

Have you ever noticed that everybody seems to place a high value on problem solving? I can well imagine one's mother saying "This room is way too messy! How are you going to manage your clothes, toys, electronic gadgets (or whatever) so that this does not happen again?"

She clearly expects you to come up with a plan and to follow it! Possibly you may come up with some way to organize your treasures in order to keep mum happy.

In school too, problem solving is big with educators. Many people, through the years, have wrestled with math problems such as a train leaves point A traveling at blah blah km per hour and it passes another train traveling at a different speed (also provided). If we know how far apart points A and B are, find out at what point the trains will pass each other. How I hated those problems! But teachers don't stop there. Now they want you to design a vehicle out of straws (or whatever) that can carry a heavy load of pennies. Never satisfied, teachers later give more complicated problems, like how would you keep a beef broth from going bad.

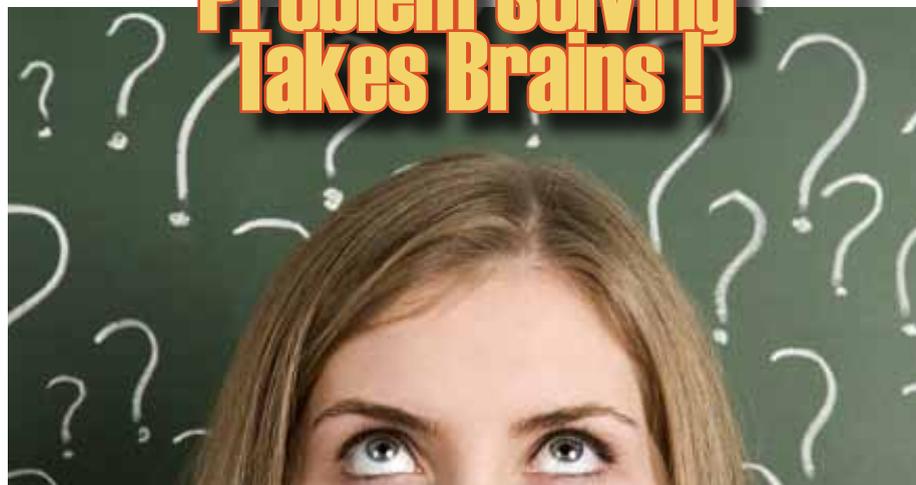
Many people actually enjoy the challenge of problem solving. It can be great fun to use your wits to come up with a plan that works better than your friend's device. Hurrah for brains! There is actually no way to avoid problem solving.

It is an essential skill. However, have you ever considered how important problem solving is to all living creatures? Every organism is faced with lots of challenges that could prevent them from maturing and leaving offspring for the next generation.

Consider the dandelions which dot my lawn. My objective is to eliminate them. Their objective is to bloom, set seed and produce another generation. There they sit in my lawn. Each rosette of leaves may cover a circle 15 cm or more in diameter. No grass grows under those leaves. So I set forth, determined to pull up each and every rosette. But what is this? Each has a tap root which extends 25 cm or more into the soil. Do I manage to pull up that entire tap root? Hardly ever. Of course the remaining root quickly sends up new

*Continued on page 2*

## Problem Solving Takes Brains!

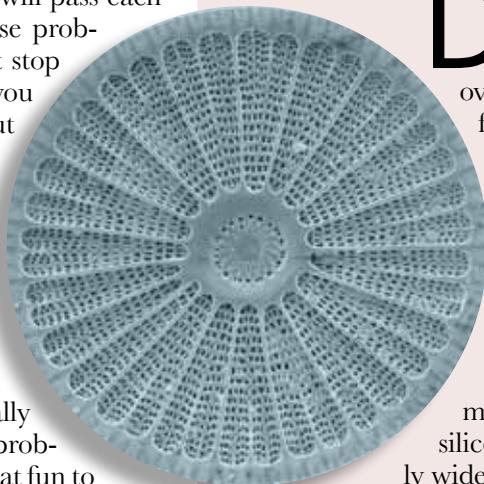


## Diatoms: Jewels of the Marine World

Diatoms are a major group of plants which float in open water, and they are one of the most successful types of microscopic algae known. The estimated over 100,000 known species are found in the oceans, in freshwater, in soils and even on damp surfaces. Most diatoms are unicellular, although some can form colonies in the shape of long filaments or ribbons. As eukaryotes or cells with a nucleus, they have highly complex cells, comparable to other eukaryotes such as mammals and even humans (Philippe, et al., 1994, *Journal of Evolutionary Biology* 7: 247).

