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DEFENDING THE TEACHING OF EVOLUTION IN THE PUBLIC SCHOOLS

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Practice school teachers at Howard University, Washington DC (circa 1900)

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From time to time we like to report on what our members are doing. As the following list shows, they—and we—have a lot to be proud about!

Philip Appleman's *Perfidious Proverbs and Other Poems: A Satirical Look at the Bible* (Amherst [NY]: Prometheus, 2011) was published, including “Noah,” which was originally published as “Darwin’s Ark” in *Creation/Evolution* 1994;35:13–21. In the introduction, Appleman explains,

Intelligent and well-meaning people have argued for centuries against the fatal attraction of foolishness, but their efforts have been largely unproductive, partly because many people seem impervious to rational discussion. So perhaps satire is our most effective way of lighting candles in the darkness and communicating effectively to those who are immune to reason. That is, at any rate, the hope, and the rationale, of this book.

Distinguished Professor Emeritus in the Department of English at Indiana University, Appleman is the editor of the Norton Critical Edition of *Darwin*, now in its third edition (New York: WW Norton, 2000).

Robert H Dott Jr received two honors recently. First, he was the recipient of the 2011 Marcus Milling Legendary Geoscientist Medal from the American Geological Institute. Established in 1999, the award is presented to a geoscientist who has demonstrated a long history of scientific achievement and exceptional service to the geoscience profession. The press release cited Dott’s “research in sedimentology and the history of geology, his dedicated service to professional geoscience societies, and his decades of teaching the next generation of geoscientists through both his professorship and text, *Evolution of the Earth*.” Second, he was named as a Fellow of the Wisconsin Academy of Sciences, Arts, and Letters, based on his lifelong commitment to research and public service. A Supporter of NCSE, Dott is Professor Emeritus in the Department of Geoscience at the University of Wisconsin, Madison.

EO Wiley and **Bruce S Lieberman's** *Phylogenetics: Theory and Practice of Phylogenetic Systematics* (Hoboken [NJ]: Wiley-Blackwell, 2011) was published, the second edition of Wiley’s 1981 classic *Phylogenetics*. The publisher writes:

Since the publication of the first edition of this landmark volume more than twenty-five years ago, phylogenetic systematics has taken its place as the dominant paradigm of systematic biology. It has profoundly influenced the way scientists study evolution, and has seen many theoretical and

technical advances as the field has continued to grow. It goes almost without saying that the next twenty-five years of phylogenetic research will prove as fascinating as the first, with many exciting developments yet to come.

This new edition of *Phylogenetics* captures the very essence of this rapidly evolving discipline. Written for the practicing systematist and phylogeneticist, it addresses both the philosophical and technical issues of the field, as well as surveys general practices in taxonomy. Major sections of the book deal with the nature of species and higher taxa, homology and characters, trees and tree graphs, and biogeography—the purpose being to develop biologically relevant species, character, tree, and biogeographic concepts that can be applied fruitfully to phylogenetics.

The book then turns its focus to phylogenetic trees, including an in-depth guide to tree-building algorithms. ...

Providing a thorough synthesis of the field, this important update to *Phylogenetics* is essential for students and researchers in the areas of evolutionary biology, molecular evolution, genetics and evolutionary genetics, paleontology, physical anthropology, and zoology.

Lieberman is Professor in the Department of Geology and Senior Curator in the Division of Invertebrate Paleontology of the Natural History Museum and Biodiversity Research Center at the University of Kansas.

Timothy McGettigan's *Good Science: The Pursuit of Truth and the Evolution of Reality* (Lanham [MD]: Lexington Books, 2011) was published, containing a chapter entitled “Did Darwin tell the truth?” McGettigan summarizes:

In chapter two, I examine Charles Darwin’s legendary achievements in the field of biology. Universally accepted as Darwin’s ideas may be among scientists, in the wider public, Darwin’s ideas remain controversial. Indeed, there are numerous critics who assert that Darwin’s ideas are misrepresentations. Drawing upon debates concerning the validity of evolutionary theory, I clarify the definition of scientific truth. In doing so, I emphasize the crucial role that truth plays in bringing about scientific progress as well as the evolution of reality. In the end, I conclude that, rather than impugning Darwin’s theory, the enduring controversies that evolution has inspired are actually the clearest and most emphatic indicator of the profound truths that Darwin revealed.

