Creation Science
Dialogue

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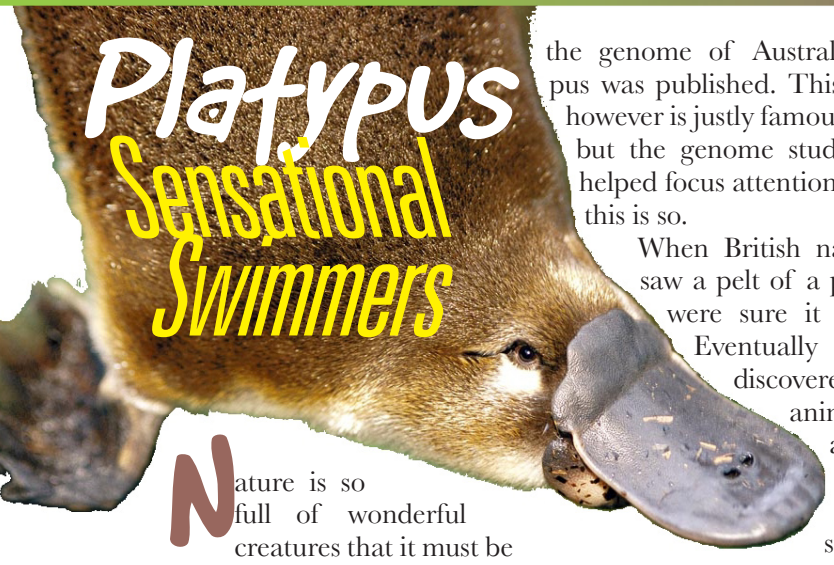


Platypus Sensational Swimmers

by Moxie

Nature is so full of wonderful creatures that it must be hard to focus on one for special study. However in recent years, a strange assortment of animals have enjoyed a brief moment of scientific attention. In each case the occasion for this special fame was the publication of the genome of that organism. The genome consists of details concerning the DNA molecules in each cell of the organism. DNA, or the genetic information, is made up of four special molecules (called nucleotides) strung together. It is the order of the nucleotides, like beads on a string, which determines the information content of the DNA for each particular organism.

While all such information may be interesting in its own right, scientists choose which organisms to sequence (document the order of nucleotides in the DNA) based on evolutionary theory. Thus bacteria, yeast, round worms, fruit flies, rats, dogs, apes and humans have all enjoyed their moment of fame. In May 2008, the genome of Australia's platypus was published. This creature however is justly famous anyway, but the genome studies have helped focus attention on why this is so.

When British naturalists first saw a pelt of a platypus, they were sure it was a hoax. Eventually naturalists discovered that this animal was real and that it lays eggs, although it suckles its young with genuine mother's milk. It seemed as if this creature was a strange jumble of bird, reptile and mammalian (feeds milk to young) characteristics. More careful study however reveals that this organism is actually a beautifully designed organism. The genome study further emphasizes this fact.

Research since the platypus was discovered, has turned up only two species of the faintly similar Echidna, also native of Australia. Thus the duckbilled platypus remains a highly unusual creature. Not only its appearance, but many aspects of its biology are unique. These small animals (up to 60 cm long) spend most of their time under water. Indeed they are unable to find food on land. Amazingly however, they swim blind, deaf and without the normal opportunity to detect chemicals since flaps cover their eyes, ears and nose while they are submerged.

Continued on page 4

Dr. Marcus Ross - Coming to Alberta

Creation Science Association of Alberta is delighted to announce that Dr. Marcus Ross has agreed to speak at our creation weekend in **Edmonton on Friday and Saturday, October 15 and 16, 2010**. This young scientist brings with him a wealth of experience and expertise. He graduated with a B.S. from The Pennsylvania State University, a M. S. in Paleontology at south Dakota School of Mines and Technology and a Ph.D. in Geosciences from University of Rhode Island. His doctoral thesis dealt with the abundance and spread of mosasaurs, marine reptiles which are found in Cretaceous sediments, rock levels similar to those of many dinosaurs..

The graduation of young scientists is usually not a front page story in national newspapers. However the *New York Times* printed such an article on February 12, 2007 about Dr. Ross' recent doctoral degree in geosciences. This newspaper, it turns out, provided a forum for those who thought a young earth creationist should not be allowed to graduate with secular credentials.