A major feature of diatom cells is their unique geometrically designed cell houses made of silica (hydrated silicon dioxide). These frustule homes show an enormously wide diversity of forms, but usually consist of two unequal halves with a separation of some type between them (*dia* means two, *toms*, to cut or to separate into two). Basically they are like pill boxes.

The enormous variety of these glass home designs displays an architectural beauty rarely seen in - *Continued on Page 6*



# Problem Solving Takes Brains!

leaves and soon there are new rosettes covering the lawn. By now I am too tired of weeding and so the dandelions continue to thrive. Another impressive feature of dandelions is their 100% seed set. They don't need pollen from another flower to produce seed. This happens even in plants with blossoms which have been pulled up. The flowers turn into seed heads before you know it.

Another feature of dandelions is the way that blossom heads elongate once the seeds are ready. You may not have realized there were so many dandelions in your lawn until you see all those pom pom seed heads stretching way above the grass. In this way the seeds are exposed to the wind which soon distributes those seed into the rest of your garden and into your neighbour's garden.



The dandelion obviously is a very successful plant when one considers the challenges it

faces. Other plants like thistle also display a deep taproot, a wide rosette of leaves and seeds dispersed by the wind. This is just one small example of the amazing solutions to problems of existence that we see among living creatures. Among plants, we see lots of different solutions for species which live in very dry climates. Often these plants only grow when there is rain. But this means that they have to complete their life cycles really fast while conditions are still moist. Other plants must manage to survive very harsh winters. There are all sorts of interesting ways that they do this. Then there are plants that live in moist tropical climates. Things aren't perfect there either for the plant. Each one must compete with all sorts of other plants. Thus different problem solving strategies are called for such as growing really fast in locations where light penetrates to the forest floor past the tree canopies above. Other plants like some orchids, simply grow on top of the big plants. They then must collect enough moisture and mineral nutrients from the falling rain.

Animals too face many challenges. Harsh climates are only one of the difficulties that they face. Also they must find food and avoid predators that would like to eat them. Not only do animals need special body plans to enable them to survive, but they also need suitable behaviour patterns as well. Thus we see bats with their amazing wings and echolocation skills for pursuing and catching insects. The body parts would be useless if they did not know how to use them. We see North American beaver that build dams and winter lodges with food stored nearby. We see birds and large four footed animals which migrate amazing distances for rich food and a good breeding place in the summer. These return to home base to survive when conditions at the summer site deteriorate. Monarch butterflies also migrate thousands of kilometers. This is perhaps the most amazing case of migration that we know of. Then there are sea turtles and eels, and



other creatures in the ocean that also display amazing talents of migration. These animals all need body plans which allow them to migrate,

and the behaviour patterns to know when and how to do so.

The variety of ways in which "problem solving skills" allow animals and plants to survive, is truly astounding. It causes one to stop and think. Did these creatures solve the problems on their own? As we have already discussed, problem solving takes brain power. It seems obvious that the monarch butterfly did not provide itself with an extra fancy navigating system (see *Dialogue* November 2009 at [www.create.ab.ca](http://www.create.ab.ca)) and most unusual behaviour patterns to solve its challenges. Nor did bats or beavers or eels solve theirs by trial and error. These creatures were created with the problem-solving solutions already built into them.

For fun and to exercise your own problem solving skills, why not choose a local animal. Think about how you would solve the problems these creatures face, and then find out if this is how they actually survive. Such an exercise gives us all a lot more respect for the Creator of all creatures great and small!

*Creation Science Dialogue* is a quarterly publication of the Creation Science Association of Alberta (CSAA).

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

**Subscription for 1 year \$8.00**

Return undeliverable Canadian addresses to:  
PM 40013654  
*Creation Science Dialogue*

*Creation Science Association of Alberta*  
5328 Calgary Trail  
Suite 1136, Edmonton, Alberta  
T6H 4J8

## Other Creation Science Associations

(see also [www.creationinfo.com](http://www.creationinfo.com))

- ▲ Creation Science of Saskatchewan Inc.  
P.O. Box 26  
Kenaston, SASK. S0G 2N0
- ▲ Creation Science Association of British Columbia (B.C.)  
P.O. Box 39577, RPO White Rock, Surrey, BC. V4A 0A9
- ▲ Creation Ministries International  
300 Mill Street, Unit 7  
Kitchener, ONT, N2M 5G8
- ▲ Creation Science Association of Quebec  
CP63, Succ. Youville  
Montreal, Quebec, H2P 2V2
- ▲ Institute for Creation Research  
1806 Royal Lane  
Dallas, TX. 75229
- ▲ Creation Research Society  
Van Andel Center  
6801 North Highway 89  
Chino Valley, AZ.  
86323 - 9186

# WHERE CULTURE MEETS SCIENCE

Dinosaur books are everywhere. There is no doubt about that. And you might well suppose

that there is nothing new under the sun when it comes to discussions about dinosaurs. However Albertan Vance Nelson of Creation Truth Ministries has achieved the seemingly impossible. His argument about dinosaurs is new and fascinating. And the book is magnificent with beautiful illustrations from sites around the world. Also there are wonderful dinosaur reconstructions based on the latest scientific information.

