

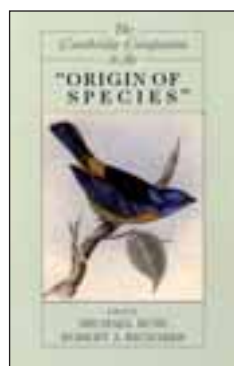
Reading matter for the sesquicentennial (part 2)

Going Further into Evolution

At the sesquicentennial of the publication of Charles Darwin's *The Origin of Species*, about 150 commemorative books were rushed onto the market. In *Lab Times* 1-2009, we reviewed a few of them. Here come another two, which, whilst very different, are both easy reads.

When, on Thursday 24th November 1859, the former theologian Charles Robert Darwin published 1,250 copies of a text-heavy book with just one illustration, priced at fifteen shillings each, not even the author's closest friends nor his most ardent supporters could foresee what might follow. *The Origin of Species* became a scientific smash hit and was seen as the work of the devil by some religious folk. Florida State University professor Michael Ruse characterises Darwin's *Origin* today as "a major work of science" and a "major event in the history of Western civilisation".

There is, however, a paradox around Darwin's (in Ruse's words) "work of vital significance and interest". Just a handful of modern natural scientists have themselves read *Origin*, while the vast majority of researchers know the opus only from hearsay. *The Cambridge Companion to the "Origin of Species"*, a collection of 18 absorbing essays on Darwin's masterpiece, has the potential to change this. Written by scientists, historians, literary scholars and philosophers, each of the book's 18 chapters provides useful and interesting information on Darwin's life, ideas, goals and troubles, as well as on the religious, social, political, literary and philosophical background in which *Origin* was composed and its author lived.



The scope of topics ranges from "The Origin of the Origin" (by Michael Ruse) over "Darwin on the Species Problem" (by Phillip Sloan), "The Rhetoric on the Origin of Species" (by David Depew) to the "Question of Religion" (by John Brooke). In the final chapter, the antiquarian booksellers

Michèle and Chris Kohler talk about *Origin* as a physical object: what sort of book it was, how it was published and distributed and about the odd fact that today's collectors pay small fortunes for good copies of the first edition of *Origin* with a record auction price of €112,000 obtained in New York in 2001 for a specimen in original cloth.

Even though the *Companion* doesn't address itself primarily to newcomers or laypeople, it is written in a clear and friendly style. Thus it deserves to find general approval with every reader who wants to learn more about one of the most important and controversial books of human history.

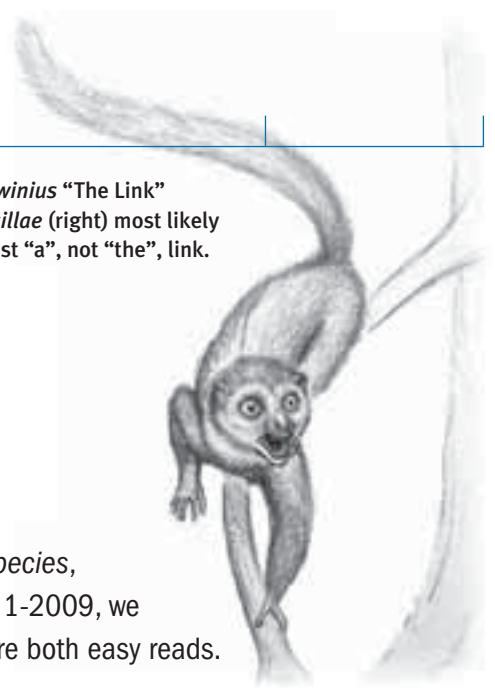
The first edition of *The Origin of Species* was sold out within weeks. Nowadays, scientific authors must make bigger efforts to gain comparable attention for their work. Sometimes, however, they overshoot the mark, as the overblown presentation of *Darwinius masillae* illustrates.

"The" link is just "a" link

On May 19th this year palaeontologists under the Norwegian Jørn Hurum and German Jens Franzen revealed their "extraordinary, most complete fossil primate ever discovered" to the world at a huge press conference. They simultaneously presented a website that looked as if it was designed for the 4th episode of *Jurassic Park*; a book which had already been distributed to bookstores; and a TV documentary that was broadcast in several European countries. The unveiling of the 47 million year old and nearly intact fossil, that has, according to its discoverers, the status of an important transitional form ("link") between the prosimian and simian primate lineages, came across, "as part of an orchestrated publicity campaign unusual for scientific discoveries" (as the New York newspaper *Daily News* scoffed).

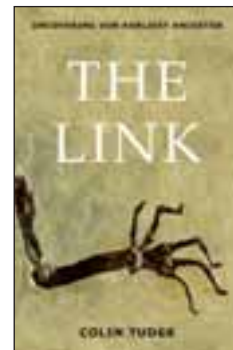
Ok, sound bites like, "This specimen is like finding the Lost Ark" and "It's the scientific equivalent of the Holy Grail, as impor-

Darwinius "The Link" masillae (right) most likely is just "a", not "the", link.



tant as the Mona Lisa" obviously should be regarded as utter nonsense. The accompanying book *The Link: Uncovering Our Earliest Ancestor*, written by British biologist Colin Tudge, however, is really not all that bad.

First of all, *The Link* isn't just about a monkey fossil and its discovery (the little information available about "Ida" seems to be recorded mainly to exaggerate the importance of the find). A good portion of Tudge's story is a walk back into human history, showing what we know about the evolution of primates and ourselves (and what we don't yet know). Tudge provides a broad survey of Eocene paleontology, of the prehistoric "hothouse period" and of fauna and flora at Ida's excavation



site, the Messel Pit about 35 km southeast of Frankfurt am Main. Sometimes, it reads like a shopping list of fossils found at Messel. It's not the newest information nor the most sensational here, but lay readers won't notice. Paleontologists, on the other hand, will prefer Hurum and Franzen's *PloS One* paper.

