

# Dialogue

Creation Science

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**H**ave you ever skipped to the back of a story because you simply could not wait another minute to find out how it all ends? Planetary astronomers, in contrast, must be very patient people. Some of them have worked on a project for years, even decades before they ever begin to collect any information. The good news for curious and impatient people is that this is a particularly good time to learn new details about the planets.

One really dramatic piece of news is that a tiny spacecraft called Voyager 1 is about to leave our solar system. Currently it is moving into a completely unexplored region called interstellar (between the stars) space. Apparently our solar system has an edge and beyond that is interstellar space. It so happens that our sun continuously emits a stream of electrically charged particles (called the solar wind), and this exerts an effect on a huge area of space.

Eventually however, the solar wind meets resistance from charged particles and gas atoms coming from other bodies in interstellar space. Scientists imagine that there is an invisible boundary zone where particles streaming from different directions cause a turbulent effect. They call this the region of termination shock. As Voyagers 1 and 2 have proceeded outward well beyond the farthest planets, scientists have been on the lookout for this boundary to our solar system. In August of 2002, 25 years after the launch of Voyager 1, when it was already 12.6 billion km away from us, there was still no sign of the termination shock. Finally in December 2004,

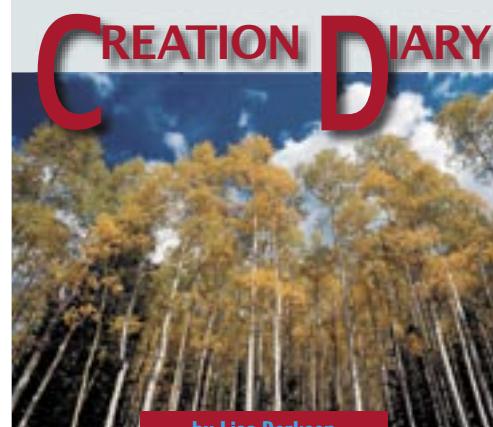
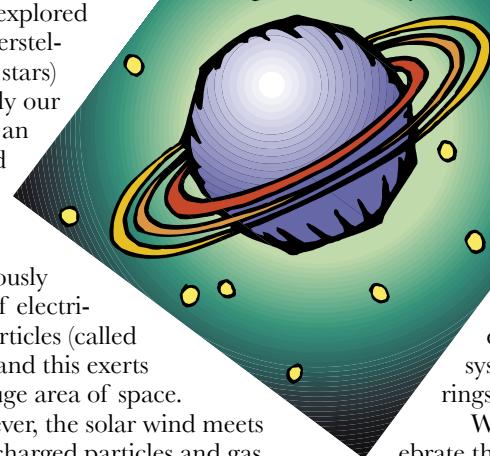
Voyager 1 recorded sudden increases in the strength of the magnetic field and in the temperature of the few gas atoms. Now, five months later, the elevated magnetic field and temperature continue. The spacecraft is now 14 billion km away and going strong. Scientists consider that Voyager 1 has now passed through the termination shock. Everyone is eager for information about interstellar space. No doubt there will be surprises. There always are in space related research.

During the past 30 years, we have enjoyed a feast for the eyes and the mind, as various probes have beamed back dramatic images and data from the planets. The Voyagers have been particularly successful. Each has only 80-kilobytes of computer memory and only a 23 watt transmitter, yet they continue to make history. Both spacecraft astonished the world with demonstrations of delicate detail in Saturn's ring system including braided rings and spokes.

We can of course celebrate these discoveries of the past, but the exciting news is that **right now** is the time to pay attention to space exploration. The 3.3 billion dollar Cassini mission to Saturn represents the largest and most expensive interplanetary mission perhaps ever. It is expected to complete its mission by 2008. Until that time, this is our chance to enjoy superb information from space. Some scientists have been working on this project for 24 years. By the end of this study, some workers will have devoted almost ...

