



Evolution, Cooperation and the Question of God ¿Is there a Future for “Natural Theology”?¹

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In this lecture Sarah Coakley is concerned, critically, with the way that evolution has been purveyed in the last generation as ‘selfishly’-oriented genetically, and devoid of either positive meaning or discernible structure. The evolutionary phenomenon of ‘cooperation’, she argues, suggests otherwise; and indeed it may, by a series of steps, lead inexorably to the question of a ‘natural’ basis for ethics and thence to the God question. Coakley first reviews the biological evidences for cooperation and explains the mathematical calculus which has been utilized of late to clarify the conditions under which cooperation is favoured in evolutionary populations. She then turns to the disputed question of what such cooperation (‘altruism’ in its intentional, motivated form) might *mean* in both ethical and metaphysical terms, arguing that philosophical contestation is here unavoidable for both empirical and mathematical biology. Her own view is that a narrow utilitarian explanation of evolutionary ethics (focusing solely on the immediate genetic advantage of individual entities in a population) is less convincing overall than a richer ‘multi-level’ account which is able to encompass ‘natural law’ or ‘categorical imperative’ renditions of ethical demand. By the same token, the pervasive phenomena of cooperation and altruism also press metaphysical questions about the overall *structure* of evolution: is the evolutionary narrative one of pure randomness and essential meaninglessness, or do the patterns of ‘cooperation’/‘defection’ (alongside mutation and selection) suggest a picture in which ‘teleology’ still holds some meaning? In the last section of the lecture Coakley turns more ambitiously to a re-interpretation of the genre of ‘natural theology’ within the contours of this contemporary debate. Arguing that what is distinctive about ‘natural theology’ is the pressure meaningfully to perceive the natural world *as-a-whole*, she turns back to a late antique form of contemplative endeavour (termed *physikē*) for inspiration. On this view, ‘natural theology’ represents the perennial tug to gain a complete vision of the natural world’s meaning, a task which involves a process of creative integration for the knowing subject itself, finally aligning intellectual, moral and affective dimensions. The contemporary debates about evolutionary cooperation therefore represent a fork in the road between *different* unitary readings of evolution’s meaning: does evolution bespeak nothing but competitive genetic ‘selfishness’, or is there some alternative that might itself enhance the expansion of human altruism to face pressing contemporary political, ethical and ecological crises?

¹ This is the abstract of the *X Fliedner Lecture of Science and Faith* (Madrid, October 24th, 2019). The full text will be published in the web site of the Centre for Science and Faith: www.cienciayfe.es.

Introduction

I: ¿ Why Evolutionary Cooperation Matters

II: ¿ Why Evolutionary Cooperation Raises (Meta-) Ethical and Teleological Questions

III: The Question of God: Recasting 'Natural Theology' According to 'Spiritual Sense'

Conclusions

Definitions of 'cooperation' and 'altruism'

'Cooperation' is the phenomenon (encountered right across the evolutionary spectrum, from micro-organisms to humans), in which one entity within an evolutionary population suffers loss of 'fitness', and another correlatively gains 'fitness'.

'Altruism' is a subset of cooperation, in which there is an *intentional* surrendering of fitness by one individual or set of individuals in an evolutionary population for the sake of, or out of love or regard for, another or others.

Select Bibliography (in order of mention or allusion):

- R. G. Collingwood, *An Essay on Metaphysics* (Oxford, O.U.P., 1940)
- William Paley, *Natural Theology* (1802), eds. M. D. Eddy and D. Knight (Oxford, O.U.P., 2006)
- Nicholas Wolstertorff, 'The Migration of the Theistic Arguments: From Natural Theology to Evidentialist Apologetics', in eds. Robert Audi and William J. Wainwright, *Rationality, Religious Belief and Moral Commitment* (Ithaca, NY, 1986), 38-81
- R.G. Swinburne, *The Existence of God* (Oxford, O.U.P., 1979, with two subsequent revised editions)
- Benjamin Kerr, Peter Godfrey-Smith and Marcus W. Feldman, 'What is Altruism?', *Trends in Ecology and Evolution* 19 (2004), 135-140
- Elliott Sober and David Sloan Wilson, *Unto Others: The Evolution and Psychology of Unselfish Behavior* (Cambridge, MA, Harvard U.P., 1998)
- Martin A. Nowak, 'Five Rules for the Evolution of Cooperation', *Science* 314 (8 December 2006), 1560-63
- _____, 'Evolving Cooperation', *Journal of Theoretical Biology* 299 (2012), 1-8
- Martin A. Nowak and Sarah Coakley (eds.), *Evolution, Games and God: The Principle of Cooperation* (Cambridge, MA, Harvard U.P., 2013)
- J. B. S. Haldane, *New Paths in Genetics* (London, Allen and Unwin, 1941)
- W. D. Hamilton, 'The Genetical Evolution of Social Behavior, I and II', *Journal of Theoretical Biology* 7 (1964), 1-52
- Martin A. Nowak, Corina E. Tarnita and E. O. Wilson, 'The Evolution of Eusociality', *Nature* 466 (13 July 2010), 1057-1062
- Robert L. Trivers, 'The Evolution of Reciprocal Altruism', *The Quarterly Review of Biology*, 46 (1971), 35-57
- Martin A. Nowak and Karl Sigmund, 'Evolution of Indirect Reciprocity', *Nature* 427 (2005), 1291-1298
- Charles Darwin, *The Descent of Man* (orig. 1871; London, Penguin Classics, 2004)
- John Maynard Smith and Eörs Szathmáry, *The Major Transitions in Evolution* (Oxford/NewYork/Heidelberg, 1995)
- Michael Ruse and E.O. Wilson, 'Moral Philosophy as Applied Science', *Philosophy* 61 (1986), 173-92
- Richard Dawkins, *The Selfish Gene* (2nd. ed., Oxford, O.U.P., 1989)
- Response to Nowak, Wilson and Tarnita, 'Evolution of Eusociality'. *Nature* 471 (24 March, 2011)
- Steven Pinker et al., 'The False Allure of Group Selection', http://edge.org/conversation/steven_pinker-the-false-allure-of-group-selection
- Peter Lipton, *Inference to the Best Explanation* (2nd. ed., London, Routledge, 2004)
- Sarah Coakley, *Sacrifice Regained: Evolution, Cooperation and God*, the 2012 Gifford Lectures at Aberdeen University, at [http://www.abdn.ac.uk/gifford/about/\(forthcoming with Oxford, Oxford, O.U.P., pbk with Grand Rapids, MI, Eerdmans, 2020\)](http://www.abdn.ac.uk/gifford/about/(forthcoming%20with%20Oxford,%20Oxford,%20O.U.P.,%20pbk%20with%20Grand%20Rapids,%20MI,%20Eerdmans,%202020))
- Stephen Jay Gould, *Wonderful Life* (New York, W.W. Norton, 1989)
- Martin A. Nowak, *Evolutionary Dynamics* (Cambridge, MA, Harvard U.P., 2006)
- Immanuel Kant, *Critique of Pure Reason*, tr. Norman Kemp Smith (London, MacMillan, 1929)
- _____, *The Critique of Judgement*, tr. James Creed Meredith (Oxford, Clarendon, 1911)
- Origen: Selected Writings* (Classics of Western Spirituality) (New York, Paulist Press, 1979)
- Paul Gavrilyuk and Sarah Coakley (co-eds.), *The Spiritual Senses: Perceiving God in Western Christianity* (Cambridge, C.U.P., 2011)