

BOOK REVIEWS

BRIAN ALTERS. *Teaching Biological Evolution in Higher Education: Methodological, religious, and nonreligious issues.* Sudbury MA: Jones and Bartlett (2005). 136 pp. Paper \$27.95. ISBN 0-7637-2889-6.

Among the six expert witnesses testifying for the plaintiffs in *Kitzmiller et al. v. Dover Area School District*, the recent case in which the constitutionality of teaching “intelligent design” in the public schools of the United States was successfully challenged, was Brian Alters, the author of *Teaching Biological Evolution in Higher Education*. The director of McGill University’s Evolution Education Research Centre and co-author of the acclaimed *Defending Evolution* (Alters & Alters, 2001), Alters was the ideal authority to expose the pedagogical flaws in the Dover Area School District’s policy of requiring teachers to read a statement to students describing evolution as theory, not fact, and commending “intelligent design” – the latest incarnation of creationism – as a scientifically credible alternative. The teachers, to their credit, refused to comply with the policy, and Alters was instrumental in explaining to the judge presiding over the trial why they were right to do so.

Today’s pre-college students are tomorrow’s university students, and although instructors at the post-secondary level are unlikely to experience such pressures from their administrators as their counterparts at Dover Senior High School experienced from theirs, they are still bound to encounter ignorance of, skepticism about, and hostility toward evolution on the part of their students. *Teaching Biological Evolution in Higher Education* is a splendid *vade mecum* for them. Incorporating insights from *Defending Evolution* and a useful paper coauthored with Craig E. Nelson (Alters & Nelson, 2002), Alters provides a wealth of valuable suggestions for teaching evolution effectively at the post-secondary level, with sensible advice for understanding the misconceptions that students are likely to bring to class. As he rightly says, “Science professors can better teach and emphasize with students if they understand both the religious and non-religious problems students have with evolution” (p. 17).

Perhaps the greatest strength of the book, given the intended audience, is chapter 4, "Approaches for Teaching Evolution," which sketches a variety of pedagogical approaches that college and university instructors may never have formally encountered. Doctoral programs in science concentrate, after all, in science, and consequently the art of pedagogy is typically scanted. But as the epigraph to the chapter aptly says, "scientists should be no more willing to fly blind in their teaching than they are in scientific research." Also valuable is Alters' advice for defusing religious objections to evolution: he recommends understanding the culture of creationism; exposing students to the range of religious responses to evolution; and avoiding wrangling with literalist students about the interpretation of the Bible (or, as he quips, "hermeneutical acrobatics"). In short, he advises, "focus on knowing why students find evolution scientifically inaccurate and using effective methods to teach" (p. 81).

No review is complete without a few quibbles, and the most important cause for quibble, despite a disarming acknowledgment that "[d]esignation almost always draws criticism" (p. 58), is the taxonomy of creationism. Four forms of creationism – "literalist, progressive, theist, and intelligent design" (p. 58) – are originally listed. But then Alters describes "the theist group" as "those who contend that evolution occurred without God's ... intervention ... but ... are against some aspects of evolution as it is taught" (pp. 61–2) and includes in their ranks both "theistic evolutionists" and "intelligent-design theorists." Well, progressive creationists are literalists, too; "intelligent design" creationism is distinguished not so much by its specific claims as by its strategic refusal to offer any; and theistic evolutionists are by and large happy with evolution as it is taught. For a really accurate and useful account of the varieties of creationism, seek elsewhere (e.g., Giberson & Yerxa, 2002; Peters & Hewlett, 2003; Scott, 2005).

Is there a growing creationist presence on college and university campuses? A recent story in *Nature* suggested so, reporting, "despite researchers' apparent lack of interest [in "intelligent design"], or perhaps because of it, the movement is catching on among students on US university campuses" (Brumfiel, 2005), and a recent article in *Academe* discussed the attempts of the movement to use academia to secure legitimacy and recruits (Forrest & Branch, 2005). But data, as opposed to anecdote and impression, are scarce here, and it is equally possible that creationist students on campus are merely emboldened by the successes of the "intelligent design" movement, which – at least prior to the decision in *Kitzmiller v. Dover* – enjoyed political support and media savvy beyond the dreams of their literalist brethren at the Institute for Creation Research. Whether creationists are increasingly present or only increasingly visible, however, they are definitely on campus, and *Teaching Biological Evolution in Higher Education* should be

on the shelf of any instructor who teaches any aspect of evolution at the post-secondary level.

Disclosure: In March 2005, Brian Alters became a member of the board of directors of the National Centre for Science Education, for which I work.

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