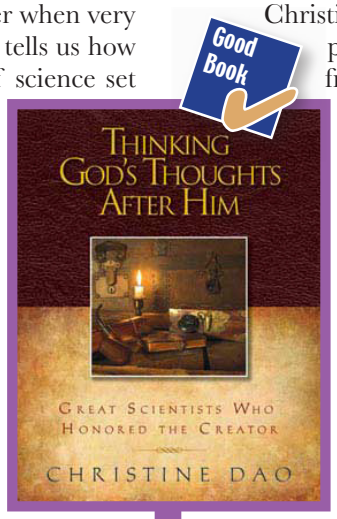
Continued on page 7

Firm Foundations

by Margaret Helder

Suppose that you were presented with the daunting task of learning as much as possible about some topic on which you, and other people, know almost nothing? How would you go about learning something? Why would you even bother? Would it matter to anyone if you did make this effort?

An attractive full colour booklet from the Institute for Creation Research describes situations where people did bother to seek after understanding which was previously unknown. Today we know lots about many scientific disciplines so that the challenge is to try to handle all the available information. There was a time however when very little was known. This booklet tells us how some of the great pioneers of science set about discovering the foundations of their disciplines and it tells us also why they were so motivated.



We start with Italian Galileo in the 17th century, said to be the father of modern science; to German Johann Kepler of the 17th century, father of physical astronomy; to Irish Robert Boyle of the same century, father of modern chemistry; to English Isaac Newton, father of universal gravitation; to William Kirby of England in the 19th century, father of entomology (insects); to another 19th century Englishman, Michael Faraday, father of electromagnetism and his Scottish contemporary James Clerk Maxwell, father of electromagnetic theory; to German/Czech Gregor Mendel, father of modern genetics, to French contemporary Louis Pasteur, father of modern microbiology; to 20th century George Washington Carver, a great pioneer in modern agriculture. Among them all we see individuals who exhibited a strong appreciation and curiosity about nature. They did so because they knew that all things were made by God.

These men were Christians from a variety of denominations, who because of their interest in the Creation, sought to learn more about God's handiwork. They approached their disciplines with careful observations and lots of experiments. They refused to be intimidated by the majority opinion of contemporaries, self declared experts, who really knew very little. Galileo, for example, had to fight fellow academics who based their conclusions on Greek philosophy rather than observations. And Louis Pasteur had to fight those who believed in spontaneous generation, or bugs springing from garbage itself rather than from bugs begetting more bugs which chose to live in the garbage.

The booklet is attractively illustrated and very well organized. Each discussion includes the details of who, what, when and where as well as one or two quotes from the scientist which illustrate his Christian faith and his general approach to knowledge gleaned from nature. The second half of the book, in workbook format with permission to copy as required, provides discussion and questions on more modern aspects of the work of each specialist, as well as discussion on passages from Scripture which shed light on the work and interests of these amazing people.

Because of the nature of the book's theme, highlighting people in a variety of disciplines, the scientific discussion hops all over from astronomy to physics to biology etc. The questions however are designed to encourage reflection and further research, probably at the upper junior high school level. In order to make the booklet entirely meaningful, answers are available on line at <icr.org/great-scientists>. Also there is a useful <icr.org/evidence> site for more details. Thus properly used, this book can be a springboard to more studies as well as a wonderful wrap-up for survey courses in science at this level. But it doesn't have to be used in a course! The material is interesting in its own right and it is certainly suitable for expanding one's intellectual horizons.

Christine Dao. 2009. *Thinking God's Thoughts after Him: Great Scientists Who Honored the Creator.* Institute for Creation Research, Dallas. 32 pages. Paper. Full colour.

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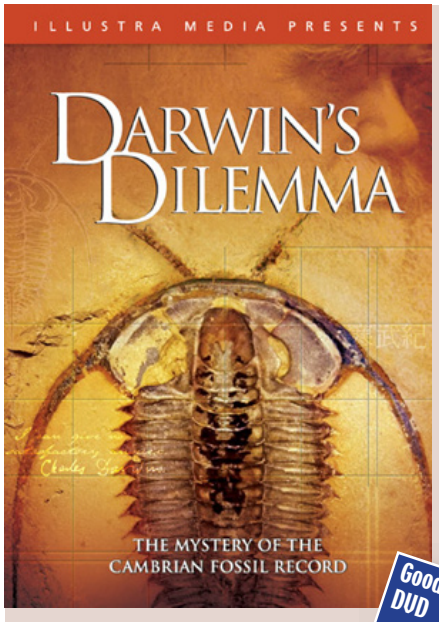
Celebrate Darwin's Dilemma

by Margaret Helder



The long awaited Illustra Media DVD on the Cambrian fossil record has finally been released. It was worth waiting for! The results are sensational. As far as visual effects go, this one exceeds the quality of *Unlocking the Mystery of Life*, and *The Privileged Planet* which Illustra Media also produced, and which set a new high standard for videos about nature.

