

Sensible Thinking about Science and Religion

Private Doubt, Public Dilemma. Keith Thomson. Yale University Press, 2015. 199 pp., illus. \$30.00 (ISBN 9780300203677 cloth).

This book is an elaboration of a series of lectures that Keith Thomson, emeritus professor of natural history at Oxford and now executive officer of the American Philosophical Society, delivered at Yale. In it, he seamlessly weaves together a number of important themes: better education is needed in both science and religion, the consequences of new knowledge challenging existing knowledge, and a sensible way for science and religion to cooperate.

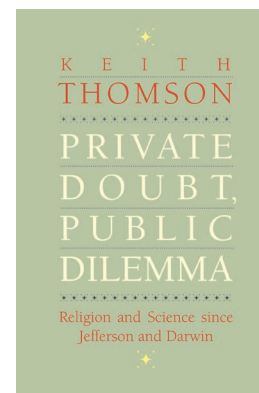
Discussions of science and religion are generally sophomoric in the high school sense of the word because most people stop learning one of the two (or both) when they are about 15 or 16 years old. Thomson writes, “If religion and science are in conflict, then it would behoove both sides to know what they are talking about.” We decry the ignorance of science in the general population and among our political leaders, but I suspect the clergy feel the same about their domain. When Thomson gave these lectures, the most recent Pew survey on religion was 2009 (for an update, see www.pewforum.org/files/2015/05/RLS-05-08-full-report.pdf). At that time in the United States, 30 to 40 percent of the general population believed the Bible to be literally God’s word, and 50 percent believed it was inspired but not literally true—but only 63 percent of Americans (and less than 50 percent of Roman Catholics) knew that Genesis is the first book of the Bible. Science does not have the sole claim on ignorance.

The bulk of *Private Doubt, Public Dilemma* deals with the set of difficulties (and opportunities) that arise when new knowledge is added to old knowledge and how we as a society

deal with change. Thomson looks at how his intellectual heroes, Jefferson and Darwin—arguably two of the greatest minds of the eighteenth and nineteenth centuries—dealt with new knowledge that did not fit comfortably with the old. Jefferson tried to correlate ideas about geology with a literal reading of Genesis. In the end, as much as Jefferson loved science, it was not yet solid enough for him to choose it over religion. Darwin and religion had a constantly changing and evolving history, both in his writings (e.g., different versions of *On the Origin of Species* and *The Descent of Man*) and in his personal life. Darwin was raised with a mixture of Unitarianism and the Church of England; the former insists that the discovery of truth about God should come through personal study and reflection rather than dogma—the approach that Jefferson also followed. Darwin constantly read, thought, and questioned, and Thomson writes, “Darwin’s loss of faith is famous and has been endlessly argued over, although the very word *loss* is an awkward one as it begs the question of what Darwin’s faith had ever been.” Questions of theodicy were never far from Darwin given the suffering he experienced. Thomson chronicles how Darwin’s views of Genesis changed across editions of *On the Origin of Species* and crystallized in *The Descent of Man*, including the belief that God and religion might have an evolutionary origin. Jefferson and Darwin are examples of genius being able to hold contradictory ideas.

These are followed by chapters on how natural selection was debated by others, with much about Asa Gray and William Barton Rogers (one side) and Louis Agassiz (the other) showing that the “experts” can easily be wrong. A book such as this one must cover the Wilberforce–Huxley and Hooker

debate (with Hooker pointing out that Wilberforce was attacking Larmarck’s theory, not Darwin’s—another example of scientific ignorance from a different age). Thomson discusses Gladstone’s attack on Darwin, tackles Huxley’s response to it, and then writes, “Their debate could easily have been conducted fifty years earlier or in 2014.” There is indeed nothing new under the sun.



