

are based on previously published articles and there is much additional overlap with an earlier book on justice and the state. The text itself is also overburdened with parenthetical remarks, which at times would have been better consigned to footnotes since they too often interrupt the flow of the narrative, and chapter references throughout the text are incorrect. Editorial idiosyncrasies including the sporadic omission of author names from footnotes, a complete lack of page numbers in the contents, only a very brief index of names, no subject index whatsoever and other miscellaneous *errata* inhibit the usefulness of such a large and wide-ranging volume.

More substantively, however, Trainor's mode of analysis moves very quickly. Readers are bombarded with a veritable cacophony of names that are parachuted into the text and, while frequently relevant and interesting, often disappear as quickly as they arrive and thus have the effect of distracting from rather than deepening the analysis. Alongside this, Trainor's arguments suffer from a marked tendency to overreach what they are actually able to show and at times would benefit from a more discerning contextual approach. His attempt to resituate Barth, for example, fails to mention Przywara and touches on Balthasar only tangentially. Likewise, his discussion of Bosanquet, which is surely where the uniqueness of Trainor's contribution lies, makes no mention of the significant influence of Hegel, whose absence is doubly curious given his subsequent advocacy of a kind of *Sittlichkeit*. Despite these weaknesses, or indeed perhaps because of them, Trainor's contribution raises a host of valuable questions and his provocations invite further constructive dialogue of precisely the sort he displays throughout this weighty volume.

KYLE GINGERICH HIEBERT

**SCIENCE VS. RELIGION: WHAT SCIENTISTS REALLY THINK** by Elaine Howard Ecklund, *Oxford University Press, Oxford, 2010, pp. xi + 228, £16.99 hbk*

The enormous expansion of information outlets on Internet websites might make large-scale sociological surveys seem redundant. These investigations are labour intensive, time consuming and are often nugatory in terms of the insights yielded. Such a charge cannot be laid against this highly significant, thoughtful and timely study by Ecklund, which is the first serious sociological investigation into attitudes of scientists to religion. Based on a survey of nearly 1,700 scientists, and interviews with 275 of them, all at 21 top universities in the U.S.A., the study is well organised and written and is exemplary in its use of endnotes, with three appendices on methodological issues. Additionally, it contains a highly useful bibliography.

Overall, this study represents sociology at its best, in uncovering hidden connections, unexpected insights and layers of insight which sectarian debates in the English mass media on the topic have well obscured. By a sociologist of religion, a landscape of ideas is laid out much in the manner of Bourdieu's celebrated study, *Homo Academicus*. English universities, being so irredeemably secular, might miss the point of the study, which is to generate a dialogue between those with religious sensitivities directed to understanding and those in science, for whom reason, facts and objectivity are articles of faith in their discipline.

As with other academic disciplines, sociology is subject to periods of intense interest in topics that come and go without much reference to public debates. The sociology of science is a case in point. It gained a period of fashion in the 1980s, largely in response to the memoirs of Watson and Crick in *The Double Helix*, which demolished the notion that scientists were cold clinicians operating without

reference to a highly competitive social milieu. More interestingly, at the time, the writings of Thomas Kuhn and Paul Feyerabend pointed to the contextualisation of scientific method and illustrated the way the 'facts' were compromised by the social ambience of their gestation. As a consequence, and ironically, science was forced to confront the stark implications of relativism, in ways that for some, reduced its activities to being characterised as a form of religion. Being deeply insecure about its own methodological foundations, sociology came to terms with such matters of relativism earlier than most disciplines.

These matters, seemingly forgotten, suggest that the link between science and religion was never clear cut and was far more complex than somewhat vulgar public debates of late indicate. Ecklund concurs with this point, when she observes, that 'after four years of research, at least one thing became clear: Much of what we believe about the faith lives of elite scientists is wrong. The "insurmountable hostility" between science and religion is a caricature, a thought-cliché, perhaps useful as a satire on groupthink, but hardly representative of reality' (p. 5). The central concern of the study forms a plea for scientists to enter into dialogue with those in religion.