Glenn Branch is NCSE's deputy director.

McGettigan is Professor of Sociology at Colorado State University, Pueblo.

Greg Swift contributed “Sucked into the culture war” to *Acoustics Today* (2011 Apr; 7[2]:34-41), relating his experiences in helping to revise New Mexico’s state science standards in 2003, having been asked to do so by a neighbor. As part of his preparation, he explains, he studied the current social controversies over teaching evolution:

I found that evidence supporting evolution has only grown stronger in the years since I took high-school biology in 1967–68. It is the only scientific explanation for the history, diversity, and commonalities of life on earth. Alternative explanations are not scientific. Talking about “weaknesses” of evolutionary theory makes as much scientific sense as talking about “weaknesses” of the atomic theory of matter.

Nevertheless, anti-evolution activists were attempting to undermine the treatment of evolution in the new standards. What aroused Swift’s ire was the release of a press release claiming, falsely, that scientists at New Mexico’s national laboratories supported teaching “intelligent design” along with evolution:

That poll nonsense triggered my personal transition to activism in the culture war, awakening me to the brazen mendacity of the leaders of the anti-evolution movement and the seriousness of their threat to public education.

Thanks to the work of Swift, **Marshall Berman**, and other supporters of the integrity of science education, as well as to the professionalism of the staff in the state’s department of education, the state board of education voted to accept the standards as written, without any concession to mollify the local anti-evolutionists. Swift urges his fellow scientists to follow his lead and get involved:

Years ago, I listened to the news when I had time, voted on election day, and trusted people in positions of authority to do the right thing often enough. Now I monitor government websites to look for trouble, write letters to elected officials, and show up at hearings and express my opinions on the handful of issues I follow closely. ... When your neighbor asks for a little help, it might change your life. Embrace the opportunity.

Swift works in the Condensed Matter and Thermal Physics Group at Los Alamos National Laboratory; he is a Fellow of the Acoustical Society of America, the American Physical Society, and Los Alamos National Laboratory.

And God Said, “Let There Be Evolution!” (Somerville [ME]: All Things That Matter Press, 2011) edited by **Charles M Wynn** and Arthur W Wiggins, was published. The book features essays on the compatibility of

evolution and faith from **Howard Van Till** (representing a Christian perspective), **TO Shanavas** (representing an Islamic perspective), and David E Kay (representing a Jewish perspective). Summarizing the discussion toward the end of the book, Wynn and Wiggins write:

[A] Christian scientist, a Jewish scientist, and a Muslim scientist have explained why they have confidence in the theory of evolution and how they have reconciled that theory with the Scriptures of their faith. In contrast to fundamentalists, they believe that doubt and reason are gifts to be used to gain deeper insight into the tenets of their religion. They are unanimous in their support for science’s assertion that the universe is about fourteen billion years old, planet earth is about five billion years old, and species evolved rather than were created all at once.

A reviewer for the *Toledo Blade* (2011 Jul 24) wrote of Van Till, Shanavas, and Kay, “They delve deeply into their own sacred texts and conclude that those texts do not contradict the theory of evolution,” adding, “Their arguments are persuasive and logical and to a great measure they succeed in achieving their stated objectives.” Wynn is Professor of Chemistry at Eastern Connecticut State University.

Matt Young and Paul K Strode’s *Why Evolution Works (and Creationism Fails)* (New Brunswick [NJ]: Rutgers University Press, 2009) received a favorable review in *The American Biology Teacher* (2011;73[2]:117). Michael H Comet wrote:

In nearly 20 years as an educator, I have seldom seen a publication that is as true to its title as Young and Strode’s *Why Evolution Works (and Creationism Fails)*. Many books on the topic seem to circumvent the discussion, choosing to be cautious[,] rather than being ambitious[,] in the pursuit of fairness. Their analysis of the divergent views and their presentation of both sides of what has become perhaps the most formidable and divisive controversy that biology has ever faced is nothing less than remarkable. ... All in all, Young and Strode take the reader on a safari through the topic rather than the usual roller-coaster ride. Having had the privilege to carefully read and consider many different books on the topic, I found this book perfectly suited to the classroom.

