

Books on Darwin, evolution and biodiversity

The Origin of Controversies

Just in time for “Darwin Year 2009”, the celebration of the 200th birthday of Charles Darwin and the 150th anniversary of his magnum opus *On the Origin of Species*, the bookshops are overflowing with a myriad of books, audio books, DVDs and computer games linked to the event. *Lab Times* reviewed a handful.

Charles Darwin was a sedulous writer of letters. He corresponded with roughly 2,000 people during his life (1809-1882). Surprisingly, most of his letters have been preserved – more than 14,000 documents in total.

In the new book *The Beagle Letters*, Frederick Burkhardt has skillfully selected correspondence between Darwin and his family, friends and colleagues over the five year period of his worldwide voyage aboard the *Beagle*. In an age of horse-drawn coaches and sailing ships it is surprising that nearly all of the letters found their destination, whether despatched in England or from one of the far-flung ports where the *Beagle* dropped anchor.

The collection starts with letters documenting how Darwin, who originally wanted to make a short natural history expedition to Tenerife, ended up on the *Beagle* and travelled around the world from 1831-1836. Through the letters we witness Darwin’s (“Chas’s”) seasickness, life on board and experiences on shore leaves. We read how he first realised that extinct animals have broadly the same physiology as living animals and how he saved an interesting specimen before it was completely eaten up by the crew. Unfortunately we do not learn much about his days on the Galapagos islands. The only letter he wrote from those islands, to his sister, was lost.

The only Galapagos letter is lost

Darwin’s sisters were also very eager writers. They report in detail on happenings in England whilst their brother was sailing around the world – ranging from marriages to new laws enacted. Those letters not only allow us to gain deep insights into Darwin’s

life and work but also provide a remarkable picture of living and thinking in Victorian times.

Drawings by Conrad Martens, the *Beagle*’s official artist for part of the voyage, illustrate the book.

The book is one of three collections of letters published by Cambridge University Press, drawn from the extensive Darwin Correspondence Project’s resources. This project was initiated by Burkhardt in the 1970s, who edited Darwin’s letters into 16 volumes as books. Also, the project’s online database at the University of Cambridge holds 5,000 complete, searchable letters from and to the scientist. This includes all the surviving letters from the *Beagle* voyage – online for the first time – and all the letters from the years around the publication of *The Origin of Species* in 1859.

Francis Bacon, the philosopher, scientist, and author, once said, “Some books are to be tasted, others to be swallowed and some few to be chewed and digested”. This one definitely belongs to the last category. Enjoy!

KARIN HOLLRICHER

Charles Darwin (Introduction by Janet Brown): *The Beagle Letters*. Cambridge University Press, 2008. 500 pages, €21.40.

Sugar-coated facts from the USA

Development Aid

According to a Gallup poll conducted in May 2008, 44 percent [or 135 million] of all U.S. citizens “believe that God created human beings within the last 10,000 years”, while 14 percent “believe that God didn’t play any role in this process”. To approach the magic 15 percent hurdle within the next few decades, a brave group of scientists, assembled by the U.S. National Academy of Sciences (NAS) and the Institute of Medicine, recent-

ly published a booklet on *Science, Evolution and Creationism*. It is structured like a chapter from a junior high school biology textbook. The authors first explain some fundamental methods of traditional scientific research and then document the immense evidence in support of biological evolution.

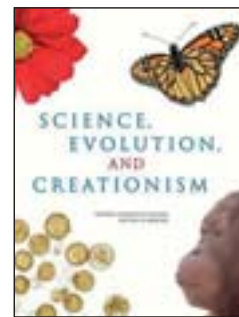
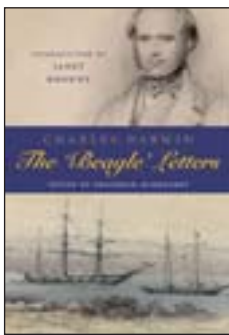
In the brochure’s third part, the authors try to adjust the unorthodox perspectives that are promoted by disciples of creationism and intelligent design in the USA and elsewhere. All this, the NAS authors do kindly and with empathy. They sugar-coat their arguments to avoid offence and try to share the fact that an acceptance of evolution can be compatible with religious faith. In the face of such politically correct stuff, pro-evolution hardliners such as Richard Dawkins, known in the media as “Darwin’s Rottweiler”, would probably suffer from a rage attack.