## LET'S CELEBRATE CASSINI

by Moxie



by Lisa Derksen

**N**ovember 13, 2004, a beautiful fall morning, found me driving south to Red Deer to hear John McKay of Australia. He has been described as a veteran creation geology expert and a walking encyclopedia of creation knowledge. With accolades like that, I was excited about this opportunity to learn. This man's father was a Scottish lawyer, so he joked that he learned how to argue while very young.

The first session took us on a brief world tour. One of the places I found most interesting was the province of Nova Scotia. Here we find many fossilized trees standing upright through numerous coal seams, and some of the trees have associated fossilized fish and amphibians, evidence that the trees were buried quickly, in flood conditions. There are also fossils of 1 m long sow bug-like creatures. Indeed Nova Scotia has a mixture of fossilized bones, including those of crocodiles, sharks, lizards, dinosaurs and fish, all in the same general area. The speaker pointed out that this does not mean they lived together but rather that they died together. England has similar phenomena.

The second session was called Design-osaurs. This covered the Christian worldview as well as concepts of design in dinosaurs. The media often portray T-rex as ferocious, but there is not the slightest evidence of T-rex teeth ...

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# Famous Landscape Fun to Find

**N**ot everyone appreciates desert landscapes, however most people will admit, when pressed, that there is an awesome grandeur to some dry lands. The scablands in the northeast section of the State of Washington, are a case in point. Does one like drama? Does one appreciate deserts? The State of Washington has it all.

One must admit that deserts are not the first thing which comes to mind when one considers Washington State. Coastal mountains with lush forests, as well as seascapes, are popular attractions there. Should one proceed inland however, for example along interstate Highway 90 from Seattle, one comes to tiny Vantage on the Columbia River. There is a small state park here featuring numerous petrified logs preserved in basalt rock. Geologist Harold Coffin suggests in his book *Origin by Design* (1983) that the volcanism began during the Flood, and continued for hundreds of years after. The basalt was at first extremely fluid in consistency and spread rapidly. The assortment of petrified trees found near Vantage, may well not have grown there or even all together. Rather they may have accumulated in one place as a result of water transport (a veritable rafted forest). Among the buried

petrified trunks there are remains of yew, Douglas fir, coast redwood, bald cypress, beech, oak, black walnut etc etc. The most famous and rarest wood there is that of ginkgo. No trees have been found in growth position.

The Vantage artifacts are merely an introduction to more remarkable scenes further east. The map gives no hint for example, that the Columbia National Wildlife Refuge is anything other than desert shrubs harbouring assorted animals. Lo and behold, however, from a viewpoint one finds displayed below some of the most dramatic scenes of disaster in North America. This rugged jumble of cliffs, canyons and lakes, carved into the basalt rock, is part of Washington's Channelled Scablands. In 1986 this area was designated a National Natural Landmark and rightly so. It has a fascinating history to communicate. The Columbia Plateau consists of dense crystalline basalt up to 3000 m thick, which covers more than 256,000 square km in Washington, Oregon and Idaho. Towards the end of the ice age some centuries after the flood, a large lake accumulated in Montana probably from meltwaters flowing from the ice pack farther north. Something,

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

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**M**any people are fascinated by the fate of the woolly mammoths in the lands around the North Pole. Not surprisingly, many explanations for the situation have been attempted. Not the least of the relevant issues is why these animals entirely died out. Now there is a well reasoned, well documented discussion of these questions. Not only is Michael Oard's new book *Frozen in Time* well argued, but it is also interesting and eminently readable.

The author begins his discussion by introducing us to the mammoth remains, what they are, where they are, and what the questions are concerning these artifacts. A large part of the book then is devoted to the ice age(s). We have to understand the ice age before we can understand the mammoth remains. The

author then demonstrates how the various secular theories do not really explain the onset of any ice age. He next shows how the aftermath of the Genesis flood provided conditions necessary for the onset of an ice age, how rapid that onset was, peak conditions of the ice age, maximum thickness of the ice sheet, and rapidity of the melt with resulting catastrophic flooding. It is the author's contention that only one ice age occurred.

