there is a beautiful pale blue wild flower called chicory that blooms in August in central Canada. As we drive along we notice the first plants blooming by the roadside. This is a woody herbaceous plant in the Aster family. Its roots when baked, can be ground into a coffee substitute. Apparently it was popular in Europe during the second World War, and in New Orleans during the American Civil War. This plant is native to Europe, and several American states have declared it invasive. It certainly is common in meadows in southern Ontario in August, along with Queen Anne's Lace (wild carrot flowers). A lot of wild flowers that are so common, by the way, are invasive species from Europe.

The obvious question is why do certain species occur in some places but not in others. The basic answer is that a given species may not have had time to arrive in your area. It may be coming. Alternatively, the organism may not be able to survive in your area. For example, consider ragweed (*Ambrosia artemisiifolia*). This unpopular weed is common in southern Ontario but not on the Canadian prairies. While the seeds can germinate over a wide range of temperatures (8 – 32 degrees C), the plants require relatively short days (maximum 14 hours) to initiate flowers. If there are no flowers, there is no next generation of plants. By the time the days are short enough on the prairies, the weather is too cold to germinate the seed.

In other cases it could be predators, or unsuitable local topography that could prevent an organism from becoming established in a new area. Raccoons for example do not live in northern Alberta, but people say that they are coming here from south east Alberta. These animals have cute faces and great skills in handling objects, but people say that their personalities are not appealing, especially when they scatter garbage all over the place.

Sometimes people have extended the range of an organism on purpose by introducing it to a new area. This is not usually considered a good idea today. For example, rabbits and cane toads were introduced to Australia with disastrous results. Rats keep managing to extend their territory, but in Alberta, strenuous efforts by government officials continue to keep the province rat-free.

One land owner near Quebec City planted 10,000 black walnuts on his property in 1882. This was north of the natural range of these trees. However a number of the seeds germinated and survived, and today on this estate, there are more than one hundred magnificent large black walnut trees. Thus Henri-Gustave Joly de Lotbiniere (1829-1908) extended the range of the black walnut tree in central Canada. Because of his efforts, he is considered the father of Canadian arboriculture.

These are just a few of the kinds of observations which can stimulate our interest and appreciation of the creation. Why not make a list of interesting questions which occur to you. Maybe the next step is to research some answers. In this context, CSAA has lots of good resources at various levels of difficulty which may throw light on your reflections.

Insights from an Ancient Computer

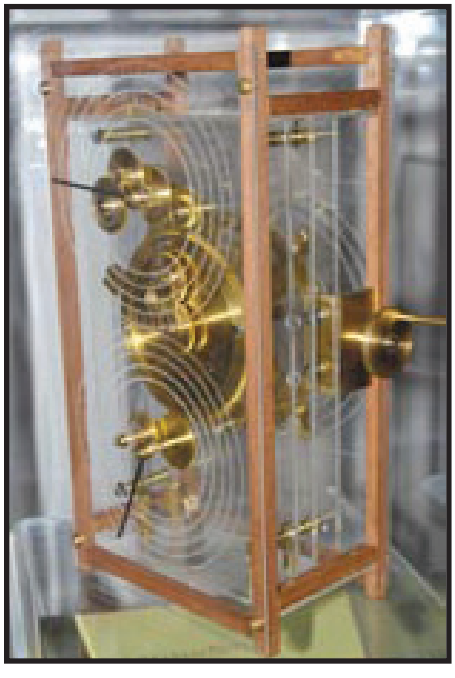
by Margaret Helder

Most people are at least somewhat interested in artifacts left behind by ancient civilizations. That is why tourists flock to the Mayan ruins in Mexico, or to Greece or Rome, or to Stonehenge in the south of England. Dr. Donald Chittick, a physical chemist, turned his attention to some traces of ancient civilizations and what these artifacts tell us about the people who produced them. His book *The Puzzle of Ancient Man* (third edition 2006) includes many interesting cases including a mechanism from ancient Greece that was in fact an analog computer. This is defined as "a device for calculating quantitative data by means of moving parts –" (Jones 2017 p. 25). In keeping with Biblical revelation, it perfectly makes sense that the ancient peoples were very clever and inventive. But just how sophisticated was this early computer? Research conducted for more than a century, since this device was discovered in an ancient shipwreck in 1900, demonstrates that the Antikythera Mechanism was astonishingly sophisticated. (See www.create.ab.ca/ancient-computer-astounds-everybody/#more-460)

The digital computers that we employ today use coded software in the form of a sequence of operations (algorithms) to treat data which we input. In accordance with its programs, the computer calculates answers. The computer built by the ancient Greeks (about second to first century BC) used programming in the form of suitable gears to calculate answers to questions concerning the cosmos (primarily the solar system).