Anyway, it would be interesting to check whether the brave authors of *Science, Evolution and Creationism* succeed in their efforts to impart their message to U.S. readers. *Lab Times* has investigated, and gathered the following comments:

- “Do not read this book!” (G.W. Bush, Washington D.C., USA)
- “A pestilent work of the devil. Steer clear of it!” (Kent Hovind, c/o Federal Correctional Institution, Edgefield, USA)
- “The enclosed arguments are not conclusive, nor have they been validated scientifically.” (Joseph Alois Ratzinger, Vatican City).

WEANÉE KIMBLEWOOD

National Academy of Sciences & Institute of Medicine: *Science, Evolution, and Creationism*. NA Press, 2008. 70 pages, \$12.95 (equivalent to ca. €10.00).



The Last Human is *disappointing*

A Routine Job

Our prehistoric ancestors are rewarding subjects for every ambitious author of specialised books. Just take a bony superstar like *Lucy*, the 3.2 million-year-old lady from Awash Valley, Ethiopia, garnish the pages with showy pictures, advertise the opus extensively before publication and you'll get a moneyspinner that sells itself (no matter what its actual value is).



To write a real classic on human genesis, however, takes more. A few authors have managed it all the same, including *Lucy's* discoverer

Donald Johanson and his brilliant opus *Lucy: The Beginnings of Humankind* (published in 1981), one of the best books on paleoanthropology ever written, and the fantastic illustrated book *From Lucy to Language* (2006), also edited by Johanson (with co-author Blake Edgar and ingenious photographer David Brill). The generally unknown *Neandertal: Die Geschichte geht weiter*, published in 2002 by the German archaeologists Ralf Schmitz und Jürgen Thissen, is another brilliant example (available only in German to date, it tells the nearly incredible story of the rediscovery of "Neanderthal 1", the first specimen of *Homo neanderthalensis*, found in August 1856).

However, such brilliant books are rare exceptions.

Another attempt to create a classic

The Last Human makes an attempt to enter this exclusive club. Edited by and with a foreword from renowned experts such as Ian Tattersall, Meave Leakey and the omnipresent Donald Johanson, the book assembles and introduces 22 prehistoric hominid species including *Sahelanthropus tchadensis*, *Australopithecus afarensis*, *Homo habilis* and *Homo neanderthalensis*. According to the editors, the intention was to create a *hominid family photo album*, filled with life-sized reconstructions of our extinct human ancestors that were created by a multidisciplinary collaboration of experts (*take an anatomist, a sculptor, a paleoanthropologist, a makeup artist, a forensic scientist, a painter and a draftsman [...]* then add vivid im-

agination and burning obsession). To build 3D models of the 22 prehistoric heads, sophisticated methods of forensic anatomical reconstruction were used (but, sadly, no examples were given).