There are certain things which a potential viewer must understand, however, before viewing this DVD. The discussion is entirely in terms of long ages. There is a reason however why this is to be commended. The people involved do not necessarily support long ages, some do and some don't. The point nevertheless is that even when the discussion is couched in terms which the evolutionists prefer (the long ages), still the evidence fails to support evolution. Given even the most favourable background to the issue, the arguments for evolution still fail! And they fail spectacularly in terms of a number of issues including sudden appearance in Cambrian rocks with no hint of ancestors or transitional forms in the rocks beneath, evidence of design in body plans and in genetic control of how these body plans develop, and sudden appearance of most major body plans at the same time.

This video includes amazing animated scenes illustrating what the creatures of the Burgess Shale in British Columbia might have looked like when they were alive. Beautiful scenes of the areas where these fossils are found, shot on four continents, also greatly contribute to the visual interest. Then there are the pictures of the fossils themselves, presented up close where most of us will never be in a position to view them.

The DVD also includes commentary by a number of scientists including Simon Conway Morris from Cambridge University. He is famous for his studies of these fossils from sites around the world. His remarks are confined entirely to issues of fossil occurrence and do not constitute support for the objectives of the film. The same holds for James Valentine of University of California. The other people interviewed all support, more or less, the objectives of the film.

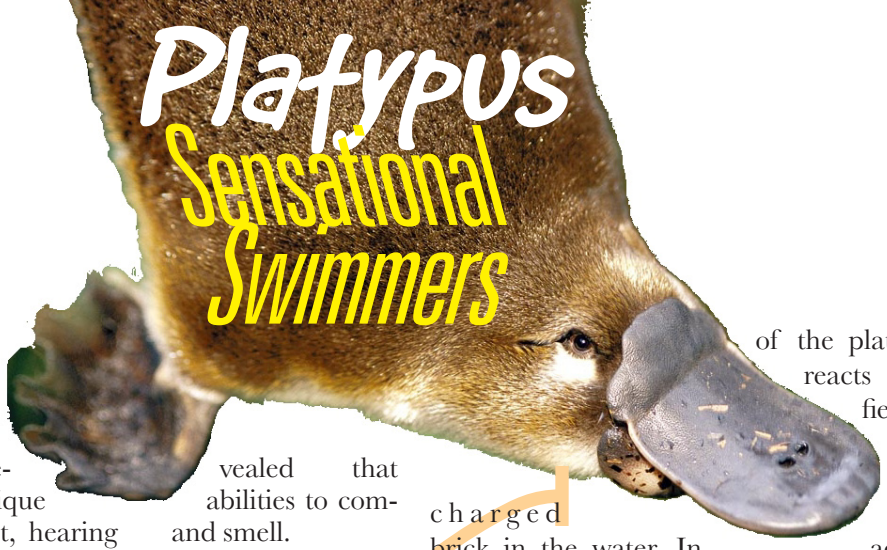
The discussion focuses on the fact that the evidence does not support an evolutionary interpretation. The film does not offer an explanation for why there would be a sudden appearance of complicated animals at a certain level in the rocks. Supporters of the creation model, on the other hand, interpret the Cambrian explosion as the first creatures overtaken by sediments washed off the land in the Flood of Noah. There were plenty of animals and people living before that point of course, but there was no catastrophe which caused them to overtaken by rushing water laden with sediments which resulted in some being preserved as fossils.

Lisa Derksen, a friend who viewed the DVD with me, declared as the video ended: "I want my own copy!" She said that she particularly liked the section on blue prints which, without saying so, conveyed the idea of a designer. She liked the blue print images of Burgess Shale creatures and of extant creatures like shrimp. There was also an amusing sequence illustrating different car models, all based on the same body plan (design). Lisa also really appreciated the global aspect of the location shots where the fossils are found.

