

## Book review

### The Genetic Gods: Evolution and Belief in Human Affairs

JC Avise

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Science just ran head first into religion in the form of putative human clones. The mere existence of such clones marks a societal turning point; the full ramifications will take years to map. Immediately apparent was the irritation of the religious and public policy communities. Both had large stakes in fashioning generally-acceptable outcomes; it is unlikely that this is the result they envisioned. Theologians feel especially betrayed, with good reason: dialogues between science and religion were leading to some sense that each side was beginning to understand the other. Although this is unlikely to be a fatal setback to such dialogues, it might reasonably make the religion end of the science-religion axis somewhat suspicious of the motives of the science end. I can imagine a work like John C Avise's *Genetic Gods* being dismissed, at least temporarily, as just-another-scientist's view of religion.

Avise, a geneticist, proposes that genes are loaded with God-like features (they wield special powers, have an influence over nature, and are essentially immortal). He attempts to explain the workings of these Gods, and the associated phenomena that have been described before solely in religious or supernatural terms. His apparent hope is that the elegance of such explanations will inspire his intended audience, 'the reflective, open-minded reader', to consider that genes (or more strictly, gene products) have a marked influence on every aspect of human existence, from complex behaviours to religious belief systems.

The foundation of the argument appears in several well-researched chapters that bring the reader up to speed on classical and modern experimental genetics, including descriptions of normal and abnormal metabolism (the nature of the Gods). Avise explores the complicated interactions of genes with each other and with the environment (the activities of the Gods). This leads to provocative considerations of sexual behaviour, reproductive strategies, and ageing leading to death (the humour of the Gods?). These sections together drive the reader through a landscape of, among other things, how evolution works. Although compelling as a whole, the first chapters especially appear as an odd cross between a

textbook and a series of introductory sections for primary research articles, to some degree disrupting the flow of the argument. This particular style also makes for rather dense, though not unpleasant, reading.

The final major chapters thus form a pleasing doublet: first, how do genes rule living creatures; then, how do these creatures (specifically human beings) rule their genes? This section is the payoff for those with a general interest in the societal implications of genetic research. The latter chapter covers major issues including germline genetic modifications, intellectual property rights, and discrimination in the provision of health insurance (a particularly hot discussion in America, where nearly 43 million people have yet to be afforded any coverage). Although he does not purport to use all possible means of intellectual dissection for understanding this dyad, occasional throwaway remarks tip the reader to a few of Avise's biases. For example, in discussing the Cyril Burt case, Avise notes 'societal and ideological persuasion can prejudice the practice and interpretation of "objective" science' but then buries in a footnote the comment 'such thoughts have been agonizing to me in composing this book. The subculture in which I have been trained accepts science as a means to understanding life'. This disclosure is not unimportant, especially when exploring sensitive ethical and policy issues.

But can an understanding of the molecular functions of genes, even with an evolutionary framework, provide insight into the big issues that religion seems particularly well-suited to address, including origins, meaning, and perfection? What is the crux of the friction between religion and science as entities? Avise reflects on these questions in his final chapter, notably respectful of the place of religion in human affairs. In most general terms, he concludes that science may have the more rational insights, but that because religion and science ultimately have different goals the two communities must collaborate to make the world the better place that each group envisions. Absent from this analysis (and from virtually all analyses asking for some kind of co-operation between those with different ways of knowing) is an explicit call to bring science and religion into an overall framework for governance. Religion and science can talk with each other *ad infinitum*, but perhaps more important now is that they talk with citizens and politicians.

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