It turns out that the motions of the bodies in the night sky are very complicated. Most of us today do not pay a lot of attention to the heavenly bodies. However many ancient peoples studied the night sky closely. In this endeavor they revealed a capacity for precise observations, fancy mathematics (and in the computer, precision technology). It was these mathematical relationships in the motions of important heavenly bodies that were programmed in the form of elaborate gears into the Antikythera Mechanism, built perhaps on the Mediterranean island of Rhodes about 100 BC.

We may think that such a device was something way beyond the capacities of the ancient Greek culture. However it is the contention of Alexander Jones, author of a scholarly new book on the Mechanism that this device was "a product of its world" (p. xi Alexander Jones. 2017. *A Portable Cosmos: Revealing the Antikythera Mechanism, Scientific Wonder of the Ancient World.* Pp. 288). He further declares that "each one of the Mechanism's astronomical and chronological functions had a rich context in ancient Greek life and thought." (p. 233) and that "The Mechanism was thoroughly characteristic of its cultural setting." (p. 234)



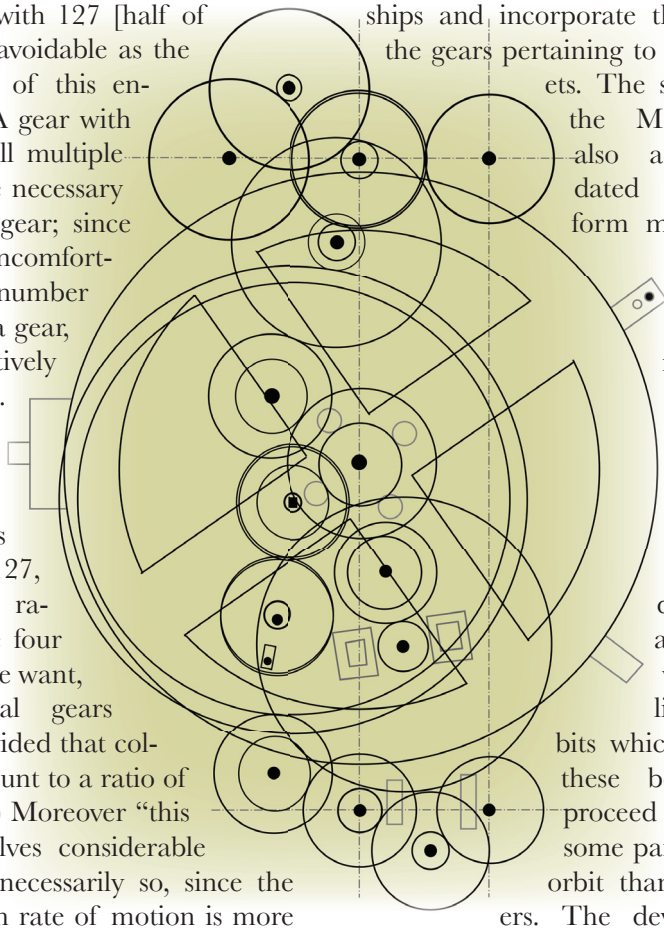
In spite of all this he calls it a "tour de force of mathematically guided design." (p. 215)

The solar system diagrams that we see in textbooks are entirely too uncomplicated. The Earth's orbit is not circular, but elliptical and as a consequence the Earth moves faster during some seasons than others. The same holds for the Moon, its orbit is elliptical around the Earth and it takes a lot of years to bring the Moon back to any given starting position relative to the Earth. Apparently 19 solar years are close to 254 revolutions by the Moon around the Sun, while revolving about the Earth, which translates apparently into 235 lunar months. The problem for the designer of the Mechanism was "to find a period that is simultaneously a whole number of solar (tropical) years, a whole number of lunar months, and a whole number of days, and to find the best way to distribute the ordinary and intercalary [leap] years and the full and hollow months [normal length or of fewer days] within a cycle whose duration is this period." (p. 81) However to accommodate the year's real length of 365 and one quarter days, one must deal with a cycle of 4 x 19 = 76 years.

The design features of this analog computer included pipes which allowed gears to have a common axis but different turning speeds, and toothed gears. The gears period of rotation relative to other gears depends upon the ratio of their tooth counts. The result is that "Applying gearwork to astronomical problems thus becomes a question of finding combinations of whole-number ratios that, when multiplied together, represent the ratios embedded in astronomical phenomena either exactly or as closely as possible." (p. 205) This multiplication is achieved with compound gear trains involving engaged gears alternating with transfers of motion through pipes.