The DVD is 72 minutes long and there are, in addition, over 60 minutes of bonus features. This DVD is certain to provide viewers with most enjoyable insights into the significance of the Cambrian explosion.

Darwin's Dilemma: The Mystery of the Cambrian Fossil Record. Illustra Media. 72 minutes.

Platypus Sensational Swimmers



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Recent research however has revealed that they have some unique abilities to compensate for lack of sight, hearing and smell.

Once the genome data has been collected, there is nothing obvious to show what stretches of DNA contain genes of interest. Faced with endless arrangements of nucleotides, how do scientists "read" the information? Initially, what scientists did, was to identify coding for certain basic proteins.

Gradually they built up a computerized repertoire of DNA coding which identifies important genes in at least in one organism. Then when they wish to study a different organism, they use huge computers to look for similar stretches of DNA in the new organism.

Fancy mathematics allows the computer to decide whether similar sequences are close enough to represent the same gene or not. Since the genomes of many organisms have now been documented, scientists now have a large collection of nucleotide sequences which code for important genes. This provides an opportunity to compare the new organism with other creatures. Does it have similar genes or different ones? This analysis certainly reveals interesting things about the platypus.

Obviously the creature needs special hardware and talents designed for navigation since its ears, nose and eyes are closed under water. Back in 1985, German scientist Henning Scheich discovered some highly unusual properties of the platypus. This animal reacts to weak electrical fields in water. What this scientist did was to bury a small battery under a charged brick in the water. In addition, he placed a similar, but dead battery under another brick. The platypus dislodged the brick sitting on top of the charged battery, but ignored the other brick/battery site. Later, the platypus avoided a mesh screen placed in front of a charged battery, but it collided with a screen placed in front of a dead battery. Further studies have amply confirmed that platypus have electroreceptors in their bills.

Since the late 1980s, scientists have discovered that there are two kinds of electroreceptor and one type of touch receptor in the platypus snout. Over the main surface of the bill there are oblique arrays of pores which are mucous-filled. The mucous serves to enhance transmission of a signal to the nerve at the bottom of the pit. The bill of the platypus has 40,000 such electroreceptors.

The push-rod mechanical (touch) receptors in the bill are remarkable in their own right. Inside the pore is a compacted column of skin which can rotate about its base or move up and down. These very sensitive touch receptors are similar to the highly unusual touch receptors in the nose of the star-nosed mole. The organ of touch in the snout of the star-nosed mole is so sensitive, that the information obtained from it is almost as detailed as vision. This animal also spends most of its time foraging for food under

by Moxie

water. Until recently, scientists knew of no other creatures with as sensitive a sense of touch. Now it appears that the mechanoreceptors in the bill of platypus are of even more sophisticated design.

There is yet another interesting feature of these sensory pores on the bill of the platypus, each is surrounded by petal-like skin flaps which open when the animal is under water. When the animal emerges from the water however, tiny sphincters around each pore close the flaps so that the sensors will not dry out.

The platypus hunts small organisms found near the sediments of lakes, ponds and rivers. Apparently these small victims generate weak electrical fields. Scientists suspect that the platypus knows how far away an electrical source is, whether it is moving, and in what direction. The remarkable thing is that these talents of platypus are so unique. As far as electrical sensing is concerned, some fish also exhibit this ability. However in the case of fish, the sensors are all over the body and they are not nearly so sensitive. But platypus has more talents yet! One might have imagined that platypus would not need much in the way of a sense of smell since their noses are closed under water. This conclusion is partly right and partly wrong.

As far as genes for normal smell (chemical receptors) are concerned, the genome project shows that platypus has a reduced number. However there are chemical receptors called vomeronasal receptors which may be located in the mouth or the nose and surprise, surprise, platypus has the largest variety of vomeronasal type 1 receptors known. At 950 different types, the platypus has 50% more than the mouse. Moreover the chicken and a lizard have no such receptors at all, nor do people.