This discussion places the ice age in historic times so man obviously was living. In the context of the books of Genesis and Job, the author discusses where the ice free landscapes were. Finally, having established the climatic context, the author returns to the mammoths. He discusses what lands remained unglaciated in Siberia, Alaska and Yukon and where the mammoths lived early in the ice age. He also discusses just how large their populations may have become during the early centuries after the flood.

One of the perplexing issues con-

nected to the mammoths is the question of their having been suddenly deep frozen. The author concludes that this is an unnecessary hypothesis. Nevertheless the mammoths became extinct. At what stage in the ice age did this occur and why? Michael Oard's discussion is presented in short, well focused chapters with good box summaries and excellent diagrams. The author shows that with a Biblical time scale, the data make sense. Only in the time frame of long ages does the mystery of the mammoths remain. The author may explain away that mystery, but in his book the excitement remains. Recommended for high school and adult readers.

(Michael Oard. 2004. *Frozen in Time: the woolly mammoth, the ice age, and the Bible*. Master Books. pp. 217).

**N**owadays "how to" books are very popular. One book which is sure to benefit many, is how to deal with origins issues. This new work by Kurt

Wise, provides important help for the college or university student who must deal with evolution and the worldview it spawns. Indeed there are few subjects on campus which are untouched by the evolutionary worldview. Thus this book is relevant to almost anyone contemplating post secondary education. It is also of interest to those interested in a Biblical interpretation of nature.

Having graduated in paleontology from Harvard, Dr. Wise is easily able to discuss the most technical details of his topic. This however is not his intent with this book. He thus adopts a user friendly style. Chapters are short and crisp, with numerous headings and summary boxes. At the conclusion of each chapter the authors always provide: What's Next (what issues logically flow from this material); Consider the Concept (implications of the discussion); Questions to Ponder (encouragement to reflect further on these issues); and A Verse to Remember.

This book is divided into three sections. The first deals with general ways to

deal with the issue of origins. The second section deals with the creation week. The final section deals with history as outlined in Genesis. Some people might not realize it, but there are a lot of scientific issues connected with the fall, the flood, the tower of Babel etc. For example – the new field of catastrophic plate tectonics (sudden separation of the continents during the flood) discussed with suitable diagrams.

Authors Wise and Richardson have provided an interesting and highly useful book. Here's a "how to" book both you and any student in your life will want to read and re-read.

(Kurt P. Wise and Sheila A. Richardson. 2004. *Something from Nothing: understanding what you believe about creation and why*. Broadman and Holman Publishers, Nashville. pp.212).

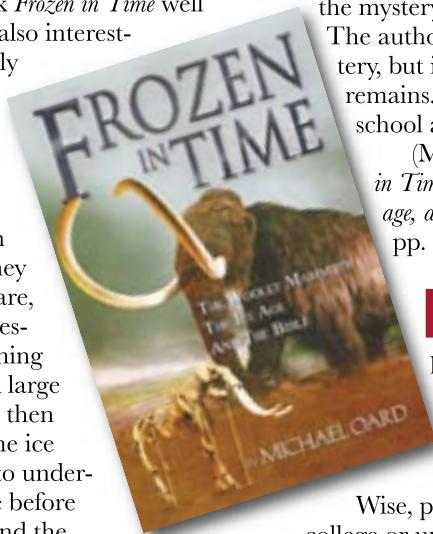
**A**re you looking for a book that will capture your children's imagination and teach them about creation? Look no further. *Dinosaurs Unleashed: The True Story about Dinosaurs and Humans* is an excellent tool for teaching children the exciting truth that dinosaurs were created by God and they roamed the earth along with people. Wonderful, full colour illustrations by Alberta's own artist, Lewis Lavoie, including many of his famous paintings, compliment the text beautifully and make this book a joy to read from cover to cover.