It is Mr. Nelson's contention that ancient accurate artwork depicting dinosaurs and other allegedly extinct creatures is evidence that people had first hand knowledge of dinosaurs and other extinct creatures. He declares that early palaeontologists had no problem connecting the fossils of marine reptiles and dinosaurs to real animals, known as dragons, in the Bible. The evidence is overwhelming then, he says, that the dragons of old are the dinosaurs that we know about today.

The author then takes us on a tour of ancient artistic artifacts from around the world. The sites chosen boast of illustrations referable to specific dinosaur species. He provides photographs of the artwork and artists' models of each dinosaur in question so that the reader can make up his own mind. We thus proceed from petroglyphs of sauropods and pterosaurs in Utah to Mexico with a Mayan hadrosaur petroglyph, to Peru with various pre-Columbian works of art, to England and Wales where carvings and coins evoke ideas about carnivorous and other dinosaurs, to the Netherlands where a richly illustrated prayer book contains a drawing of St. George with a dragon.

In one case the dragon closely resembles the carnivorous dinosaur *Coelophysis bauri*. In France there are castles with interesting carvings and in Barcelona, Spain in St. George's Chapel there is a carving of a dragon which resembles *Nothosaurus*. The journey continues to Italy, Mali, Ehtiopia and China, where authentic jade and turquoise dragon artifacts resemble several well known dinosaurs such as *Centrosaurus*.

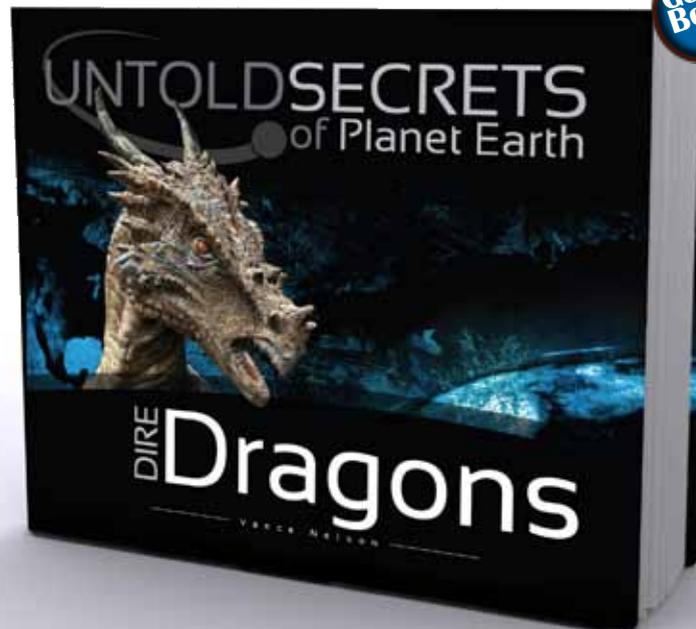
It is the author's contention that dinosaurs were well known to many ancient peoples and they illustrated what they knew. He dismisses the idea that ancient people made



reconstructions from fossils they had dug up. It is one thing to find isolated bones, and quite another to make three dimensional reconstructions of what the unfamiliar creatures looked like. Thus he concludes that the dinosaurs were depicted, not from bones, but from real life observations.

This book thus is a visual delight with stimulating and original arguments. The book represents an excellent choice for yourself or, as a gift for your relatives, friends, and local school or church libraries.

-----  
Vance Nelson. 2011. *Untold Secrets of Planet Earth: Dire Dragons*. Untold Secrets of Planet Earth Publishing Company. Red Deer AB. Pp. 137. Hardcover and full colour.