Young is Senior Lecturer in the Department of Physics at the Colorado School of Mines in Golden, Colorado, and the coeditor, with **Taner Edis**, of *Why Intelligent Design Fails* (New Brunswick [NJ]: Rutgers University Press, 2004). *Why Evolution Works (and Creationism Fails)* was reviewed in *RNCSE* 31(1):4.1–4.4. ■

from THE STAFF

A sampling of what we at NCSE headquarters have been doing to defend the teaching of evolution in the public schools—and beyond.

STEVEN NEWTON writes: One of the things your NCSE membership helps to fund is travel to scientific conferences, where members of NCSE's staff present papers, catch up on current research, and make connections with allies in the struggle to defend the teaching of evolution. In October 2010, I presented a talk at the Geological Society of America meeting in Denver, and as part of this conference, I was able to attend a rather unusual GSA field trip.

This field trip was led by five creationists, including Steve Austin of the Institute for Creation Research, and Marcus Ross, Professor of Geology at Liberty University. Austin is best known for his work arguing that the layers of the Grand Canyon represent deposits made by Noah's Flood. (If you sign up for NCSE's annual Grand Canyon rafting trip, you can hear Eugenie C Scott explain Austin's interpretation as we float down the river: visit <<http://ncse.com/about/excursions/gcfaq>> for the details.)

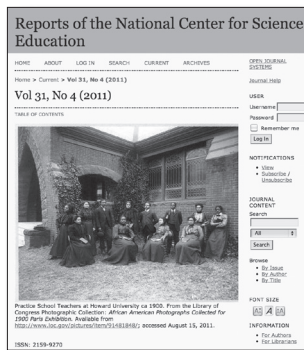
Although this GSA field trip visited real outcrops and used standard geologic terminology, including dates in the millions of years, there was a subtle subtext involving catastrophic events occurring at the continental scale—in other words, Noah's Flood. But nothing in the trip made this interpretation explicit; most of attendees probably had no idea that the trip leaders are on record promoting the idea that the earth is at most a few thousand years old.

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I wrote an article about this field trip for the July 2011 issue of the American Geological Institute's magazine *Earth* (visit <<http://www.earthmagazine.org/earth/article/456-7db-6-a>> to read it), including details about creationist-produced posters and talks also presented at this conference. It was, I wrote,

a new strategy from creationists to interject their ideas into mainstream geology: They lead field trips and present posters and talks at scientific meetings. They also avoid overtly stating anything truly contrary to mainstream science. But when the meeting is over, the creationist participants go home and proudly proclaim that mainstream science has accepted their ideas.

I think that many members of GSA were surprised and alarmed to learn that GSA events—field trips, posters, talks—were being presented by well-known creationists. As creationists continue to participate in professional geology conferences, the issue of how to deal with seemingly normal presentations given by those with decidedly non-scientific views is something that will have to be addressed. My suggestion in the article was, “as long as they present their conclusions as derived from accepted scientific methodology, rather than religion, it is unfair to reject their participation.”

Your support of NCSE helped to uncover and publicize what was going on at GSA and to provoke a needed discussion within the community of geoscientists. And this illustrates the fact that NCSE works to help scientists and educators not only in the biological sciences, but also across all scientific disciplines challenged by misrepresentations of evolution and the nature of science.

JOSHUA ROSENAU writes: A teacher called me recently from just across the San Francisco Bay from NCSE's office with a story both groundbreaking and utterly typical.

A parent had sent the school district an angry letter, complaining that a video that the teacher had shown to her class presented “proven lies and propaganda” to her students, “brainwashing” them into accepting basic scientific ideas as “fact not theory”.

All of that was par for the course. What was unusual was the topic at issue. The video the parent was complaining about was the Oscar-winning documentary *An Inconvenient Truth*.

I was dealing with NCSE's first climate change flare-up. Fortunately, the basic principles we always bring to bear on such controversies served me well.

The school district had given in to the parent's demand for a debate, in front of the entire seventh grade, between someone denying the reality of anthropogenic global warming and a proponent of the mainstream scientific position.