For a dial face indicating the relatively uncomplicated relationship of

the Moon to the Earth and Sun "a pointer has to revolve 254 times clockwise around the dial in the same time that b1 [master wheel representing the solar year] revolves 19 times. A gear of 254 would be undesirably large – so a gear with 127 [half of 254] was unavoidable as the driving gear of this engaged pair. A gear with 19 or a small multiple of 19 will be necessary as a driven gear; since 19 is an uncomfortably small number of teeth for a gear, we can tentatively choose 38. If we just had a gear pair with tooth counts 38 and 127, the resulting ratio would be four times what we want, so additional gears must be provided that collectively amount to a ratio of 1:4." (p. 210) Moreover "this scheme involves considerable gearing up, necessarily so, since the Moon's mean rate of motion is more than 13 times that of the Sun." (p. 211)



The other phenomena for which the Mechanism is programmed include lunar and solar eclipses and the motion of five planets (Mercury, Venus, Mars, Jupiter and Saturn) relative to the constellations made up of stars. These values are all highly irregular since "the stars have a very slow eastward drift in position relative to … the points on the ecliptic [apparent circular path of the Sun]" (p. 112) This motion of precession, combined with the fact that the planets do not move on the same orbital planes as the Earth, means that the mathematical relationships between cycling of the planets and Earth are highly complicated. Thus for Jupiter to return to exactly the same position in space relative to Earth will take 427 years, for Venus 1151 years, Mercury 217 years, Saturn 265 years and Mars 284 years. Obviously the ancients did not observe entire cycles, but they were able to calculate these relationships and incorporate them into the gears pertaining to the planets. The system in the Mechanism also accommodated nonuniform motion of heavenly bodies by means of a pin-and-slot engagement of gears on slightly displaced axes. It was elliptical orbits which caused these bodies to proceed faster in some parts of the orbit than in others. The device also used other techniques for accommodating nonuniform motion.

The capacity of ancient peoples to design and build such a sophisticated device, has greatly surprised many people. When Dr. Derek de Solla Price (1922-1983) carried out his research on the Mechanism in 1958 and 1961, he confided that what he observed was "like opening a pyramid and finding an atomic bomb." (quoted by Jones p. 32). He expected something primitive but found advanced technology. Dr. Price added that the Greeks who built the Mechanism "were not far behind where we are now." (p. 32 Jones) Indeed in the early 1960s in some universities, students used mechanical calculators for mathematical calculations. These were gear driven and often jammed. The Antikythera Mechanism may well have been fancier!

Modern society has long considered that our capacity for abstract ideas and innovation are far superior to that of ancient peoples. This idea of progress, of course, is partly inspired by the idea of evolution and upward progress of mankind. The brain power to understand obscure mathematical relationships was obviously available long ago. And the technical know-how was there too. Dr. Jones suggests that the materials, tools and capabilities of the ancient artisans required to build such devices, were all readily available at that time. The gears were made from sheet metal of low-tin bronze (p. 233). He suspects, based on comparisons of ancient documents, that "there is enough evidence to suggest that complex and scientifically ambitious mechanisms were being made at least through the three centuries from about 100 BC to AD 200. " (p. 242) Lastly he assures us that this machine was not unique in its time: "Common sense tells us that the Mechanism was not a prototype without antecedents. It was too complex, too miniaturized, too polished a production to be the very first of its kind." (p. 231) So the ancients were not only intelligent, but also talented. The fact that such expertise was lost during the chaos of the dark ages, does not mean that subsequent generations or the ancients themselves were any less endowed with good brains.

Dr. Chittick (1932-2016), a well-known speaker and author on creation, did not live to see this new publication concerning a famous ancient artifact. But we can appreciate that in his own book he declared that God created mankind with amazing talents. One of the ways that we are to use these talents is to study God's creation, and although it was motivated by a pagan worldview, the Antikythera Mechanism definitely was the product of amazing studies of the heavens.

The Octopus
A Mixed-up Wonder

Continued from page 1

their name, octopus, Latin meaning eight-footed. Like all cephalopods, the body is bilaterally symmetric (composed of mirror image halves along a central axis). It features a beak with a mouth at the center point of the arms, and lacks both an internal and external skeleton.

The Octopus sucks water into its mantle cavity, then through its finely divided gills to achieve more efficiency. Octopuses are made up of mostly arms with a fairly small head and almost no trunk. The two branchial hearts pump blood through each of its two gills, and then its appendages. The third heart pumps blood throughout the central body.