Thomson suggests that we read all these debates as the intermediate stage when the ideas of individuals are transferred to the community of scientists and therefore to new institutional authority, consistent with Polanyi’s (1969) Republic of Science. Individual opinion always changes before that of authority, which must change slowly by its very nature. For example, Cambridge physicists were publishing papers about the ether long after Einstein’s special theory of relativity (Warwick 2003).

The fundamental problem here is the literal reading of the creation story in Genesis. Thomson shows that the history of challenging the literal reading is long and rich—including St. Augustine and observations since the fifteenth century suggesting that creation in six 24-hour days should be considered a metaphor rather than

a precise description (and a timeless book would have to be the former, not the latter). Here, Thomson—who finds the King James Version of the Bible beautiful literature—missed a key point. Given the Pew study mentioned above, I would wager that the vast majority of individuals reading the Bible in English do not know that this is a translation of a Greek translation of Hebrew that is written without vowels or punctuation. It has been understood for more than 1000 years that one cannot read the Torah (the first five books of the Bible) without commentary (Rosner 1995). Saying that the English translation is the literal word of God only displays the speaker's ignorance.

So what to do about science and religion? Clearly, they are both works in progress, and both require belief—but of different kinds. Religion requires belief in a certain set of “facts,” and to a large extent, it is fixed, although many religions allow for continued revelation. Science requires that we believe in a process for learning about the world—one in which conclusions are always transitory but the methods are not and in which surprise is one of the great joys. These may be two separate ways of seeing the world, as was suggested by Green (1992) and Gould (1999), or they may be in eternal conflict because of the challenge to authority, mainly by science but more often now by evangelical religion (as we see in attacks on the teaching of evolution or global climate change). These represent a form of religion that is intellectually retrogressive rather than progressive.

Thomson notes that there is a whole range of issues in which science and religion overlap (e.g., contraception, biotechnology, stem cells, cloning, genetic engineering, the rationing of health care, stewardship of the environment, nuclear power and war, global climate change) and that “these issues do not concern theological abstractions or the supernatural but concern the conduct of daily life where science has an immediate as well as a principled impact.”

Although every religion has extremist strains, almost every religion has a major theme of making *this* world a better place. Here is a way for science and religion to cooperate on important social and environmental issues. This is clearly possible. In the United States, for example, we have National Education and Sharing Day, created by Congress in honor of a Hasidic Rabbi—the Lubavitcher Rebbe, Rabbi Menachem Mendel Schneerson (Teluskin 2014)—to honor his efforts for education for all people. Every president since Jimmy Carter has issued a proclamation on the Rebbe's Jewish birthday. Space does not allow me to quote them (they are worth finding on the Web), but they emphasize the Rebbe's belief that education is the cornerstone of humanity, that we cannot rest until every child has adequate education, that we must tear down barriers that stand in the way of girls who want to learn, and that we must work toward building a world in which the only thing limiting a youngster is his or her own dreams. In his recent encyclical “Care for Our

Common Home” (http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html), Pope Francis addressed climate change, loss of biodiversity, and the issue of water—as well as social and economic inequality.

Science and religion can go forward in a sensible way by putting aside debates about the literal reading of translated texts or untestable ideas and focusing on joint efforts for improving the world. There is much to be done and little time to be lost.

References cited

- Gould SJ. 1999. *Rocks of Ages: Science and Religion in the Fullness of Life*. Ballantine.
- Green A. 1992. *Seek My Face, Speak My Name*. Jewish Lights.
- Polanyi M. 1969. The Republic of Science: Its political and economic theory. Pages 52–72 in Greene M, ed. *Knowing and Being*. University of Chicago Press.
- Rosner F. 1995. *Maimonides' Introduction to His Commentary on the Mishnah*. Jason Aronson.
- Teluskin J. 2014. *Rebbe: The Life and Teachings of Menachem M. Mendel Schneerson, The Most Influential Rabbi in Modern History*. Harper Collins.
- Warwick, A. 2003. *Masters of Theory: Cambridge and the Rise of Mathematical Physics*. University of Chicago Press.

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