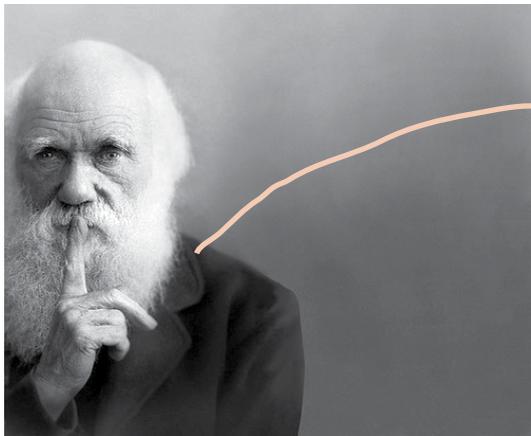


# Why Does Anyone Celebrate Origin of Species?

by  
Margaret  
Helder

Perhaps one of the most famous books in the western world is Darwin's *Origin of Species*, published in 1859. Most people with an interest in science, will remember that 2009, the one hundred fiftieth anniversary of the publication of this book, was marked by celebrations which were frequent and fervent. It seems fair to ask therefore precisely why this book merits such attention.

The celebrations surrounding the one hundredth anniversary in 1959, perhaps will help us to put this document in perspective. In Canada, two eminent biologists provided insights on the issue. Walter Palmer Thompson (1889-1970) was a plant geneticist, third president of the University of Saskatchewan and founder of the biology department there and Fellow of the Royal Society of Canada. In 1959 he participated in a symposium sponsored by the Royal Society of Canada. These proceedings were published in a volume entitled *Evolution: Its Science and Doctrine* (1960, University of Toronto Press).



This biologist began his lecture by remarking that Darwin's contribution to an understanding of the cause and method of evolution was his theory of natural selection. In essence, Darwin pointed to the variation typically observable within any given population of organisms. He then suggested that when there are limited resources to support a population (for example food, or space), then those individuals with better characteristics will be more successful at mating and raising healthy offspring. As this process continues over many generations, the population will accumulate more and more favourable characteristics and so gradually change over time.

Walter Thompson next observed that unfortunately Darwin had no satisfactory explanation for the source of these variations. Thus Dr. Thompson declares: "The state of biology in Darwin's time not only made a complete analysis impossible but also led him into certain errors in the application of his central idea." (p. 91) These errors included the

idea that the characteristics of the offspring were an organic blend of the characteristics of the parents (which would have led to a loss of information over time). Also Darwin believed that environmental conditions caused changes in organisms (acquired characteristics) which could be passed on to the offspring and this is not so either. For example, an individual may have cosmetic surgery. However that new more beautiful person does not pass on the beauty to the next generation.

Despite these deficits in Darwin's book, Walter Thompson discussed a prominent upgrade of Darwin's views (neo-Darwinian synthesis) and he ended his lecture on a positive note.

The other biologist, also a Thompson, was William R. Thompson (1887-1972), Fellow of the Royal Society (Britain). He was an entomologist and onetime director of the Commonwealth Institute of Biological control, based in Ottawa. He wrote a 14 page introduction to the Everyman's Library 1958 edition of the *Origin of Species*, published by J. M. Dent & sons. This centennial edition was a follow up to the 1928 edition of the *Origin of Species* which featured a very positive endorsement of Darwin by anthropologist Sir Arthur Keith. Both Canadian Thompsons were critical of Darwin's book, but the entomologist was more so.

In the case of the second Dr. Thompson, it is amazing that a secular publisher was interested in publishing his remarks since he began his commentary on *Origin of Species* thus: "I am not satisfied that Darwin proved his point or that his influence in scientific and public thinking has been beneficial." (p. vii)

He defined Darwin's position as "gradual transformations leading from a simple primitive organism to the highest forms of life, without the intervention of any directive agency or force." (ix) Darwin's idea thus did not simply deal with nature but also with the religiously related idea that no supernatural input was required for the creation.

William Thomp-



son then declared concerning Darwin “Since he had at the time *Origin* was published no body of experimental evidence to support his theory, he fell back on speculative arguments... Personal convictions, simple possibilities are presented as if they were proofs.” (xi) Dr. Thompson further pointed out that “Darwin did not show in the *Origin* that species had originated by natural selection, he merely showed, on the basis of certain facts and assumptions, how this might have happened, and as he had convinced himself he was able to convince others.” (xii)

This commentator was equally blunt in his critique of Darwin’s supporting arguments for the action of natural selection. Later, on the issue of the contribution of Darwin’s ideas to research, he pointed out that Darwin’s views actually served to hinder important research rather than to encourage it. In 1865 the Austrian monk Gregor Mendel published the results of his experiments on the genetics of garden peas. This work was ignored until 1900 because most scientists preferred to focus on Darwin’s incorrect views instead. Thus Dr. Thompson declared “Really fruitful researches on heredity did not begin until the rediscovery in 1900 of the fundamental work of Mendel, published in 1865 and owing nothing to the work of Darwin.” (xx)

Once geneticists began to breed organisms such as the famous fruitfly *Drosophila melanogaster*, a consensus on suitable changes to Darwin’s ideas gradually emerged. By the 1940s, the new view, called the neo-Darwinian synthesis, had emerged which blended ideas about population genetics with Darwin’s idea of gradual change. This idea involved random genetic mutations, acted upon by natural selection. By 1959 most biologists felt confident that the cause and process of evolution had been well accounted for. Then things began to fall apart.