The platypus thus has very special electrical, touch and chemical receptors. The article on the platypus genome in *Nature* (May 8/08 pp. 175-183) discusses the large number of genes which code for the special chemical receptors. The article however makes no mention of genes for electrical and touch receptors. Obviously there must be quite a number of genes in the platypus coding for these sophisticated sensors. The sequence (order) of nucleotides however does not come with labels identifying which sections code for electroreceptor components or anything else. Scientists need an already established standard order of nucleotides coding for such genes from another, not too different creature. Since these talents are highly unusual however, no comparison with a similar gene in a similar creature can as yet be made. Thus we don't hear about how many genes code for these other special talents of the platypus.

What recent studies show is that this animal is not a jumble of features from a broad assortment of organisms, but rather a wonderfully integrated collection of unusual anatomy and attributes. Certain features may remind us of birds and reptiles, but the similarities are merely superficial. The platypus truly is unique in its navigational abilities and in all the other features. Obviously this unusual creature was designed to pursue its unique but effective lifestyle. It is evident that the creation of the platypus involved finesse and exquisite attention to detail. We should be very grateful for the opportunity to learn about this wonderful creature from Australia!

© John Gould - Ornithorhynchus anatinus - 1863

Around the World with Dr. Austin

On the weekend of November 6/09 large crowds came to hear Dr. Steven Austin, senior research scientist from Institute for Creation Research, discuss his work in geology. On the Friday evening, he described events surrounding the eruption of Mount St. Helens in May 1980. One result was pyroclastic (very hot) mud flows which deposited and quickly eroded a canyon similar in appearance to the Grand Canyon, only at a smaller scale (one twenty fifth the size). This miniature, but still impressive, canyon, demonstrates that obvious layering of sediment and erosion of these layers can happen very quickly. No long ages are required.

Another result of the eruption was a tidal wave from nearby Spirit Lake, which scrubbed all the trees off the nearby mountain slopes. These tree trunks floated in the newly located Spirit Lake. Tree parts continue to sink to the lake bottom: both bark and tree trunks, some in vertical position. The vertical trunks resemble the remains of so called "coal swamps" connected with coal deposits, but the Spirit Lake logs have sunk over a few years, not growing over millions of years, as many suppose to the case for the coal swamps. Other phenomena too, connected with this mountain, all suggest the passage of long ages, but we know that they all happened within the last few years.

The next morning Dr. Austin discussed where Darwin first went wrong. Apparently, when Darwin made his famous voyage in the HMS Beagle, his interests were in geology. At one time, even, he was secretary of the geological society of London. In that geology was his primary interest at that time, his first conclusions in this discipline are particularly relevant in revealing his approach to the study of nature. These errors contributed moreover to the later conclusions he made about biology, for which he is famous. In that Darwin's initial conclusions were wrong, it is not surprising that his later conclusions were also wrong.

At three sites along the coast of South America, the Santa Cruz River valley in Argentina, the San Sebastian boulder deposit in Peru and the effects of the Concepcion earthquake and tsunami, which he actually experienced on February 20. 1835 in Chile, Darwin failed to see evidence of catastrophic processes.

In the Santa Cruz River valley, for example, there is a 60 m high boulder bar in the middle of the 7 km wide river valley. This bar is 8 km long and 5 km across and it consists of rounded boulders and cobbles. The only way such a structure could come about is from fast running water. The boulder bar is, in short, a primary sedimentary deposit. Also over the 120 m high basalt cliff along the river's edge, there are rounded pebbles and cobbles of metamorphic rock. This rock originated in the core of the Andes Mountains, several hundred km farther west. Only a catastrophic flood could erode the valley, drop the boulder bar and strew foreign, but well rounded rocky debris on top of the cliff. As a practicing geologist, Darwin should have known that none of these phenomena can come about slowly, but his expectation was to observe evidence of slow processes and so these were his conclusions. The same thing happened at the other two sites. Thus his support for processes extending over long ages, was established early.

On Saturday afternoon, Dr. Austin discussed worldwide marks left by the global flood. Firstly he discussed strata (layers of rock) and processes of sedimentation. While many modern geologists concede that many sedimentary deposits occur quickly, they nevertheless insist that limestone was deposited slowly from placid lakes. Dr. Austin pointed out evidence contrary to this idea. The Redwall Limestone of the Grand Canyon, for example, is a deposit 120 m thick. About 30 m up from the base of this deposit is a 2 m thick layer which is widespread throughout the canyon and beyond, even extending 200 km from Marble Canyon to Los Vegas! In this layer of rock, throughout the region, are found arm length long nautiloid fossils. These organisms were like squid or octopus, but each lived in a cigar shaped shell. Most of the shell was gas filled, with the creature occupying an outer chamber so that it could extend its tentacles outward. These predators were apparently overcome and buried by an under water debris flow of limey material which must have been moving about 7 m per second to overtake these fast moving predators. Dr. Austin has observed 1000s of these animals in that layer of limestone rock, proof that limestone can be deposited quickly and catastrophically.