Written for elementary children, this book has much to offer any reader. Learn how fossils are formed and how they're found. Read about the impressive size, diet and other characteristics of a variety of dinosaurs including *Tyrannosaurus rex*, *Iguanodon* and *Edmontosaurus*. Discover evidence for creation, and see where and how dinosaurs fit into the Bible.

You're sure to agree that *Dinosaurs Unleashed* is truly a remarkable book. And your children will like it as much as you do!

(Kyle Butt and Eric Lyons. 2004. *Dinosaurs Unleashed*. Apologetics Press. Hardcover. Full colour illustrations. pp 80).

**Reviews by**  
**Margaret Helder and Tina Bain**



**A**mong living creatures, it does not take a specialist to realize that jellyfish are not dainty delights of the deep. Although they may be beautiful in appearance, jellyfish are successful predators. Basically these creatures are composed of two layers of skin cells with a jellylike layer separating the inner and outer tissues. In the context of multitasking, some skin cells of the jellyfish double as muscle cells. Cooperative action with other similar cells enables the organism to move. In addition, some cells are shed from the outer skin layer into the inner layer of jellylike material. These cells then organize themselves loosely into a net of nerve cells. There is no brain.

Despite this apparently simple structure, these organisms are not simple blobs. Jellyfish consist mainly of a bell or umbrella shaped body with tentacles hanging down from the bell. On the underside there is an opening into an interior digestive cavity. The mouth serves both to take in food and to eject the waste. Most jellyfish catch their food by chance encounters with suitable specimens. It is a case of wrong place and wrong time for the victims.

All jellyfish are armed with unique stinging cells called nematocysts. Each such cell is armed with a potent poison, always a protein and usually a paralyzing nerve toxin. So strong and fast is the stinger release that it is able to penetrate such surfaces as crustacean exoskeletons, fish scales and human skin. Normally many nematocysts release at the same time.

Jellyfish have long received a bad press as far as humans are concerned, initially because of the Portuguese man-of-war. This fearsome creature has a float visible above water level. The tentacles however can extend up to 9 m from a comparatively tiny 12 cm long central body. After catching even a relatively large fish, the tentacles quickly contract to one hundredth of their original length. This extreme contraction of muscle tissue is most remarkable. Other organisms cannot even begin to match it. Obviously the mechanism by which this happens is not as yet understood.

In Australia, since the late 1800s,

records have been kept of human deaths from jellyfish. Until 1943, all were attributed to the Portuguese man-of-war. It was then, that biologists began to pay attention to cubozoans or box jellyfish. The first confirmed death from a cubozoan was in 1955 near Cairns on the Queensland coast. During the next 45 years, 59 more deaths were attributed to these jellyfish. Often victims die within five minutes. Such notoriety has certainly focused attention on these organisms.

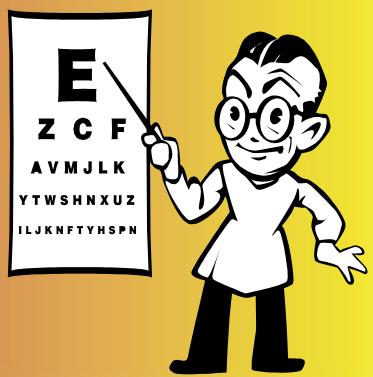
Cubozoans or box jellyfish derive their name from their unusual shape. Unlike most jellyfish which have a round bell shape, cubozoans are square when



viewed from above. There are about twenty species to be found in tropical seas around the world, but the sea wasp *Chironex fleckeri* of northern Australian waters is among the deadliest creatures known. A large adult may reach 35 cm in diameter with as many as 15 tentacles, each 3 m long, extending from each corner of the bell. The shape is not the only noticeable thing about cubozoans. Unlike most jellyfish which merely happen upon their victims, cubozoans actively pursue their prey. Naturally the experts have wondered how these creatures are able to exhibit such complex behaviour.