The book is a quick read, written by a skilled science writer and contains some pretty high quality colour images of the fossil and of its computer reconstruction (unfortunately, there are no artist's impressions of the impressive world in which Ida lived). Tudge has a knack for making difficult material understandable and his book could therefore spark an interest in paleontology amongst many lay people.

Hyperbolic boosterism is annoying

On the other hand, the permanent and hyperbolic boosterism of Ida becomes rapidly annoying. Admittedly, Ida's remains are

extremely important for research into primate (though not human) evolution, but sentences like, “This is the fossil that should help us to see that all human races are equal” are, sadly, pure nonsense. The study of *Ida* has just begun and to trumpet potential sensations beforehand isn’t serious science.

Another weak point is the book’s misleading title and its false subtitle. The prefix “the” before “link” pretends two things: Firstly that *Ida* alone is the embodiment of this mysterious link and secondly that other “links” don’t exist. This again is nonsense in the light of the multiplicity of important fossils we know today, quite apart from the fact that a term such as “missing link” is one of the silliest and most inaccurate in the whole of paleontology. The subtitle *Uncovering Our Earliest Ancestor* makes no sense either, and should read *Uncovering a potential anthropoid ancestor from the Eocene*. You don’t agree? Well, our earliest ancestor drifted 3.5 billion years ago through a lukewarm soup and was a microscopic vesicle filled with primordial molecules.

The Link contains several scientific errors, probably caused by an overworked ed-

itor under time pressure. On page 41, for example, it is maintained that “the commonest form of carbon in the world [...] is known as carbon 14”, while carbon 12 would be rare. That is untrue, of course. The opposite would be correct. Later, we read the absurd myth about old windows being thicker at the bottom due to glass flowing downwards with gravity over time. In the face of such rookie mistakes in the fields of chemistry and physics, one can assume that the book contains plenty more errors that only skilled paleontologists are able to see.

Much ado about (nearly) nothing?

The biggest problem for the originators of the hype around *Darwinius masillae*, however, is recent research by Chris Beard at the Carnegie Museum of Natural History in Pittsburgh. Beard asserted that *Ida* is most likely a member of the lemur family Notharctidae – an important finding upon which most other experts agree.



Michael Ruse, author of the *Companion*, meets with a rare dodo (*Raphus cucullatus*) specimen.

Photo: University of Alabama

This, however, would mean that *Ida* the “wonder fossil” has no claim to human ancestry. Oops! WEANÉE KIMBLEWOOD

► Michael Ruse & Robert J. Richards (Eds.), *The Cambridge Companion to “The Origin of Species”*. Cambridge University Press, 2009. 395 pages, ca. €22.--

► Colin Tudge, *The Link: Uncovering Our Earliest Ancestor*. Little, Brown and Company, 2009. 272 pages, €23.99 (available also in French from JC Lattes & in German by Piper).

Experimental Heart by Jennifer Rohn

Life, Love and Mystery in the Lab

Most science fiction is simply bad. Either the story is miserable or the scientific details aren’t correct or both. But recently I discovered a book by Jennifer Rohn that, for me as a fan of mysteries and love stories, became a real page turner. There’s a well-written, engaging plot and the science, ranging from ELISA to SCID mice, is correct (as far as I can tell, not being an expert in signal transduction).

In the captivating novel, *Experimental Heart*, Andrew O’Hara, postdoc and cell biologist at a university in London gets caught up in lab work, falls in love and becomes embroiled in secret and illegal gene therapy experiments. Just as Andy is about to produce some excellent research he falls head over heels in love with Gina, an idealistic scientist working for the tiny biotech company Geniaxis. When Gina gets into difficulties with another smart but reckless scientist planning illegal medical studies in Africa Andy helps her, with support from the beautiful and clever Maria and Christine. By and by Rohn discloses the scientific fraud in its complete inhuman dimension.

While the mystery plot is fine, the love story is a little bit too formulaic. That a scientist dissects his love like a protocol for an experiment, as Andy did, is laughable. And our hero seems too thoughtful and reserved, being unable or unwilling to disclose his feelings to his beloved Gina. While accompanying Andy’s striving

for romance and scientific reputation, the reader dives deeply into the scientific life that Rohn apparently knows very well from her own experience. Rather accurately, she depicts the different characters you might meet in a life science lab: the ingenious Eastern European group leader, the ambitious PhD student, the mediocre diploma student and the notoriously over-worked postdoc.

The reader is introduced to the researchers’ working day and half of their nights too, reducing their private lives to drinking with colleagues in pubs, competing for top publications and suffering from too little lab space, financial hardship and vending-machine-induced malnutrition. After reading the book one is completely familiar with the scientists’ lot of self-sacrifice and frustration.

Jennifer Rohn started writing a couple of years ago, first as a science journalist and editor, then as an author. Now she’s working at the MRC University College in London, but also writes part-time. She has finished another book and is working on a third one, she reveals on her blog, “Mind the Gap”. They all deal with scientific life, a genre that she coined “laboratory literature” some years ago. Read more on her website www.lablit.com.

KARIN HOLLRICHER



In the opinion of your *Lab Times* reviewer, Jennifer Rohn has written a captivating novel.

Jennifer Rohn: *Experimental Heart*. Cold Spring Harbor Laboratory Press, 2009. 364 pages, €12,99.