I pointed out that such staged debates are a common tactic in creationism, and should be opposed for the same reasons. Debates misinform students not just about the particulars being debated, but also about how science

works in general. Scientific debate does not take place on a stage, let alone in a middle school auditorium; it happens in the scientific literature. Students shouldn't be taught to confuse scientific processes with the rhetorical battle of stage debate. Nor should students be forced to contend with the famed "Gish Gallop", in which false and misleading claims flow so quickly that most go unrefuted.

The next day, the teacher raised these points with district officials, who agreed to drop the debate. They also adopted a policy NCSE often recommends: to distinguish the scientific issues from the political and social issues, perhaps by having science teachers refer questions about climate policy to a social studies teacher.

NCSE's first climate change flare-up was over almost as soon as it began, resolved with the same tools that have served so well in defending evolution.

EUGENIE C SCOTT writes: It was back in the 1990s, when NCSE was tiny. The Institute for Creation Research's monthly pamphlet *Acts & Facts* had arrived, and I was perusing the long list of events on its speakers' schedule, and the many types of excursions. One group of excursions in which they seemed to take great pride was their Grand Canyon trips: hikes down the Canyon, but also a Grand Canyon whitewater raft trip.

My friend and fellow anthropologist Tom McIver, while working on a dissertation about young-earth creationism, had attended an ICR hike, and we published his reflections in our journal, *Creation/Evolution* (visit <http://ncse.com/cej/7/1/creationist-walk-grand-canyon> to read his article). I was familiar with the distorted science ICR presents on these trips, and it had long annoyed me that this fabulous natural wonder had become an icon of creationism.

If someone is trying to claim that there is no time for evolution to occur because the earth is young, it is a major problem to explain a 1200-meter-deep slice through time that geologists consider a prime example of the ancient history of our planet. The ICR and other followers of Henry Morris's "flood geology" have to convince people that the entire series of Grand Canyon strata—limestones, siltstones, sandstones, mudstones, repeated over and over—was the result of the surging (and receding) waters of Noah's Flood.

See what I mean about distorting science? I fumed every time I saw one of those advertisements. What nonsense! I would joke that people shouldn't go down Grand Canyon with the ICR because they would receive only a creationist version of its origin. If NCSE were to have a Grand Canyon excursion, we'd offer a "two-model" trip: we'd give you both the real science as well as the creationist view. Then I'd deadpan, "and you can decide for yourself," which usually resulted in a guffaw from anyone familiar with the creationist insistence on "letting the children decide" between creationism and evolution. But our small staff lacked the geological expertise necessary to provide a solid scientific experience for our members.

Then in the late 1990s, things came together for us. Wilfred Elders, a distinguished and recently retired geologist from the University of California, Riverside, offered to lead a Grand Canyon raft trip excursion for NCSE members, I jumped at the chance. We commenced our NCSE Grand Canyon excursions in 1999, and except for a few years, we have gone every year since then. A few years later, when NCSE acquired our own staff



2008 Grand Canyon excursion.

Photograph: Carrie Sager

geologist, Alan Gishlick, we transitioned to our in-house staff as the tour guide. We had a lot of fun with the slogan, "See the Canyon with Scott and Gish"; Gish was Alan's nickname, but of course it was also a play on the name of the famous creationist debater Duane Gish. It was funnier still because our "Gish" presented the real science, while "that evolution lady" Scott presented the creationist side. Alan has gone on to other opportunities, and in 2012 we will transition to our current geologist, Steve Newton, for the accurate science part. I once again will regale rafters with the (much briefer) creationist version. Details for next summer's trip (July 16–24, 2011) are now available: <http://ncse.com/about/excursions/gcfaq>.

Next year will be our 11th trip: hundreds of members have enjoyed the beauty and science (real and creationist) of one of the most spectacular places on earth, any of whom will tell you what a fabulous place it is.

So I was feeling pretty good about the success of our program, when our archivist Charles Hargrove walked into my office holding a spiffy catalog from Answers in Genesis, the other major US creationist organization. Not only is AiG conducting Grand Canyon raft trips, but it offers *five*. Between AiG and other creationist organizations, there are at least eight creationist-led excursions to Grand Canyon next year.

"Well, Genie," asked Charles, "when are we going to increase the number of *our* Grand Canyon trips?"

Well, not soon, I'm afraid. One per year is all for us. AiG enjoys a list with hundreds of thousands of names from which to recruit, whereas we have more like 5000 members, on a good day.