It was in 1972 that Niles Eldredge and Stephen Jay Gould (1941-2002) declared in print that neo-Darwinism was an inadequate explanation for the pattern of fossil occurrences in the rocks. They declared that there must have

been long periods of no change within populations followed by sudden brief spurts of change. They called this “punctuated equilibria.” Many traditionalist evolutionists felt that Gould was providing ammunition for creationists and doing nothing to promote their science.

During the 1970s the neutral theory of molecular evolution began to be promoted by Motoo Kimura (1924-1994). He

maintained that at the molecular level there was too much variation found within any population. Thus he declared in an article in *Scientific American* in 1979: “the picture of evolutionary change that actually emerged from molecular studies seemed to me, however, to be quite incompatible with the expectations of neo-Darwinians.” (November p. 99).

Soon other competing interpretations appeared. Canadian mathematician Brian Goodwin (1931-2009) wrote *How the Leopard Changed its Spots: The Evolution of Complexity* (Scribner 1994), and in it Dr. Goodwin declared that Darwinism fails to explain the origin of species. He, like a number of other well known scientists like Stuart Kauffman, was a “structuralist.” It was his position that complex structures such as organisms and even component parts of organisms, develop through a chaotic interaction of physical, mechanical and chemical processes. This self organization is not determined by natural selection. Many other people however are skeptical that chaotic processes could bring about such precisely organized living creatures. The point however is that Goodwin and friends found the neo-Darwinian synthesis to be inadequate.

Another biologist, British Simon Conway Morris, declared that the number of designs of creature, or evolutionary endpoints, is limited (by what, one wonders) and what is possible has usually been arrived at many times. (see *Life’s Solution* p. xii-xiii) This process, called convergence,



or the appearance of similar features through entirely separate lines of descent, is basically a rejection of Darwin’s idea of descent with modification as the result of natural selection.

It is evident that Darwin’s claim to fame was to promote an idea for origins which did not require any supernatural intervention. Some of his arguments were wrong and all were weak and unsupported by evidence. This did not prevent the rapid acceptance of his basic idea. Today Darwin continues to be venerated, not because of any scientific details which he promoted, but because of his philosophical position, which was that natural processes are all that we need to explain and understand how all the wonderful designs of living creatures came to be. Thus Darwin’s claim to fame rests not on the quality of his arguments, but on his advocating an idea that the secular world wanted to support anyway.



the Beagle (1831-6)