Instead of iron based hemoglobin as found in mammals, octopuses blood-carrying molecules are copper based. In their cold water, low oxygen environment, hemocyanin is far more efficient than hemoglobin. The copper-rich protein hemocyanin then transports the oxygen to their body cells. The hemocyanin, instead of being carried within red blood cells as used by mammals, is dissolved directly in their blood plasma. This explains why their blood is a bluish color.

Their eyes use a camera-type eye design similar to that used by humans. The camera-type eye is the most complex eye design known in the animal world. The main difference between the two is that octopus's eyes feature nerves wired behind so that the light sensitive cells *face* the light, not inverted (the light sensitive cells face *away* from the light) as are human camera eyes. The octopus's eyes can distinguish polarization of light, and some even have color vision. Connected to the octopus brain are two organs called *statocysts*, sac-like structures containing a mineralized mass and sensitive hairs that allow an octopus to sense its body orientation relative to earth's horizontal. Statocysts are used to automatically adjust its eyes to ensure that their pupil slit is always horizontal (Hanlon, and Messenger, 1996).

Octopuses are very intelligent animals, likely more so than any other invertebrate. One zoologist, who had one as a pet, noted that when he sat down by the tank home of his pet octopus, the creature would move to the side of the tank close to where he was sitting, remaining there during the whole time he sat there. Other reports include octopuses having been successfully trained to distinguish between different shapes and patterns (Mather, 2007). Octopuses have also been observed in what some describe as play: repeatedly releasing toys into a circular current of water in their aquariums, and then catching them as they circle around again (Hanlon and Messenger, 1996).

Octopuses can also sometimes escape from their aquarium home and enter other aquariums in search of food. Some have even boarded fishing boats and opened their holds to dine on the crabs that they contain. In some countries, their intelligence has resulted in laws not allowing doing surgery on them without anesthesia, a protection normally extended only to vertebrates.

The octopus's primary defense is to hide or disguise itself through camouflage and mimicry. They can also rapidly escape by producing an enormous ink sac and autotomising limbs--the release of a limb, tail, or other body part when the organism is injured or under attack. Their ink sac ejects a large cloud of thick blackish ink to help them escape predators. The main ink coloring agent is melanin, the same compound that produces human hair and skin color. In evading those predators that employ smell for hunting (such as sharks), the ink cloud also reduces the efficiency of their enemy's olfactory organs. Ink clouds of some species can also serve as pseudomorphs--decoys that some predators attack instead of the octopus.

Another important protection method they use is camouflage aided by certain specialized skin cells that can change their epidermis color, opacity, and reflectivity. The chromatophores contain yellow, orange, red, brown, or black pigments that allows them to mimic their surroundings to the extent that they cannot easily be seen, even by persons who know where they are. Other color-changing cells are reflective iridophores, and leucophores, which produce a whitish color.

Their fastest means of locomotion is jet propulsion. It allows octopuses to rapidly jet away from potential predators. Octopus's jet propulsion system is produced by rapidly expelling a thin water jet from their contractile mantle, and aiming it via their muscular siphon to allow them to control their travel direction.

Octopuses can also escape predators by swimming or crawling on the ocean bottom. They can crawl on both solid and soft surfaces by walk-

ing on their arms, usually several arms simultaneously, while partly supported by the water. Some octopus species can crawl out of the water for short periods, such as between tide pools, while hunting, or to escape predators.

Evolutionists are baffled about octopus reproduction, which causes its death: males usually live for only a few months after mating, and females die soon after their eggs hatch. About 6 weeks after mating, the female lays from 20,000 to as many as 100,000 eggs over the course of several days. For the next 5 to 8 weeks she carefully cleans and aerates the eggs until they hatch. During the close to one-month period required to care for her unhatched eggs, the female never leaves her brood, even to eat. She gradually becomes weaker, and in a few weeks after they hatch, she will die of starvation. As a result of this care, octopuses have a relatively short life expectancy. Some species live only for about six months. Larger species, such as the giant pacific octopus, can under ideal circumstances live for up to five years.

Genome Analysis

A recent organism to have its genome sequenced, the octopus, has confounded all evolutionary expectations (Ogura, et al, 2004). Their genome "turns out to be so unlike other mollusks and other invertebrates that it's being called alien by the scientists who worked on that project." (Luskin, 2015). The octopus genome is almost as large as that of humans, and actually contains a *larger* number of protein-coding genes, close to 33,000, compared to less than 25,000 in humans (Courage, 2015).