They may be bigger, but, hey, we have actual science on our side. And that is pretty satisfying, even if we can't match these guys in volume. It's always been a matter of quality over quantity when it comes to NCSE, right? 🗨️

Examining the Relationships among Acceptance of Evolution, Religiosity, and Teaching Preference for Evolution in Turkish Preservice Biology Teachers

Hasan Deniz, Faruk Çetin, İrfan Yılmaz

INTRODUCTION

Biologists and educators may agree on evolution's unifying role, but many find surprising the high percentage of US teachers who do not accept evolutionary theory. Berkman and others (2008) show that 75% of US biology teachers (compared to 43% of the general public) accept evolutionary theory, but a majority accept evolution *only* with guidance by God.

Researchers generally report a negative relationship between religious orientation and acceptance of evolutionary theory (Grose and Simpson 1982; Osif 1997). To date, there is little research examining the relationships among acceptance of evolutionary theory, religiosity, and teaching preference for evolution in Muslim countries.

METHODOLOGY

Our sample consisted of 147 Turkish preservice secondary biology teachers from a university in western Turkey. Acceptance of evolutionary theory among preservice biology teachers was measured by the measure of acceptance of the theory of evolution (MATE) developed by Rutledge and Warden (1999) and translated by the first author. Religious orientation scores represent the importance of religion in their lives. Preference for teaching evolution was based on the choice to present evolution only, creationism only, or some combination of the two in public schools.

RESULTS

We found a significant negative correlation between acceptance of evolutionary theory and religiosity ($r = -.57, p < .01$). Participants with a strong religious orientation were less likely to accept evolutionary theory compared to participants with a weak religious orientation or no religious orientation at all. Only 9.5% agreed that only evolution should be taught in schools; over 87% endorsed teaching creationism, though not generally in biology classes. As expected, the participants endorsing teaching only creationism had the maximum religious orientation score of 4 points; those endorsing only evolution had the lowest (1.64).

DISCUSSION

Among these preservice biology teachers, a preference for teaching evolution is related to acceptance of

evolutionary theory and religious orientation. Our results are parallel to the findings of others who also found that biology teachers with strong religious orientation are less likely to accept evolution as a scientifically valid theory (Grose and Simpson 1982; Osif 1997) and that acceptance of evolutionary theory is a good predictor of instructional approach taken toward evolution (Aguillard 1999; Eve and Dunn 1990; Rutledge and Mitchell 2002; Shankar and Skoog 1993).

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Summary of *RNCSE* 2011;31(4):1.1–1.9; the full test is available from <http://reports.ncse.com/index.php/rncse/article/view/49/41>

Preservice Secondary Science Teachers' Acceptance of Evolutionary Theory and Factors related to Acceptance

Hasan Deniz and Lisa A Donnelly

INTRODUCTION

How evolution is taught is influenced by teachers' acceptance of evolutionary theory (Aguillard 1999; Eve and Dunn 1990; Shankar and Skoog 1993). Deniz and others (2008) found that understanding of evolutionary theory and thinking dispositions could predict acceptance of evolutionary among preservice biology teachers to a certain extent.

METHODOLOGY

We measured understanding of evolutionary theory using a modified version of an existing 21-item scale (Rutledge and Warden 2000). We measured acceptance of evolution on a 20-item scale developed by Rutledge and Warden (1999); and we measured epistemological beliefs using a 50-item survey developed by Kelton and Griffith (1986). Participants also completed a 41-item actively open-minded thinking (AOT) composite scale (Stanovich and West 1997) that measures openness to changing beliefs (Sá and others 1999).

RESULTS

Participants accepted evolution as a scientifically valid theory but none of the participants answered all of the understanding of evolution questions correctly.

We found no significant correlation between participants' understanding and their acceptance of evolutionary theory. However, we found significant correlations between participants' epistemological beliefs and their acceptance of evolutionary theory ($r = .37, \rho < .05$), and between thinking dispositions and acceptance of evolutionary theory ($r = .70, \rho < .01$).