# Diatoms : Jewels of

*Continued from Page 1*

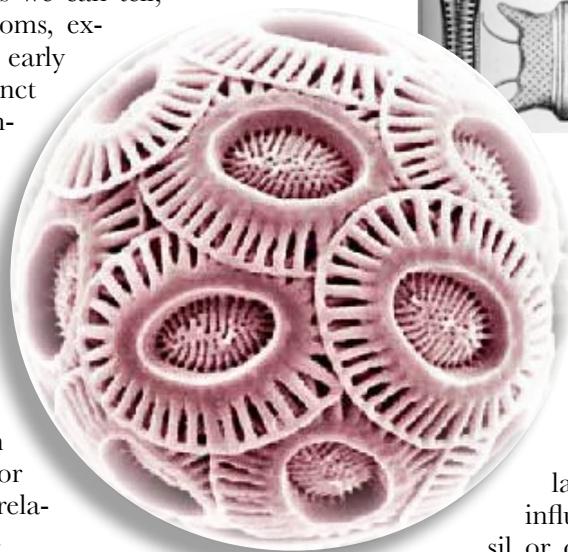
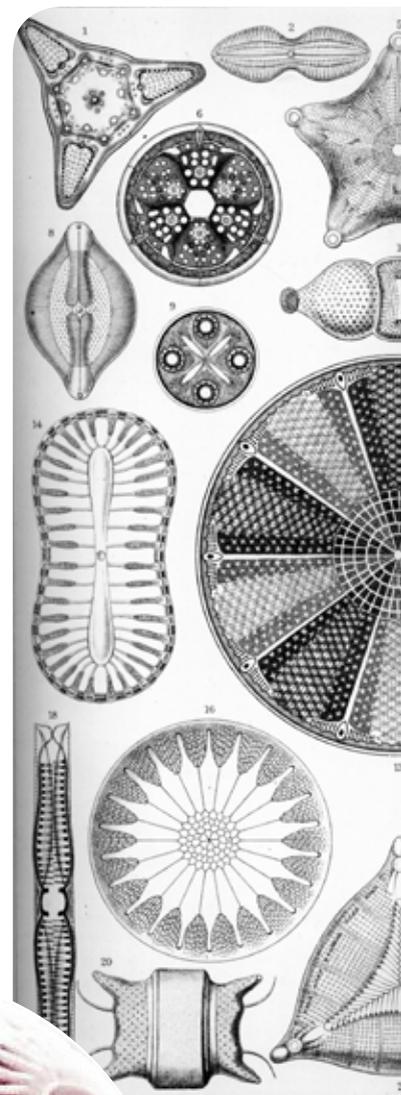
**T**he natural world. Thus we see in Thierstein and Young (editors, 2004. *Coccolithophores: From Molecular Processes to Global Impact*. Springer-Verlag): “Diatoms are unique among extant photoautotrophic taxa [photosynthetic organisms] in that they have an absolute requirement for orthosilicic acid, which they polymerize on a protein matrix to form strong shells called frustules. Silica is introduced into the oceans primarily by continental weathering, but the present day surface ocean is strongly undersaturated with respect to silica as a direct consequence of diatom growth. Diatoms are basically neritic [living in water at most 200 m deep], and blooms are largely confined to continental margins, and shallow seas, and such open ocean regions as the North Atlantic and Southern Ocean where silica can be supplied through upwelling. Hence, one possible clue to the rise of diatoms in the Cenozoic [recent times] may lie in an increased flux of silicic acid from the continents.” (p. 445). The variety of diatom shapes is enormous. Of the marine species, some look like the pattern of spokes on bicycle wheels, others like six pointed stars, yet others like pinwheels or triangles. In fresh water as well as centric designs (as above), there are many that look boat shaped or like long needles.

Diatoms provide an excellent means of studying evolution because they are the most common fossil types found, and their hard glass shells preserve them extremely well. As a result there now exists an “extensive fossil record of diatoms” (Sims et al 2006. *Phycologia* 45 no. 4 p. 361). Moreover the over 200 genera of living diatoms

that have been identified, including approximately 100,000 extant species, allow one an ideal means for reflecting on their origins.

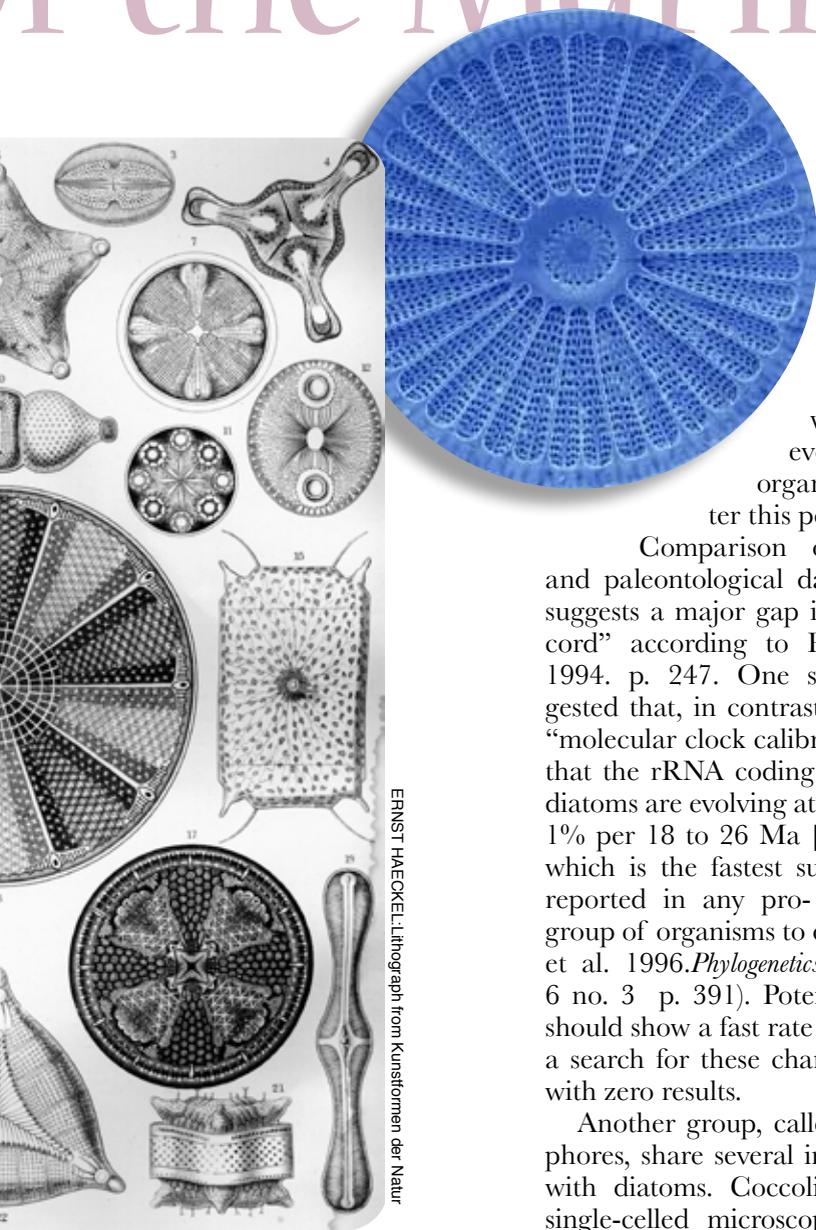
The commonality of well-preserved fossil diatom glass houses in the fossil record is a major reason why these algae are today a favored tool of modern evolutionary researchers for dating rocks and documenting evolution. If evidence for evolution exists, it would be found here, yet the first diatoms are clearly modern diatoms and no evidence for their evolution exists in the fossil record. The “first physical remains of diatoms are from the Jurassic [similar level to rocks with sauro-pod dinosaurs in them], and well-preserved, diverse floras are available from the Lower Cretaceous [immediately above the Jurassic rocks].” (Sims et al. 2006. p. 361).