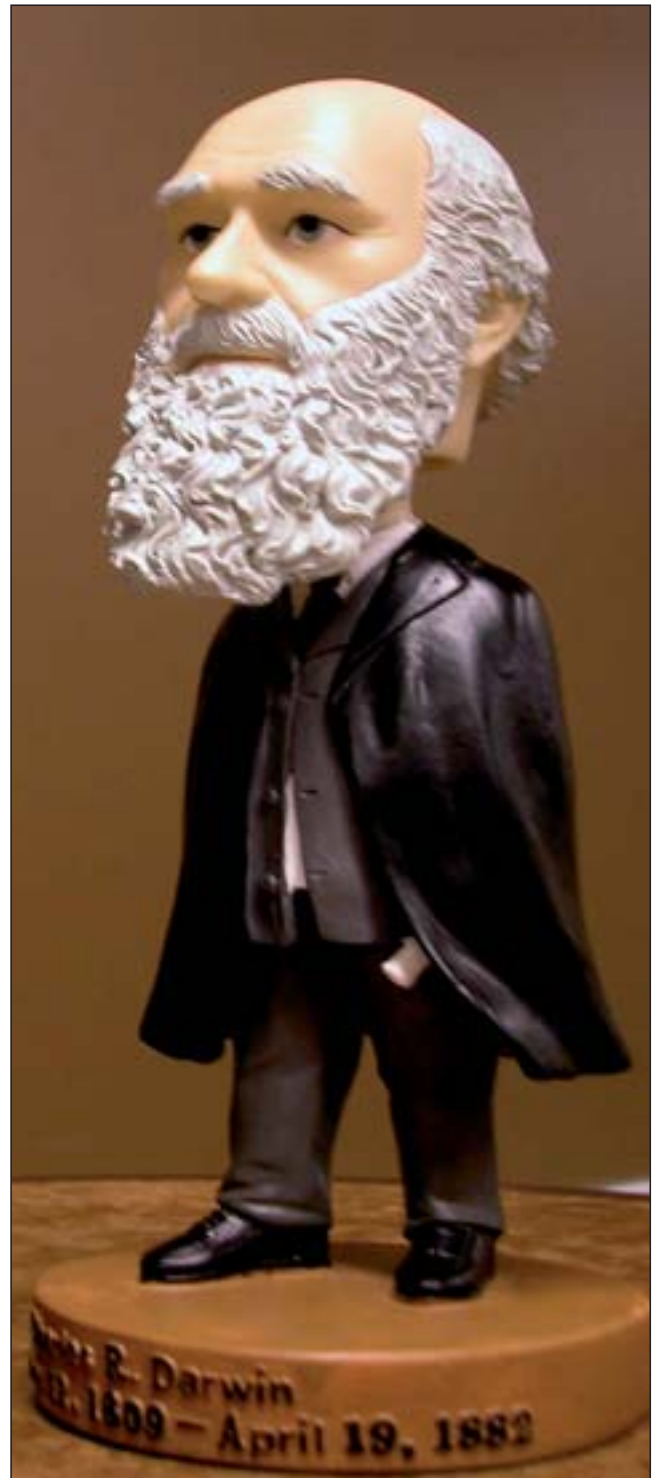
The book's somewhat sci-fi title refers to the fact that present-day *Homo sapiens* finds himself alone on Earth, being the only surviving hominid, while for most of its history of development the world was populated with coexisting prehumans and humans. It addresses itself to a scientifically literate general audience but not to experts.

Has *The Last Human* the potential to become a classic? Probably not, for several reasons. First of all, this "photo album" ironically contains only very few images (mostly one or two for each species). While a few of the reconstructed sapient faces have a fascinatingly authentic appearance, others come across poorly; some are blurred (such as *A. garhi*, page 90, and *Ardipithecus ramidus*, page 42/43) and cloudy (the *A. afarensis* on page 70). In addition, the authors passed up the obvious chance to display the skulls and the reconstructed faces on an impressive double page (instead of

that there are only small pictures of the underlying skulls and in some cases none at all).

A list of uninspiring facts

To add another disappointment, the accompanying text by Esteban Sarmiento is a mere list of uninspiring facts, such as information on the species' emergence, geographical range, classification, physiology, lifestyle and possible reasons for extinction –



Want a freaky gift for your sweetheart? Look no further! This solid (550 grams) Darwin Bobblehead, lovingly created from poly-resin to celebrate this year's anniversary, is just the thing. It features Darwin's birth and death dates on the base and can be ordered at www.thebobblehead.com (believe it or not, the manufacturer is located in Kansas City, USA!)

and therefore provides an unemotional read. The, unfortunately short, prefaces by Donaldson and Tattersall are more inspiring.

