

WHO'S READING WHAT

Daniel Pauly

The director of the University of British Columbia Fisheries Centre has been surreptitiously re-reading his own book, *Darwin's Fishes: An encyclopedia of ichthyology, ecology and evolution* (Cambridge). "Darwin had far more to do with fishes than with finches."

During the Fourth World Fisheries Congress in May, a visiting friend gave him *Galileo in Rome* by William Shea and Mariano Artigas (Oxford, 2003). The last of Galileo's six visits to Rome involved his being shown instruments of torture, as an inspiration to cease propagating his heliocentric heresies. The book was sponsored by the Templeton Foundation, which seeks "to pursue new insights at the boundary between theology and science". Pauly says this "misguided book", with its "benevolent representation of prelates who used torturers to get their point across", reminds him of the price scientists still pay for tangling with bishops, or mullahs for that matter.

He also enjoys Jorge Luis Borges's *Collected Fictions* (Viking, 1999, and others), notably "The Library of Babel", which describes a library containing every single book that can be generated through permuting the letters of an alphabet. "I used this essay last year in a science literacy course," Pauly says, "to illustrate neatly why organisms must be similar to their parents, lest they get lost in non-functional DNA-space, like the inhabitants of the library."

Who is reading what: Daniel Pauly¹

1) During the 4th World Fisheries Congress, recently held in Vancouver, BC, a visiting friend gave me *Galileo in Rome* after a quick dash to a local mega-book store. The book is organized in an interesting way: each chapter covers one of Galileo's six visits to Rome, the last, it is well known, with his being shown instruments of torture, as an inspiration to cease propagating his heliocentric heresies. I was rather amazed at the author's benevolent representation of prelates who used torturers to get their point across, but then I got it: the book was sponsored by the Templeton Foundation, which seeks "to pursue new insights at the boundary between theology and science through a rigorous, open-minded and empirically focused methodology". Hence also the subtitle of this misguided book, *'The rise and fall of a troublesome genius'*. This should give scientists an idea of the price we have to tangle with bishops, or mullahs, for that matter.

2) I just reread, as well, Jorge Luis Borges 'Collected Fictions', notably his essays on the *Library of Babel*, which presents a library with ALL books that can be generated through permutation of the 26 letters of the alphabet. Such practically infinite library would contain amazing books, notably that which describes, in amazing details, the past and future of each of our lives. However, we cannot find it because the library is just too big and the lost in the heaps of meaningless variants of books whose entire contents alternate between a few letters. I used this essay last year in the science literacy course I give every year to illustrate how a given genome represents only a tiny subset of all genomes that could be assembled through permutation of the 4 letters of the DNA alphabet. I thought it explained neatly why organisms must be similar to their parents, lest they get lost in non-functional DNA-space, like the inhabitants of the *Library of Babel*.

3) Another book just finished reading is *Science, Race and Religion in the American South*, which presents the travails of an antebellum group of biologists based in Charleston, South Carolina. As present day scientists in many third world countries, they were hampered by lack of access to good libraries and lack of recognition by their better connected colleagues in the northeastern US and Europe. What ended up isolating them most, however, was their loyalty to the South and its 'peculiar institution', i.e., slavery. The group's work essentially ended with the U.S. Civil War, when several of their collections, libraries and archives were scattered or burned. But they had failed before, in a deeper way, when they (except for John Bachman, a Lutheran Reverend), endorsed the pernicious research program propagated from Harvard by Louis Agassiz, which included using taxonomy as a tool to map the structure of God's mind, and his notion that the different human 'races' were actually different species. The latter was not only wrong (I am a living proof of the inter-fertility of two of their 'species'), but its wrongness metastasized into the whole of the group's biology. Thus, the Charleston naturalists, therein aided by Samuel Morton, a great mis-measurer of human skulls, had to invent a species concept that allowed for full fertility between species and even genera. The effect this had have on their perception of nascent evolutionary biology theory is obvious and hence the Charleston group now gets an even smaller footnote to the history of science that do Louis Agassiz and Samuel Morton.

4) I have also lately been seen holding and surreptitiously re-reading the first copy I got of my own book, *Darwin's Fishes: an Encyclopedia of Ichthyology, Ecology and Evolution*, which was finally released in June (by Cambridge University Press) and which demonstrates, among other things, that Darwin had far more to do with fishes than with finches.

¹ Submitted version of a short item published in the *New Scientist*, August 28, 2004, p. 51; the published version omitted book # 3).