Ecklund deals with members of seven natural and social sciences: physicists, chemists, biologists; and economists, political scientists, psychologists and sociologists. Recognising that social scientists are treated by the general public as 'village atheists', she observes little difference in their attitudes to science compared to those in the natural sciences (p. 10), which is perhaps surprising especially in regard to sociology which is split between hard 'scientific' versions and the more traditional 'humanist' orientations. Whatever the case, in regard to each, she is extremely good at drawing out the tensions that exist between the normative structures of science and the plausibility structures of religion. This suggests that it is the ethos of science and not its procedures that gives rise to difficulties in regard to religion. Some of the hostile attitudes to religion in the study derived less from science than from bad experiences with faith in childhood.

Contrary to images in the mass media, in the study, only 5% of the scientists interviewed exhibited hostility to religion in terms of seeking its suppression in the university, on the grounds that its presence contaminated the purity of their scientific sensibilities (pp. 105–6). By contrast, and perhaps the key finding of the study, nearly 50% of the sample identified themselves with a religion tradition, even though the figure is less than for the U.S. population as whole (p. 33). Amongst the many surprising findings in the study were that nearly 60% of the scientists had an interest in spirituality, in whatever 'thin version'. Interestingly, 40% described as 'spiritual entrepreneurs' conceived of science in deep and appreciative versions. In the sample, 20% regarded 'themselves as spiritual but not religious in a traditional sense' (pp. 51–53). This disjunction relates to a term she aptly coins, 'spiritual atheists' (pp. 58–60). These are scientists who find in their research spiritual properties (of awe or mystery) which shape their attitudes to their science, suggesting an important qualification to the notion that it proceeds purely on the basis of reason. From this intriguing finding, a new way of conceiving science as an art emerges, one shaped by a form of spirituality similar to that prevailing in wider society, in being detached from religion, but different in servicing the needs of discovery rather than those of holism and the quest for a god within the self. The basis for the detachment of spirituality from religion amongst these scientists arose from a stance that regards the former as emancipating and the latter as a form of 'institutionalised dogma' (p. 57).

Ecklund makes a persistent and valid point that the efforts of science, to preserve an ethos in an uncontested form based on secular values and legitimised by appeals to reason, facts and evidence, are being undermined in the U.S.A. by a shifting social environment increasingly shaped by traditional religious

considerations. These changes underline the need for a dialogue between science and those in religion not least, because of the revelation in the study of an unexpected change in the generation gap between scientists and their students. The latter are increasingly imbued with religious interests and questions which the former are loath to recognise and service in the classroom, considering it a breach of a secular etiquette to do so (p. 91). This gap also emerges in relation to the scientists themselves, where the younger scientist 'was more likely to believe in God and to attend religious services' (p. 32).

The first part of the study is aptly titled 'Crossing the Picket Lines: the Personal Faith of Scientists' where the voices of faith and science are well laid out, with spirituality in whatever form, unexpectedly emerging in the middle of both. In some ways, the second part, loosely titled, 'society and broader publics', is more important and original. Given that for many, science is an exemplary secular discipline, questions arise over the suppression or engagement with religion in the class room (chapter 5). Again, this draws attention to the American basis of the study where religion poses a threat to the autonomy of science notably in relation to Creationism and much publicised controversies over intelligent design. In response to these threats, Ecklund suggests that scientists utilise a restricted language (the term is drawn from Bernstein) in relation to religion, which is stereotyped in terms of Evangelical or Fundamentalist, positions which are deemed non-negotiable (p. 27). Against this background of hostility, scientists with religious sensibilities and affiliations exercise a closeted faith, one particularly likely to occur amongst a younger generation (pp. 43–45). In the study, it emerges that scientists seldom speak to each other about religion and this etiquette of reticence generates a self-censoring property amongst those with faith, worried that their testimonies will mark them out as unfit for a career in science, given their divided loyalties in regard to ethics of accountability (pp. 95–96 and 100–105). This suppression of witness emerges in chapters 6, aptly titled 'No God on the Quad: Efforts Toward a Purely Secular University'.

In chapter 7, dealing with 'God on the Quad', notably 40% of scientists 'believed that religion could play some positive role on the university campuses' (p. 109). Even though they write much on science, Evangelical Protestants forming 28% of the U.S. population constitute only 2% of the sample of elite scientists. By contrast, Jews form 16% of the sample but only 2% of the U.S. population. Although Catholics are 27% of the U.S. population they constituted 9% of the sample (pp. 32–34). It is to these that Ecklund looks for an increasing dialogue with science (p. 49).