DISCUSSION

It was unexpected that understanding of evolutionary theory was not correlated with its acceptance; our previous study (Deniz and others 2008) showed a modest correlation between them. Our findings suggest that professionals preparing future teachers need to focus on thinking dispositions and epistemological beliefs as least as much as the understanding of evolutionary theory if our goal is to increase the number of classrooms in which evolution appears as a fundamental organizing principle for biology.

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Summary of *RNCSE* 2011;31(4):2.1-2.8; the full test is available from <http://reports.ncse.com/index.php/rncse/article/view/50/43>



Cerro Tijeretas, Isla San Cristóbal, Galápagos

Randy Moore

The Galápagos archipelago is one of the most iconic places in science. These islands are most famous for a visit in 1835 by 26-year-old Charles Darwin.

His first view of the Galápagos was on September 15, 1835, when he saw Mount Pitt on the northeastern tip of an island that is today called Isla San Cristóbal. The next day, Darwin set foot on the Galápagos at a rocky cove named Cerro Tijeretas at the island's southwest end (right). This site is popular today for swimming and snorkeling, and features frigatebirds, boobies, and pelicans. It is marked by a large statue of Darwin surrounded by Galápagos wildlife and holding a book entitled *Galápagos* (below).

The organisms most closely associated with Darwin's visit to the Galápagos are finches, used almost universally in textbooks as examples of adaptive radiation. As is true of all legends, much of the lore surrounding Darwin's finches and his visit to the Galápagos is questionable and, in some instances, inaccurate. For example, Darwin did not have an epiphany about evolution by natural selection while in the Galápagos. He arrived in the Galápagos a creationist and departed the Galápagos a creationist. It was ornithologist John Gould, and not Darwin, who later studied and named the finches collected in the Galápagos (Sulloway 1982).



Darwin did not separate finches by island while he was in the Galápagos. He later reconstructed his collection of specimens by guessing (sometimes incorrectly) where his specimens came from and by gathering finches collected by some of his shipmates.

Darwin's understanding of the Galápagos finches was retrospective. Indeed, Darwin did not mention finches in any of the four "Transmutation of Species" notebooks (written between 1837 and 1839), nor did he mention them in his monumental *On the Origin of Species*. Darwin was impressed with the Galápagos mockingbirds and tortoises, not finches; he is often given credit for finches he never saw (Sulloway 1982, 1987).

David Lack, especially in his book *Darwin's Finches* popularized so-called "Darwin's Finches" as an example of speciation via geographic isolation (Lack 1947).

There are numerous books about the geopolitical and natural history of the Galápagos. An excellent account of Darwin's time in Galápagos is *Darwin in Galápagos* (Grant and Estes 2009).

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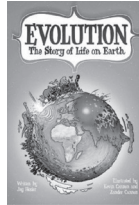
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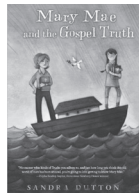
Summary of RNCSE 2011;31(4):3.1–3.4; the full text is available from <http://reports.ncse.com/index.php/rncse/article/view/56/44>

Evolution: The Story of Life on Earth by Jay Hosler, illustrated by Kevin Cannon and Zander Cannon (New York: Hill and Wang, 2011; 151 pages). Reviewer **Scott Hatfield** praises Hosler's graphic novel as both amusing and educational, writing, "*Evolution: The Story of Life on Earth* makes it clear that the ideas first glimpsed by Darwin are not confined to old textbooks, but instead form the basis of an active, lively field of scientific inquiry. Its engaging characters, informed content, and clever illustrations make this book an excellent selection for anyone, young or old, interested in learning more about evolution." The chapters outlining the history of life possess "an epic feel, with the artists using a great variety of panel layouts that creatively address the needs of the material."



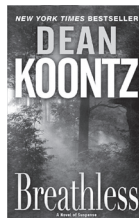
Summary of RNCSE 2011;31(4):4.1-4.3; the full text is available from: reports.ncse.com/index.php/rncse/article/view/51/45

Mary Mae and the Gospel Truth by Sandra Dutton (Boston: Houghton Mifflin Harcourt, 2010; 134 pages). "This is a story about the interaction of science and religion, told from the perspective of a 10-year-old," writes reviewer **David C Kopaska-Merkel**. "Nevertheless, there is a lot of science in this book, both fact and theory"—particularly concerning trilobites. While the book is aimed at a young adult audience, "I enjoyed reading it myself. The characters are solid and the story well told. The plot has enough twists and turns to satisfy." Kopaska-Merkel concluded, "The book is as entertaining and thoughtful as any attempt I have seen to tackle the idea that religion and science are compatible. And not just liberal religion and science, but any religion and science."