The total lack of any evidence for diatom evolution is usually explained away by the claim that they have evolved far too rapidly to leave a fossil record. This, though, argues from absence of proof, not evidence. The fact is, the first diatoms are clearly closely similar, as far as we can tell, to modern diatoms, except that many early diatoms are extinct and these examples “bear little resemblance to modern taxa” (Sims. et al, 2006, p. 362). Consequently these are of little help in determining diatom phylogeny, or evolutionary relationships, if any.



Evolutionary science can only speculate about “possible diatom origins,” speculation that is not influenced by fossil or other evidence

# of the Marine World



ERNST HAECKEL: Lithograph from *Kunstformen der Natur*

(Sims et al. 2006. p. 36). Lack of fossil evidence has not stopped speculation about diatom evolution however. The main theory is diatoms evolved during the Precambrian [before the appearance of many celled organisms] from a “naked photosynthetic cell [that] acquired a coating of siliceous scales” (Round and Crawford. 1981. *Proceedings of the Royal Society of London B* 221(1183) p. 237) If this were the case,

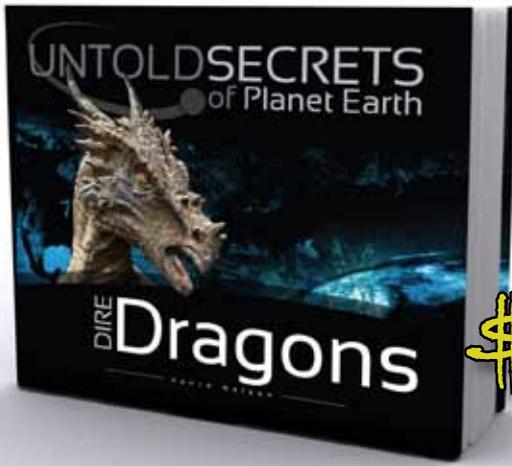
evidence of the scales would exist. The process of wall formation is obviously complex, and why would the evolution of these organisms stop after this point?

Comparison of “molecular and paleontological data in diatoms suggests a major gap in the fossil record” according to Philippe et al. 1994. p. 247. One study has suggested that, in contrast to fossil data, “molecular clock calibrations indicate that the rRNA coding regions in the diatoms are evolving at approximately 1% per 18 to 26 Ma [million years], which is the fastest substitution rate reported in any pro- or eukaryotic group of organisms to date” (Kooistra et al. 1996. *Phylogenetics and Evolution*. 6 no. 3 p. 391). Potentially diatoms should show a fast rate of change, but a search for these changes comes up with zero results.