## Box Jellyfish: Not Dainty Delights

Box jellyfish are somewhat more complicated than other jellyfish but the pursuit of their victims is their really exciting feature. By contracting muscles in the bell, as well as by contracting the rim of the bell to force water out faster, *Chironex* has been observed to cruise as fast as 2 m per second! More typically they move at 1 m every five to ten seconds. These creatures avoid crashing into objects like mangrove roots in their favourite habitat. They can avoid capture and they pursue their victims much the way predatory fish do. It is apparent to everyone that these jellyfish must be able to see. Recent studies have shown that this is indeed the case, but these new



insights have led to even more puzzling questions.

Even ordinary jellyfish have special sense organs near the margins of the bell. Each organ contains two sensory pits to perceive chemical stimuli (like our sense of smell), one spot sensitive to light, two structures sensitive to touch, and one body which indicates orientation (upside down, sideways etc.) Biologists have long known that ordinary jellyfish only swim when they have at least one of these organs functioning. If all are destroyed, the jellyfish stops swimming and dies. Similarly box jellyfish have sensory organs, but theirs are much fancier.

Box jellyfish have four sensory organs in the form of small clubs attached by a stalk to the bell proper. Inside the club there are four pigment filled pits to perceive light. In addition there are two much larger eyes. The interesting thing

about the two larger eyes, one of which faces upward and the other outward, is that these are camera style eyes. The questions that arise from this fact are: why do these jelly fish have eyes like animals with backbones (vertebrates), what do these jellyfish see, and how are they able to respond without a brain?

The camera style eyes of box jellyfish have all the appropriate components: cornea, lens, retina, a pigment layer and an iris. All parts function too. In the lower eye, even the pupil contracts in response to bright light. This choice of eye design is indeed unexpected. The surprise is that supposedly extremely simple organisms possess such fancy eyes. Most animals without backbones (invertebrates) have compound eyes (as in insects, for example). However there are a few invertebrates such as squid and octopus, famous for their intelligence, which enjoy camera style eyes. One expert, Simon Conway Morris declares that "camera eyes are not only different from compound eyes; they are better." (*Life's Solution* p. 160) So we have a supposedly primitive organism with the best type of eye. The wonder of it is that cubozoans have no obvious brain to interpret messages from their eyes.

The question still arises as to precisely what the box jellyfish eyes perceive. The scientific journal *Nature* (May 12, 2005 issue), published a report on such a study. A team of scientists studied the optics of the lens from the cubozoan eye. They already knew that

this protein is unique, unlike that from any other eye. Thus the jellyfish eye had a separate origin from other organisms with eyes of similar design. On this issue the scientists muse: " Making good lenses seems to be a demanding task, because only a few animal phyla have accomplished it." (*Nature* p. 202). How is it then, that the jellyfish managed it? That issue however was just the beginning of the paradoxes. What the team discovered is that the jellyfish lenses are so well constructed that the focus is very sharp (p. 202). A commentator in the same issue of *Nature*, points out that the lens design involves highly sophisticated optics, conforming exactly to optical theory. It is amazing how clever those jellyfish must be.

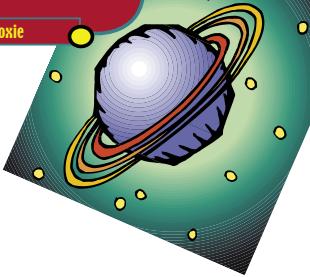
There is however another remarkable feature of the cubozoan eye. The retina, which receives the image from the lens, is much too close to receive a sharp focus. These jellyfish are like humans who need glasses. The commentator points out that this situation leads to "a loss of fine visual detail that the lens is able to provide." (*Nature* p. 159) Now the questions become really pressing. The commentator asks "But what are the jellyfish's eyes designed for?"

