

**Darwin's Universe:
Evolution from A to Z**
By Richard Milner

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2009. 488 pages.

Reviewed by Carol Anelli

My past few weekends have been spent deliciously sampling and savoring the more than 400 main entries in Richard Milner's recent tome, *Darwin's Universe: Evolution from A to Z*. The copyright relates the publication of the work, but also hints at the jocularly secreted within the book's many pages: "The present book . . . has evolved from two ancestral forms titled *The Encyclopedia of Evolution*, published in 1990 and 1993." Milner's work, while authoritative and scholarly, is anything but a somber, run-of-the-mill encyclopedia of alphabetically arranged entries. This substantive volume is at once an eclectic romp and an illuminating *vade mecum* [i.e., a constant companion] for anyone interested in evolutionary science and Darwin's pervasive influence on human thought, behavior, and endeavor.

In his foreword, Ian Tattersall captures the book's scope and quirky conceit: ". . . you will look in vain for a solemn exegesis of the Hardy-Weinberg equilibrium or of speciation theory. The rule is that if Milner is fascinated by it, you'll find it in here; if he finds it boring or overworked in other books, you'll search in vain" (p 1). Fortunately for us, Milner's fascinations become our own, owing to his literary gifts and unconventional gamut of interests. I dare say that ivory tower dwellers and lay audiences alike will find much to relish in Milner's bill of fare. The late Stephen Jay Gould justified Milner's unique approach in his "Appreciation," adapted from the book's first edition. Gould opines, "If we make an artificial division into high and vernacular culture, and consider just the former in a narrowly confined and misplaced concept of importance, then we will never understand the impact of science in society" (p 2). An endearing snapshot of Gould and Milner as childhood chums, posing in front of a reconstructed dinosaur skeleton, serves as homage to Gould and accompanies his essay.

Darwin's Universe features a plethora of illustrations, many unexpected or rare, e.g., the cartoon characters Betty Boop and Mickey Mouse (under the entry “Cuteness, evolution of”); the great comedie actor Buster Keaton, photographed in a 1923 silent film (under the entry “Caveman”): a crowd of astonished onlookers surrounding Clever Hans (the 1920s “talking” horse phenomenon); an image of a 1938 Ringling Brothers and Barnum & Bailey poster advertising “Gargantua the Great” (under the entry “Gorillas”); a photo of the Sinclair Oil dinosaur being barged down the Hudson River for the 1964 World’s Fair (under the entry “Brown, Barnum (1873–1963)”); and satirical sketches of society rendered by Richard Owen (1804–1892), who merits his own entry as “zoologist, paleontologist,” to which one might add, “Darwin’s nemesis.” Owen’s sketches are published here for the first time, as are family photos from the Darwin family and many illustrations from Milner's personal collection.

In addition to Owen, many historical figures (such as AR Wallace, TH Huxley, Charles Lyell, Lamarck, Francis Galton, and JD Hooker) and more recent luminaries (such as Theodosius Dobzhansky and George Gaylord Simpson) are represented, but so, too, are lesser known figures (such as Errol Fuller, John Hampden, and Leo Lesquereux). Similarly, famous events gain entry (such as the 1860 Oxford debate between Bishop Samuel Wilberforce and TH Huxley), as do some obscure ones (such as the 1876 Slade trial, subtitled “Darwin vs Wallace on spiritualism”). As Milner puts it, “I have attempted . . . to rescue many ‘unknown’ incidents from oblivion” (p 5). Thus it was news to me that HMS *Beagle* was named for the dog, that portions of this famous vessel were sold for scrap in 1870, and that the vessel’s remains are believed to lie buried beneath tons of mud in a marsh in Essex, England.

Milner’s disquisitions reach far beyond science and are so surprisingly inclusive as to both stimulate the intellect and enchant the soul. In this regard his eclecticism evokes James Burke’s *Connections*, a PBS series that readers may know from its companion book of the same name. The following two examples evidence Milner’s ability to create a tightly woven tapestry from seemingly disparate ideas, people, events, and tidbits.

(1) For the entry entitled “Tennyson’s *In Memoriam* (1850)” (subheading “Evolutionary Requiem”), several of the 136 stanzas in this poem are reproduced. We learn that this work is the source of the famous phrase “Nature, red in tooth and claw,” provided solace to Queen Victoria upon the death of her beloved Prince Albert, was quoted endlessly by Victorians, was inspired by the writings of both Lyell and Robert Chambers (the anonymous author of *Vestiges of Creation*, a controversial best seller on organic evolution published fifteen years before Darwin’s *Origin*), and was so popular that the title of poet laureate was conferred on Tennyson shortly after the poem’s publication.

(2) For the entry entitled “Sunday League” (also known as the Victorian “Sabbatarian” Controversy), Milner opens with an excerpt from Dickens’s *Little Dorritt*, in which London on Sundays is portrayed as a “gloomy, close, and stale” city that offered no diversions for the overworked, common laborer because all zoos, museums, and even libraries were closed on the Christian Sabbath. This prohibition, the work of the Lord’s Day Observance Society, met with opposition in 1853 with the organization of the National Sunday League. The League promoted “elevating recreation” on Sundays and its journal, the *Sunday Review*, found sponsorship among Dickens, Darwin, Huxley, and other progressive thinkers. Under the auspices of the League, Huxley presented the first scientific lecture ever given on a Sunday, for which he was charged with “keeping a disorderly house.” Huxley’s presentation led to *Lay Sermons* (1879), his collected lectures from that period.

Milner has a penchant for certain topics, including primate evolution; notable anthropologists, archeologists, and paleontologists; and science fiction films (such as *Quest for Fire*, *2001: A Space Odyssey*, *King Kong*, *Jurassic Park*, and the Tarzan flicks). I was captivated by the biographical entries on Haldane and Mayr, and was pleased to see entries on “Biological exuberance,” “Darwinian medicine,” “Lysenkoism,” “Peer review,” “Science,” and the various challenges to evolution (including creationism, fundamentalism, and “intelligent design”). Particularly useful are entries that provide important updates (for example, on the peppered moth, Darwin’s finches, evo-devo, mimicry, and the Creation Museum). *Darwin’s Universe* includes a bibliographic list for each entry. Two delightful, unexpected treats appear in the appendix—I will not spoil the surprise by describing them—but the entire work is engrossing and highly recommended for a stimulating, interdisciplinary perspective of Darwin’s reach.

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