An analysis of 12 different tissues revealed hundreds of octopus-specific genes that have not been identified in any other eukaryote. For example, the octopus has 168 protocadherin genes that regulate its neuronal development. This is more than twice as many as mammals. The researchers found that the cephalopod genome has an unexpected resemblance to many higher vertebrate genomes, similarities that are not predicted by common descent. In the end, evolutionists are forced to attribute these similarities to a dubious explanation called convergent evolution, meaning that they independently evolved many structures, such as camera-type eyes found on higher vertebrates.

Octopus ancestors were once believed by evolutionists to have lived in the Carboniferous seas around 300 million years ago. The earliest described octopod, the *Pohlsepia mazonensis*, was dated by evolutionists to be approximately 296 million years old (Kluessendorf and Doyle, 2000). It is known only from a single exceptionally well-preserved fossil discovered in the Pennsylvanian Francis Creek Shale of the Carbondale Formation in north-east Illinois. It is now on display in the Chicago Field Museum. Its sac-like body, head and fins are very comparable to modern cirrate octopods (Fuchs, 2009; Fuchs et al., 2009). As far as can be determined from the fossil, it is identical to modern octopuses. As no fossil record of its evolution exists, its' possible evolution is dominated by much speculation and debate (Vecchione, et al, 1999).

The study of octopuses shows that they display many "remarkable morphological departures from the basic molluscan body plan." (Alberton, et al., 2015, p. 220). They, in fact, are "the most mysterious creatures of the sea" (Courage, 2013). These many differences mean that evolutionists have had great difficulty even in determining their nearest common ancestor, not to mention a possible evolutionary pathway from this creature to modern octopuses (Courage, 2013). Octopuses are blessed with many complex traits found in a wide variety of both invertebrates and vertebrates, creating a chasm between them and all other known life forms (Fuchs, 2009). They are an unexplained mosaic of both very primitive and very complex modern traits that baffle evolutionists, but are perfectly explainable by intelligent design.

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Scientific Evidences for Creation

Frank Sherwin

Have humans always been humans? Were animals designed? How can we make sense of the evidence we observe? In this presentation, Frank Sherwin explores the scientific wonders of God's living creation.

DVD/ 94 minutes

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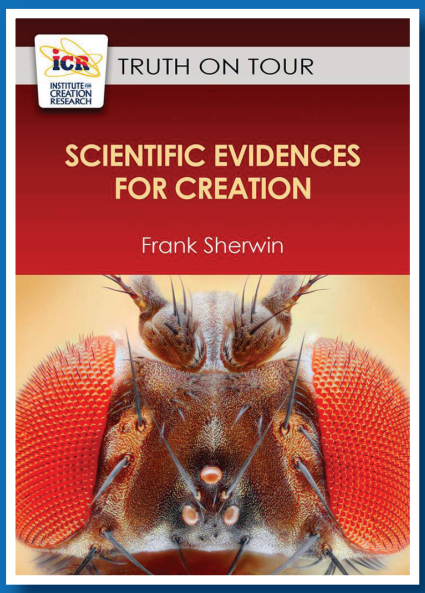

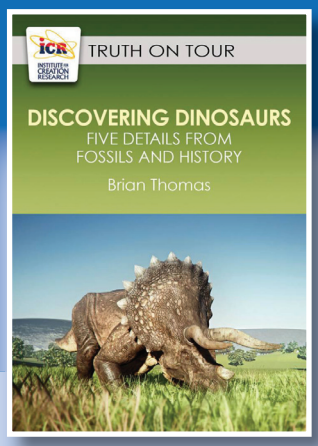

Discovering Dinosaurs

Brian Thomas

Some say that dinosaurs went extinct millions of years ago. Some say dinosaurs evolved into birds. Some say dinosaurs never really existed. What is a Christian supposed to believe? Brian Thomas discusses five details that point to a recent creation of dinosaurs.

DVD/95 minutes

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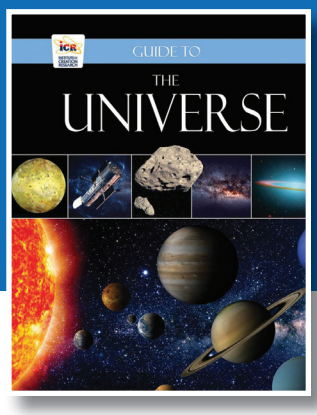

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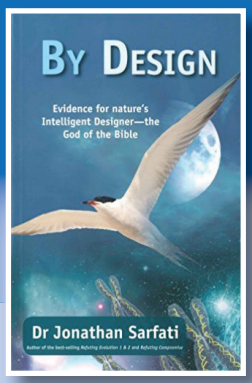

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