Dr. Austin next discussed catastrophic plate tectonics (continental sprint), a model for the onset and geological after effects of the global flood.

In connection with this, he discussed sheet erosion and other effects of retreating flood waters rushing off the continents during the late stages of the flood. Another effect of these tectonic upheavals was extensive volcanism. In this connection he pointed to the Yellowstone supervolcano of the past which left 16,300 cubic km of sediment which is now called the Morrison Formation. Part of this deposit includes the 145 m thick Brushy Basin Member, which includes many dinosaurs including huge sauropods. The dinosaur bones found at Dinosaur National Monument are evidence of a gigantic slurry flow event connected to volcanic eruptions.

Lastly in this topic Dr. Austin discussed evidence for exponential decline in geologic events following the great flood. (An acronym for these points, arranged for easy recall, is STEVE!)

Later in the evening and for a change of pace, Dr. Austin discussed the search for Sodom and Gomorrah. It is the modern secular view that these cities never existed and that the Biblical account is entirely mythical. Dr. Austin however declared that a search in Israel and Jordan reveals interesting evidence concerning the real existence of these cities and of their fate.

With reference to ancient maps and other documents, Dr. Austin identified Babe dh dhra as the likely location of Sodom, and Wadi Numeri as Gomorrah. The scale of the destruction in both these communities, demonstrated from modern digs at these sites, suggests that an extremely strong earthquake was involved with associated electrical disturbances and flammable ignition of petroleum products such as asphalt and tar which issued from the fault. Zoar, a nearby city which remained intact, was located near the same fault, but it was on the west side. The destroyed communities were on the east side of the fault where blowing gas and burning debris could overcome the flattened remains. Apparently too, the largest shallow basin of hot lava is situated directly under the site of Sodom. These interesting insights may well create new interest in the sad history of these cities.

So ended a most stimulating weekend. This event, it is to be hoped, provided new or renewed interest in the many issues which were discussed.

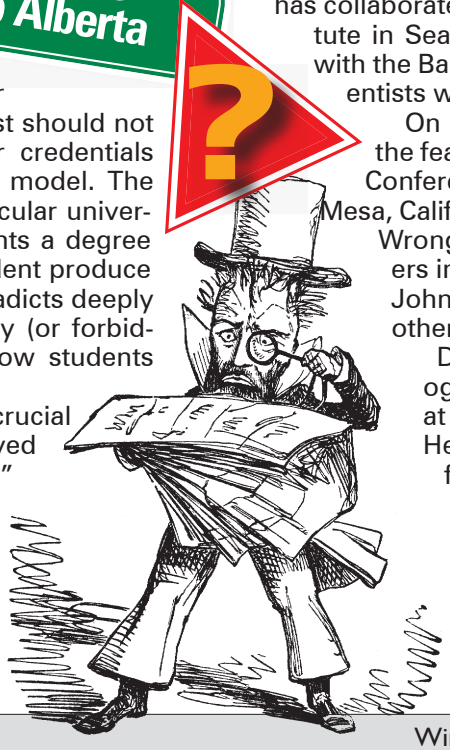
Continued from page 1

Dr. Marcus Ross - Coming to Alberta

Nobody questioned the quality of his work. However some declared that a Biblical literalist should not be allowed to mention his secular credentials later in discussions of the creation model. The article asked rhetorically: "May a secular university deny otherwise qualified students a degree because of their religion? Can a student produce intellectually honest work that contradicts deeply held beliefs? Should it be obligatory (or forbidden) for universities to consider how students will use the degrees they earn?"

Some individuals insist that "the crucial issue is not whether Dr. Ross deserved his degree, but how he will use it." As a student, Marcus Ross never made any secret of his views. On this topic, his Ph.D. research director declared: "All I can tell you is he came here and did science that was completely defensible."