The scientists conclude that the jellyfish may navigate better with a blurry focus of large objects rather than precise images of irrelevant small objects in the environment. From an evolutionary point of view, it seems incredible that so fancy a lens would arise when something less precise would be adequate. How would natural selection select for a sharp focus when that wasn't being used or needed. Surely in this case it is obvious that we are dealing with intelligent choice rather than evolutionary processes. This is evidently an instance where the Designer selected features on the basis of artistic interest rather than mere utility. Since these creatures lack a brain, scientists wonder how they see. All we know is that cubozoans live as they were designed to live, with talents and design features beyond our understanding. Indeed we should feel humble at the creative finesse, which we can never hope to duplicate, that we observe in nature.

# LET'S CELEBRATE CASSINI

by Moxie

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Their whole careers to this study. Now that is real patience! This probe was first proposed in 1982. Actual development, a cooperative effort by NASA, the European Space Agency and the Italian Space Agency (scientists from 18 nations in all), began in 1989. Launch of this exceptionally heavy spacecraft took place in October 1997. Finally in June 2004, the craft entered orbit around Saturn. This probe is named after astronomer Giovanni Domenico Cassini (1625-1712) who discovered four of Saturn's moons.

One well known science commentator, John Nobel Wilford, remarked about the results of the Voyager probes, that we see revealed in space, as elsewhere "nature's unending capacity for surprise, diversity and breath taking beauty." (*Edmonton Journal* August 21, 2002 A13). His remarks apply just as well to today's results from the Cassini probe. One of the earliest studies which Cassini has begun, is of the rings of the giant planet. This first radio occultation of Saturn's rings was performed on May 3, 2005. When the probe beams radio signals through the rings towards Earth, particles in the rings intercept some of those signals. As a result, the radio beam received on earth is weaker depending upon the number and size of particles which it hits in the ring. Unlike the Voyagers, this probe beams signals in three radio frequencies rather than two. With the combined data, scientists can distinguish particles from 1 mm in diameter up to objects larger than many metres. Altogether 20 radio occultations are planned, mostly in the near future.

The observations made by these probes have not been exactly what astronomers might have predicted or even have hoped for. Based on their belief in an age for Saturn of billions of years, most scientists would have preferred observations

from the rings which could be interpreted in terms of very long ages. This however was not to be. The data from Cassini continue the trend, first noted with the Voyagers, of ring characteristics which demonstrate **diversity** and **instability**.

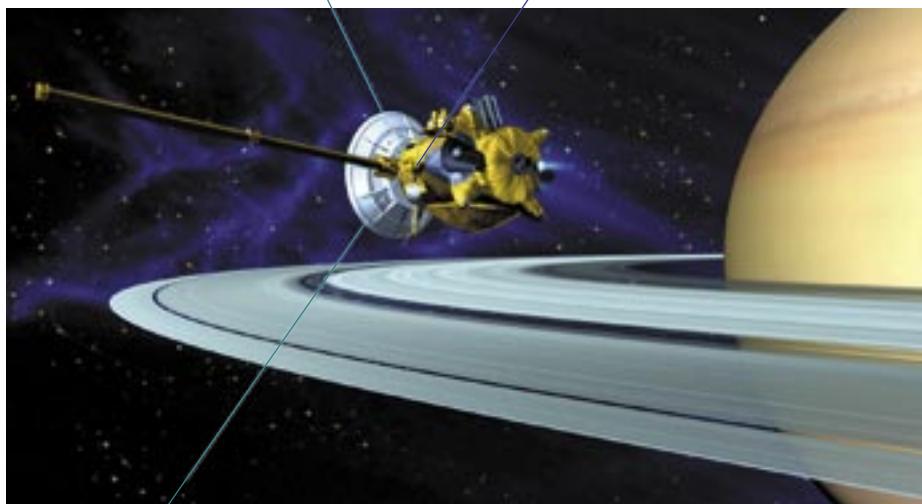
Diversity, in this case, is a term applied to observations so different from each other that they require separate explanations as to their causes. The rings can be said to demonstrate diversity since there is no general force or process which can explain all their characteristics. For example, astronomers definitely would have preferred to see objects arranged in a regular order in the rings, for example spread out according to size and weight. This condition of regular distribution of objects is not however what the Voyagers found, nor is it what Cassini has observed. Thus one general explanation for these observations will not work.