In the study, she draws out a point familiar in sociology, one derived from Weber, that methodological procedures ought to be value neutral, but that subjective preferences might shape topics selected and also responses to these, which suggests that the clash between science and religion is often misconceived. It is surprising the way secularism has emerged almost by default as the only possible stance for science, a value orientation that wilfully disregards its history, where Puritan values shaped the foundation of the Royal Society in the U.K. in the seventeenth century, and where are to be found scientists such as Mendel, Pascal and Pasteur whose Catholicism shaped their research.

Even though, rightly, she allows 'the respondents to define religion in their own terms' (p. 11), giving rise to a spectrum of belief from the nominal to the traditional, and while the spirituality which emerges is opaque, the indeterminacy of both does not detract from the significance of this study which reflects a point of Weber, that science, in this case sociology, finds a defence of its basis in its confrontations with 'inconvenient facts'. It is ironical that Ecklund has exposed many of these, perhaps to the discomfort of secularists who seek to preserve science as a religion-free zone. In her study, curiously, the 'don't ask, don't tell'

policy which up to recently applied to homosexuals in the American army, now repealed, has been transposed to religion in the secular university (p. 120).

KIERAN FLANAGAN

**THE SEMANTICS OF ANALOGY : REREADING CAJETAN'S *De Nominum Analogia* by Joshua P. Hochschild, *University of Notre Dame Press, Notre Dame, Indiana, 2010, pp. xx + 249, \$35***

St. Thomas famously maintained that words could only be used of God and creatures analogically (*ST* 1a Q13 art. 5). However, despite insisting on the theological utility of analogical language, St. Thomas never offered a general account of analogy, preferring instead to limit his remarks to the application of analogy to talk about God. Traditionally the Dominican Thomistic commentator Cajetan is credited with filling this lacuna in his short work *De nominum analogia*. There, it was suggested, Cajetan systematized St. Thomas' remarks on analogy, distinguished three kinds of analogy (inequality, attribution and proportionality) and privileged one of those kinds – analogy of proportionality, on account of metaphysical considerations. As a result, assessments of *De nominum analogia* have tended to focus on Cajetan's fidelity to St Thomas in the pursuit of that agenda and then criticised or praised Cajetan accordingly. In this book, Joshua Hochschild challenges the traditional account of *De nominum analogia* and argues that Cajetan is trying to explain to his contemporaries how analogical language can be used in valid reasoning.

The book is divided into two sections. The first section (chapters 1–4) defends the claim that the traditional view of *De nominum analogia* is wrong and Hochschild's interpretation is correct. Chapter one argues that there are too many anomalies for the traditional view of *De nominum analogia* to be upheld. Chapter two argues that in *De nominum analogia* Cajetan is engaged in a semantical or logical project which is concerned with demonstrating how analogical language can be used in valid reasoning. Chapter three argues that the account of analogy which Hochschild attributes to Cajetan pays enough attention to linguistic context to overcome Ashworth's and Gilson's objections to standard Aristotelian semantic analysis of analogy. Chapter four considers several semantic principles that Aquinas cites in the course of his remarks on analogy and argues that none of those principles is sufficient for solving the problem which Hochschild maintains that Cajetan wants to solve.

The second section of the book (chapters 5–9) expounds Hochschild's interpretation of *De nominum analogia*. Chapter five articulates Cajetan's general semantic principles. Chapter six discusses why Cajetan denied that the analogies of inequality or attribution were genuine kinds of analogy. Chapter seven discusses the role that 'proportional unity' or 'similarity' played in Cajetan's defence of analogy of proportionality. Chapter eight discusses the extent to which a common concept can be abstracted from things named analogically. Chapter nine uses the concept of 'proportional similarity' to argue that analogical language can be used in valid reasoning.

Hochschild does three things very well in this book. Firstly, he sets the dispute about Cajetan's intention in *De nominum analogia* in its scholarly context. Secondly, Hochschild succeeds in showing that in *De nominum analogia* Cajetan intended to do more than just explain or systematize St. Thomas's views on analogy. Thirdly, Hochschild provides a useful summary of the main ideas in *De nominum analogia*.

Hochschild is less convincing when it comes to the details of the interpretation of *De nominum analogia* that he advocates. For example, Hochschild suggests