Another group, called Coccolithophores, share several important traits with diatoms. Coccolithophores are single-celled microscopic algae that are a major component of the upper layer of ocean microplankton. They are unique in both the animal and plant worlds for several reasons. One major reason is that their spherical cell is surrounded by many limestone (calcite) plates shaped like hubcaps called coccoliths. As a unit, coccolithophores look very much like microscopic fancy Christmas tree ornaments. When the coccolithophores die, reproduce, or make too many plates, they dump some or all of their plates into their

watery world. It is estimated that dumping their plates adds over 1.5 million tons of calcite into the oceans annually. Like diatoms, their tiny plate-enclosed homes are assembled in such a way as to produce a wide variety of beautiful geometric designs. (See “Chalk Talk” in *Dialogue* Dec. 2002 at [www.create.ab.ca](http://www.create.ab.ca))

The complexity of their plate homes and the lack of fossil evidence for their evolution provide the basis for the conclusion that calcification has only arisen once in the evolution of the Haptophyta [mostly marine, mostly single celled golden brown algae]” (Thierstein and Young. 2004. p. 261). Hypothetical evolutionary trees have been constructed, but DNA comparisons have “fundamentally altered our way of thinking about evolution and ecology of the group” (2004. p. 277). Of note is the conclusion that “there is no obvious long-term trend [in the fossil record] and the cause of the variations [existing in coccolithophores] is not known” (2004. p. 516). Nevertheless the fossil record is excellent, and both “the organic and inorganic remains of coccolithophores provide key geochemical records for study of past oceanographic, environmental, and biological conditions. Coccolithophores are useful for paleoceanographic reconstructions because they are widespread throughout the ocean and both organic and inorganic remains enjoy long term preservation in the marine sediment record. The inorganic record is especially durable and extends back to the evolution of coccolithophores in the Early Mesozoic [rock layers just below the dinosaurs].” (Thierstein and Young. 2004. p. 530). Thus these ample records from the past too, provide only problems and no comfort for evolutionary theories.



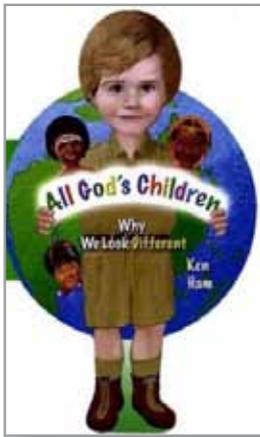
**Untold Secrets of Planet Earth:  
Dire Dragons**

**Vance Nelson**

This deluxe new book features ancient artwork from around the world. The depictions of specific dinosaurs in these artifacts are significant because they suggest that the artists were familiar with such animals and were illustrating what they had observed. - Hardcover/full colour/137 pages

**\$30.00**

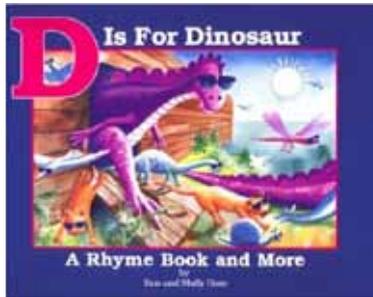
*What you don't know you can learn!!!*



**All God's Children:  
Why We Look Different**  
**Ken Ham**

This small board book, cut in the shape of children, features youngsters from around the world. Their message is that differences in appearance and language came about after Babel and we really are all brothers and sisters.  
Board book/full colour/10 pages

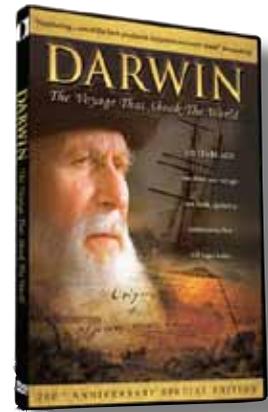
**\$5.00**



**D is for Dinosaur**  
**Ken and Mally Ham**

One half of this book features rhymes based on the ABCs, paired with fun drawings of dinosaurs. This is a great introduction for little people to dinosaurs and their place in the history of creation. The second half consists of line drawings for duplicating and colouring. Best for pre-school to grade one.  
Hardcover/full colour/123 pages  
**Special until January 1/2012**

**\$10.00**



**Darwin: the Voyage that  
Shook the World**  
**DVD Fathom Media**

Take a trip around the world in the wake of Darwin's ship the Beagle. Various experts discuss the significance of what he saw and what he did not see. Part history, part science and good viewing for the whole family.  
DVD/54 minutes  
**Special until January 1/2012**

**\$10.00**

Please fill in order form and mail to: Creation Science Association of Alberta,  
5328 Calgary Trail, Suite 1136 - Edmonton, Alberta, T6H 4J8

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Postal Code/Zip: \_\_\_\_\_

Please state titles and quantity of books ordered: \_\_\_\_\_

Total order	\$ .
Add \$6.00 for S/H	\$ .
Subscription (\$8.00)	\$ .
Donation	\$ .
Total enclosed	\$ .
Free Catalogue	-----
-	
Total	\$

Make cheque or money order payable to:  
Creation Science Association