The data so far from Cassini have indicated that all ring bands appear to include a broad range of particle sizes, everything from boulders to powder. However the distribution of particle sizes varies greatly among the rings. Again there is no logical progression. The other problem with these rings, from the point

out into an invisible sheet.

The Voyagers revealed that the rings were not broad and featureless as was formerly believed, but rather many were narrow and highly varied in appearance with some sinewy strands apparently braided together. Also at least 2 rings were slightly off centre, like wobbly wheels. The braids and wobbles would be even more unstable than the other narrow rings. Cassini further extends this trend of diversity and instability. Apparently the large B ring, which was not previously studied, is remarkably different from the A and C rings, its neighbours on either side. It consists of smaller bands which vary greatly in their content. A thick 5000 km wide core contains several bands with ring material nearly four times as dense as that of ring A and nearly twenty times as dense as ring C. Indeed "the dramatically varying structure of ring B is in sharp contrast to the relatively flat structure of ring A or the gentle, wavy structure of ring C, where many dense, narrow and sharp-edged ringlets permeate its outer part." (NASA)

The NASA press release of May 23, 2005 also declares that "The origin of Saturn's rings is a mystery." When no



of view of long age interpretations, is their apparently unstable nature. This means that according to the laws of physics, they must be continuously in process of change. The very existence of these rings with particles dispersed thickly enough to be observed, is surely an unstable phenomenon. The smaller the particles and the more dense their distribution, the more quickly they can be expected to disappear as a result of pulverizing collisions. The narrower each ring is too, the more quickly it can be expected to spread

general process can be identified but only many explanations specially proposed for each particular situation, then we may well become suspicious of natural explanations. Are the rings merely the result of mindless chance, or do they (and all nature) demonstrate the conscious choices of God who loves diversity and beauty? Moxie's challenge is to look for further examples of unstable phenomena and unexpected diversity in the Cassini reports. Draw your own conclusions.

*Continued from page 1*

**M**arks in any animal so far, so it is unlikely that they were carnivores. Cycad seeds have been found in the stomachs of some dinosaur fossils. Since these seeds are poisonous, it may be that the dinosaurs were designed with enzymes to counteract this poison.

Session three was on giants in the land. Just as sow bug-like creatures were so huge, so dragonflies had a two metre wingspan. There were poplar leaves 28 cm across. Horsetail plants grew over 30 m tall. There were oysters half a metre across. That should be enough for a whole dinner party. Beavers up to 3 m long were evidently up to chewing down bigger trees. Kangaroos that are now a metre tall, used to grow up to 5 m. In Numbers 13:23 we read that it took two men to carry a bundle of grapes. The Bible is as reliable about agricultural accounts as it

is on spiritual topics. Mr. McKay concluded that many extant plants and animals are basically miniatures.

The last session was on teaching creation in schools. While it is true that in many jurisdictions teachers are not allowed to bring up the subject, nevertheless students can and they should be encouraged to do so. Mr. McKay reminded us that there is much we could learn from the Australian Aboriginals. They have studied creation and understand that the Creator is smart. They have also recorded their dinosaur sightings in pottery, textiles, rock carvings and petroglyphs. I came away realizing again that I am simply well informed dust, designed by a loving, intelligent Creator.

**Creation Truth Ministries and others are sponsoring a two day seminar on creation at Bow Valley Country Hills Alliance Church in Calgary on Friday and Saturday, October 7 and 8, 2005. The seminar will feature Dr. Gary Parker of Florida, John McKay of Australia and Vance Nelson of Red Deer, Alberta. Registration fee \$25/day.**