In the summer of 2000, while a student, Marcus Ross traveled to southern China to study the famous Cambrian fossils near Chengjang. He has collaborated with scientists from the Discovery Institute in Seattle (an Intelligent Design think tank) and with the Baraminology Study Group (young earth scientists who seek to identify the created kinds).



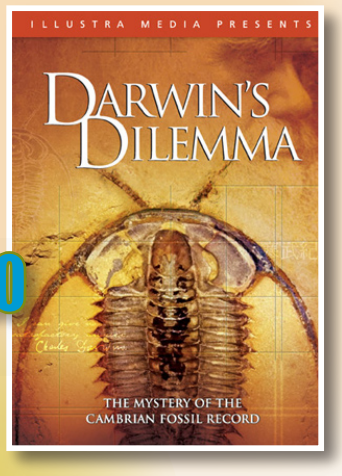
On November 14, 2009 Dr. Ross was one of the featured speakers on the *Darwin Was Wrong* Conference and Webcast originating in Cosa Mesa, California. The title of his talk was "Darwin was Wrong about the Fossil Record." Other speakers included Dr. Steven Austin, Jerry Bergman, John Baumgardner and John Sandford among others.

Dr. Ross is Assistant Professor of Geology in the Biology/Chemistry Department at Liberty University in Lynchberg, Virginia. He is also Assistant Director of the Center for Creation Studies at Liberty University. Thus CSAA looks forward to exciting and informative talks from an expert who has been captivated, from a young age, by dinosaurs and fossils. Be sure to reserve these dates for the creation weekend and tell your friends about it too!

Darwin's Dilemma: The Mystery of the Cambrian Fossil Record.

Illustra Media DVD/72 minutes

A feast for the eyes and the mind! Even although the discussion concerning sudden appearance of many-celled animals in the fossil record, is couched in terms which the evolutionists prefer (long ages), the arguments for evolution still fail spectacularly. Perfect for senior high school students and interested adults.



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When one word leads to another, it generally ends up in a quarrel, a speech or a dictionary...

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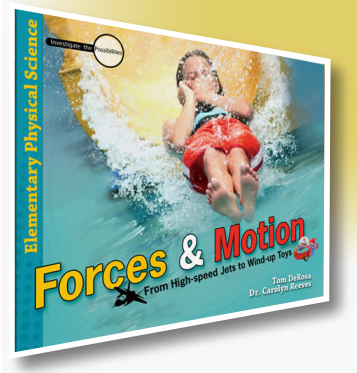

Forces & Motion: From High-speed Jets to Wind-up Toys

Tom DeRosa & Carolyn Reeves

Paper/Full colour/88 pages

Excellent from grades 3-6 students, this book presents 20 exciting hands-on activities that will ignite curiosity about the wonderful world God has made. Investigate many physical science concepts through activities that you can do at home! A great book to enjoy with any young scientist!

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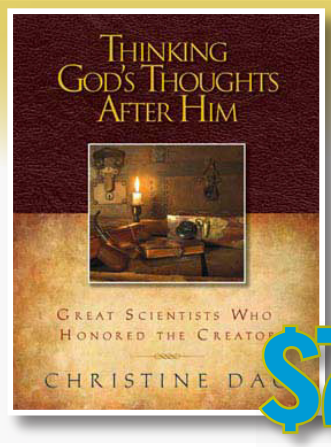

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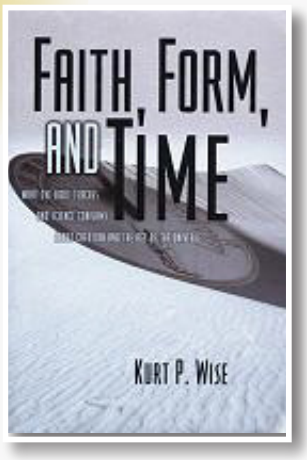
Thinking God's Thoughts after Him: Great Scientists Who Honored the Creator

Christine Dao

Paper/Full colour/32 pages

Celebrate some great men of science who made foundational discoveries because of their interest in God's creation. Nicely illustrated text, followed by questions which expand the discussion, make this a great resource for junior high readers.



Faith, form and Time

Kurt Wise

Paper/287 pages

This excellent book is subtitled "What the Bible teaches and science confirms about creation and the age of the universe." Dr. Wise needs little introduction as he was our very popular speaker in Alberta two years ago. The discussion covers many areas of science and was written for science students and those studying in seminaries.

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