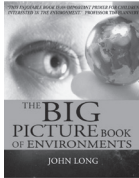
Summary of RNCSE 2011;31(4):5.1-5.2; the full text is available from: reports.ncse.com/index.php/rncse/article/view/52/46

Breathless by Dean Koontz (New York: Bantam, 2009; 352 pages). In the course of his thriller, the popular novelist seems to be "focused on inciting his readers to question the validity of evolution," reviewer **Stephanie LaMassa** complains, by "portraying scientists as dogmatic and closed-minded and debunking evolution using specious arguments commonly used by anti-evolutionists." Considering three examples—involving the fossil record, the time available for evolution, and the evolution of the eye—she concludes, "In his attempts to discredit evolution, he only reveals his (seemingly willing) ignorance on this topic and becomes an 'evangelist' for misinformation. His time would have been better spent to learn what the scientific consensus on this issue is and how such tired arguments have been often refuted in the scientific literature."



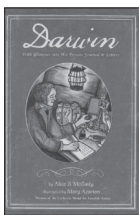
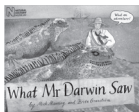
Summary of RNCSE 2011;31(4):6.1-6.3; the full text is available from: reports.ncse.com/index.php/rncse/article/view/55/47

The Big Picture Book by John Long, illustrated by Brian Choo (Crows Nest, New South Wales, Australia: Allen & Unwin, 2005; 48 pages) and *Evolution Revolution* by Robert Winston (New York: DK Publishing, 2009; 96 pages). Reviewer **Louise S Mead** offers a mixed if generally positive verdict on both of these books for children. *The Big Picture Book* is colorful and attractive, and its presentation of the evidence for evolution from the fossil record is appealing, but its treatment of deep time is not ideal and some of the information is out of date. *Evolution Revolution* teems with detail and activities to try at home, but the layout is busy, perhaps to the point of confusion, and there are errors in the discussion of the rate and cause of mutations.



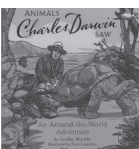
Summary of RNCSE 2011;31(4):7.1-7.3; the full text is available from: reports.ncse.com/index.php/rncse/article/view/54/48

What Mr Darwin Saw by Mick Manning and Brita Granström (London: Frances Lincoln Children's Books, 2009; 48 pages) and *Darwin: With Glimpses into his Private Journal & Letters* by Alice B McGinty, illustrated by Mary Azarian (Boston: Houghton Mifflin Books for Children, 2009; 48 pages). Reviewer **Louise S Mead** recommends both of these books about Darwin's life and work, aimed at children ages 6 to 9, both of which appealingly incorporate excerpts from Darwin's journals. *What Mr Darwin Saw* "is a fun picture book [with] ... whimsical colorful illustrations depicting his adventures," although the story is somewhat disjointed and the explanation of evolution through natural selection is inferior to that in *Darwin*, which is "easy for children to understand and stresses that evolution happens over many generations."



Summary of RNCSE 2011;31(4):8.1-8.2; the full text is available from: reports.ncse.com/index.php/rncse/article/view/55/49

Animals Charles Darwin Saw: An Around-the-World Adventure by Sandra Markle, illustrated by Zina Saunders (San Francisco [CA]: Chronicle Books, 2009; 45 pages). For his part, reviewer **Ben Roberts** found *Animals Charles Darwin Saw* to be clearly written if sometimes dry, punctuated with interesting anecdotes, and ornamented with colorful and interesting illustrations, although the map of the voyage of the *Beagle* should have been more prominent. Fourth-grade children to whom he read the book enjoyed the anecdotes but regarded Darwin unappealing as a person ("just some crazy dude"), and Roberts concluded that "Markle could have done a better job of conveying who Darwin was as a human being—his upbringing, experiences, and dreams." Overall, he recommended the book as "a nice addition to any school library's shelves."



Summary of RNCSE 2011;31(4):9.1-9.2; the full text is available from: reports.ncse.com/index.php/rncse/article/view/57/50

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