## Famous Landscape Fun to Find

*Continued from page 2*

**P**resumably ice, blocked the outlet of the lake towards the west. This lake grew to ominous proportions. Scientists now estimate that the lake was 600 m deep, more than twice the depth of Lake Superior. Eventually, flowing water eroded the dam. The process may have taken as little as two days once it began. The ensuing disaster changed this landscape forever. As the dam burst, a deep torrent crashed across the landscape at about 30 m per second. With nowhere else to go, the water proceeded across the basalt flats, carving interlocking and diverging canyons and plunge pools in the hard lava rock. It left behind monstrous gravel bars and huge erratics (boulders from far away). At that rate of spillage, the lake may well have emptied in a couple of days. Signage at the Wildlife Refuge declares that the outflow was ten times the combined outflow of all rivers now on Earth! The torrent eroded 200 cubic km of hard lava leaving scenery that from the air looks

like a braided stream (only it is 160 km wide).

J. Harlan Bretz was the first geologist to attribute this strange landscape to a cataclysmic flood. For forty years, until the 1960s, he met with incredible hostility from geological colleagues who did not approve of the use of catastrophe in scientific explanations. Finally in 1980 most geologists conceded that Bretz was

right all along. Since then geologists have attributed the devastation to a series of scary floods with the last being the worst. Most recently however, some geologists have again supported the idea of one unique Spokane (or Lake Missoula) flood. Whatever they call it, the Washington scablands are testimony to the devastating effects of fast flowing torrents. This region is well worth a visit. Go see for yourself!





**\$20.00**

## Dinosaurs Unleashed

*Kyle Butt and Eric Lyons*

This book answers, in upbeat fashion, all the popular questions concerning dinosaurs and scary flying reptiles and sinister swimming reptiles. Artwork includes beautiful paintings by Lewis Lavoie.

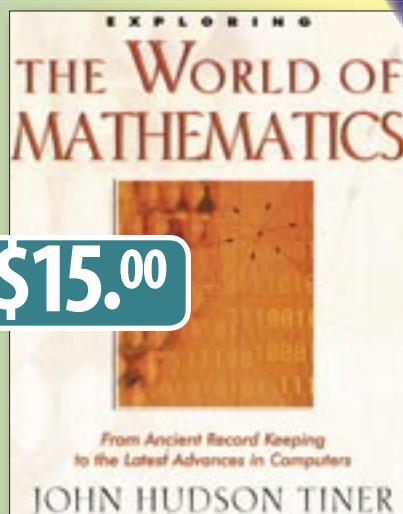
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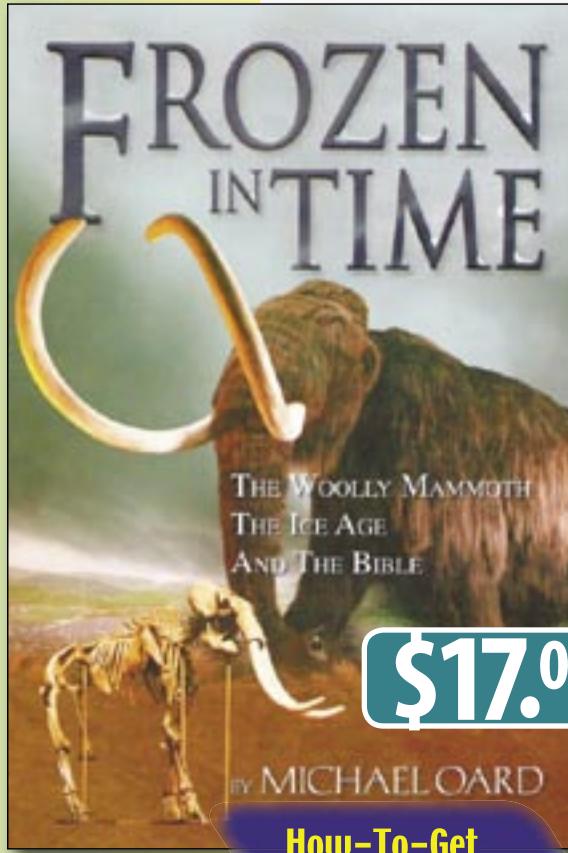
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## Something from Nothing

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