

skeptical reader will conclude that Davies, for all his brilliance in cosmology, never gets much further than banging into intractable metaphysical problems. He concedes: "Confused, I certainly am" (p. 204). So much for the subtitle with its promised answer to the *why* question.

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*Evolution and Christian Faith: Reflections of an Evolutionary Biologist*. By Joan Roughgarden. Washington D.C.: Island Press, 2006. 168 pages. Cloth. \$14.95.

Joan Roughgarden, Professor of Biological Science and Geophysics at Stanford University, believes that there are more important things we could be doing than arguing about creation and evolution. I agree. By reducing evolutionary theory to its component parts, clarifying what is certain and what is not, then examining scripture in light of it, this book clears away some of the rubble that keeps us arguing. The content of the book is not groundbreaking, but by clearly and lucidly describing evolutionary theory and giving intriguing interpretations of scripture it provides an accessible resource for discussions in both congregations and classrooms. The book's value as a conversation starter is enough to overcome flaws in Roughgarden's biblical exegesis and in her approach to the relationship between science and religion.

Roughgarden begins with two facts that form the basis of evolutionary biology: "one family tree unites all of life, and species change through time and place" (p. 24). The support for each is compelling, and neither is contradicted by a literal reading of scripture, which is silent on the question of whether God created from a single source and whether offspring must be an exact copy. Evolutionary theory explains these facts through "natural selection" and "random mutation." Again, neither contradicts scripture or the existence of God, in this case because biology is silent. Mutation is random, but neither "evolutionary biology nor neo-Darwinism specifically asserts that evolution overall is random, directionless or unguided" (p. 57). What part God plays depends on whether or not you "have a hands-on view of God" (p. 47).

Roughgarden criticizes aspects of evolutionary theory, reiterating (knowingly or not) both feminist critiques of the past ten years and conservative Christian criticisms of the 1920s. First, existing theory is heavily geared toward individualism and competition, which Roughgarden says excuses human selfishness. Emphasizing cooperation provides a point of compatibility with Christian social theories. The second problem is the theory of sexual selection—"the only part of Darwin's work that is so seriously incorrect" that it cannot be fixed (p. 103)—which assumes a basic conflict of interest between males and females. Roughgarden argues that "reproduction begins as a cooperative venture" and conflict is secondary (p. 105), another point of agreement with Christian social teaching. Sexual selection theory also posits a universal pattern of behavior—dominant males controlling the selection process—that is not universal; nature is filled with females competing for males, same-sex relationships, and gender-morphing species.

Roughgarden also clears obstacles to conversation by showing how critics of evolutionary theory, particularly Intelligent Design, create conflict by misrepresenting evolutionary theory. Critics of religion, such as Richard Dawkins, also misrepresent evolutionary biology, emphasizing competition and universal selfishness "as though it were a fundamental part of evolutionary biology" (p. 127).

This book is most thought-provoking, however, where Roughgarden brings Christianity and evolution together in her reading of scripture. For example, when Laban's herd begins to produce more speckled and spotted goats, it suggests that "God's hand molded the evolution of the livestock in Jacob's favor" (p. 28); Jesus' parable of the pruning of the vines (John 15:1–6) is evidence that biblical writers understood artificial, if not natural, selection; and the assertion that we all belong to one family tree "extends St. Paul's teaching on Christian community to all of living creation" (p. 23).

Roughgarden's interpretation of scripture also highlights a major flaw with this book. Her approach is to choose the literal text carefully, "making sure I accord with the facts" (p. 31). This leads to an interpretation of scripture that is too cut and dried and, further, cannot form the basis of a discussion between science and religion because it perpetuates the tendency to privilege—implicitly or explicitly—"rational" modes of thought and reason-giving. Her approach sidesteps the messy question of what to do when there is disagreement on the facts (such as those she outlines in the book), who decides which "facts" count, and where religion fits into this arbitration. She implicitly gives authority to science and scientists, which will not get very far with people who take faith or scripture seriously.

This tendency is most acute in the section on sexuality. Examining scripture in light of the diversity of sexual expression in nature, she dismisses the few passages that appear to address homosexuality—Paul's letter to the Romans, the story of Sodom, and Leviticus—as not "really" talking about homosexuality, thus concluding that the Bible does not condemn homosexuality. She then turns to passages dealing with eunuchs, which she sees as more on point, and argues that the Bible promotes inclusion of persons of diverse sexual expressions. Although I agree with many of her conclusions and am intrigued by her discussion (although the arguments are not new), one does not need to be a biblical literalist to have issues with her treatment of biblical texts. These are highly contested texts, and to brush them aside as irrelevant is hasty. For example, she states that Leviticus "merely

polices sexual positions” and is thus “irrelevant to the larger issue of including gays and lesbians in Christian ministry” (p. 116). She then raises the issue of Greek concepts of sexuality, which have a dubious relevance to Leviticus law. I am not a biblical scholar, but language, composition, and dating are much too complex to simply dismiss Leviticus.

In Roughgarden’s approach, once science establishes the “facts” of sexual behavior in nature, religion should reinterpret theology and ethics to conform to them. Certainly the natural world may cause us to rethink human behavior and sexuality, but the natural world as interpreted by scientists (or anyone) is not the model for human behavior. This is what caused the trouble with Darwin’s theories in the first place. When “survival of the fittest” became social theory, Christian conservatives such as William Jennings Bryan argued that it conflicted with the Christian tradition and justified selfishness (and rampant capitalism). Roughgarden echoes this specific criticism but apparently misses the broader error of making scientific theory—even well-established ones—the arbiter of human thought and behavior.

I agree with Roughgarden’s conclusions, but how we reach our conclusions matters. Roughgarden believes that “if we can accept the facts and theories of evolution as ‘settled science,’ we can redirect our energies to some serious moral issues we now face” (p. 7). This is a worthy goal, but who decides what is “settled science”? Who chooses the facts and theories? Unless everyone—including religious people—gets some say in how these facts play out in the public sphere, those decisions will remain points of contention.

Privileging science avoids the hard questions. Roughgarden wants to respect people’s spiritual yearnings and says “scientists need more sympathy and willingness to accommodate people of faith, to offer space for seeing a Christian vision of the world within evolutionary biology” (p. 12), but she never says how. Do we respect people’s faith only as long as they agree with current theories of evolutionary biology? Christians can, and should, learn from evolutionary biology, but what does evolutionary biology learn from Christians? And on what basis?

Roughgarden believes that the debate over evolution is not about plants and animals but about God. Her approach is not going to satisfy those who want to talk about God, however. We need to approach these questions in a way that takes both science and religion seriously, and she does not accomplish this in her book. But, by clearing up confusion about what we are talking about, and providing some common ground, it remains a valuable tool for conversation. The challenge is to take up the task and answer the hard questions that Roughgarden leaves unanswered.

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