A pity! The editors did a routine job, combined a few fascinating images with a boring text, and thus blew their unique opportunity to produce a timeless classic.

WEANÉE KIMBLEWOOD

G. J. Sawyer, Viktor Deak, Esteban Sarmiento & Richard Milner: *The Last Human. A Guide to Twenty-Two Species of Extinct Humans*. Yale University Press, 2007. 256 pages, €30.00.

Seventy Great Mysteries for Lays

Easy to Digest

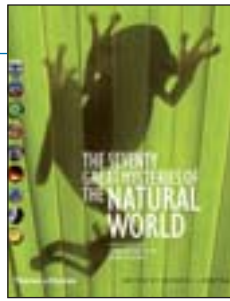
Acanthostega, a dull-looking tetrapod, once paddled with eight digits on each chubby hand through Upper Devonian waters to prepare for a successful career on the mainland. *Tulerpeton*, one of the first true tetrapods, tramped six-digitated through sticky swamp-land. Their recent colleague, *Brachionichthys*, routinely uses his highly modified pectoral fins to stroll around today's sea floor, while Anne Boleyn, the second wife of King Henry VIII., allegedly had six fingers on her right hand (very likely a nasty myth).

Well, in order to respond to the question "Are five fingers essential?" in a mere three pages, the author had to pull out all the stops. He succeeded.

The remaining 301 pages of *The Seventy Great Mysteries of the Natural World* are also an amusing read (at least most are). The chapters' authors (over 60 experts in their relative topics) make a good job of it, the book's layout is clear, the figures are impressive and the words are plain. Pretty much every question on *life, the universe and everything* is posed in this weighty tome (and answered in most cases, too). Take as examples "How did the Earth form?" (by discs of dust and gas), "Why did the dinosaurs die out?" (because they were poorly adapted to climate variations), "How do new species form?" (by hybrid speciation and lineage splitting), "How do dogs see the world?" (like red-green colour blind humans) and "How deep can life live under ice and rock?" (up to about 6 km).

Are these really great mysteries?

Of course, it is subject to debate whether such questions are really "great mysteries" or rather absorbing issues from the natural sciences that have already been solved.



Aside from its lurid subtitle, *Unlocking the Secrets of Our Planet*, this book is a special-

ised resource for literate people of 14 years and above – no more, no less.

In spite of the book's overall good impression, some of the chapter headings are blithering nonsense. Take chapter 9 as an example, with the title "Why do mammals rule the world?" – an absurd question that might as well be called "Why do bacteria/insects/cockroaches/stupid-small-bugs-with-long-tentacles rule the world?"

In addition, some chapters pose grandiose questions that aren't satisfactorily answered ("Were the dinosaurs warm-blooded?"; "Why are insects so diverse?";

"What will Earth's climate be like in the future?").

A second negative point is that many illustrations are mere eye-catchers without any additional value. Many a diagram contain terms and refer to processes that aren't explained in the accompanying text, making them a waste of space.

All things considered, *The Seventy Great Mysteries of the Natural World* is a visually stunning, heavy (1.7 kg), well-bound hard-cover book whose contents lay readers will find easy to digest.

WEANÉE KIMBLEWOOD

Michael J. Benton (Ed.): *The Seventy Great Mysteries of the Natural World: Unlocking the Secrets of Our Planet*. Thames & Hudson, 2008. 304 pages, 368 illustrations, €35.00.



Darwin's Rhea (*Rhea pennata* aka *Rhea darwini*), published in 1841 in John Gould's description of birds collected on the *Beagle* voyage (see page 54). Darwin wrongly guessed that these creatures were a South American type of ostrich (*Struthio spec.*), while Gould, a British zoologist, identified it later as a new species and named it after its discoverer.