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## REVIEWS

*The Science of Language: Interviews with James McGilvray.* By NOAM CHOMSKY.  
Cambridge: Cambridge University Press. 2012. vi+321 pp. £50. ISBN 978-1-107-60240-3.

Ernst Mayr, in his introduction to the 1964 facsimile edition of *On the Origin of Species*, points out Darwin's achievements. Mayr was one of the key figures who forged the twentieth-century synthesis of genetics and classical Darwinian theory. Darwin's theory of evolution does not entail any directing entity. In Darwin's words, 'any variation, however slight and from whatever cause proceeding, if it be in any way profitable to an individual [. . .] will tend to the preservation of that individual, and will generally be inherited by its offspring' (*On the Origin of Species by Means of Natural Selection; or, The Preservation of Favoured Races in the Struggle for Life* (London: John Murray, 1859), p. 61). Evolution thus involves two steps: biological variation from whatever cause, including mutations; and subsequent natural selection, without any directing plan. But Darwin contributed more than that to the advancement of human knowledge. As Mayr notes, 'Darwin was one of the first practitioners of a method novel then, but now the prevailing method of science [. . .] testing a model developed on the basis of prior observations' (facsimile edn (Cambridge, MA: Harvard University Press, 1964), p. xxii). Darwin also introduced the concept of 'population biology', looking at the pool of individuals which vary from each other and constitute a population, instead of at an abstract, Platonic idealization. When you consult your doctor, she or he examines you, rather than consulting a text that presents the ideal woman, man, or child. Variation is the norm in biology and is the feedstock for natural selection.

*The Science of Language (SoL)*, which takes the form of a discourse between Noam Chomsky and James McGilvray (JM), plus summations by JM, disputes the relevance of natural selection, the absence of a directing force in evolution, the presence and role of genetic variation, and the scientific method. In essence, *SoL*'s subtext is that Noam Chomsky has refuted the Darwinian theory of evolution and forged a new model for scientific enquiry. Readers may be surprised to learn that Chomsky views natural selection as meaningless. As Chomsky noted on page 97 of his 1972 book *Language and Mind* (San Diego: Harcourt Brace Joanovuch): 'It is perfectly safe to attribute this development [of innate language structures] to "natural selection", so long as we realize that there is no substance to this assertion, that it amounts to no more than a belief that there is some natural explanation for these phenomena.' *SoL* continues in this vein. On page 105 Richard Dawkins is upbraided for misleading people about the nature of evolution. Chomsky writes: 'Tell them the truth about evolution, which is that selection plays some kind of role, but you don't know how much until you know. It could be small, it could be large; it could [in principle] even be nonexistent.' Such comments on the absence of evidence for natural selection pervade *SoL*. Summing up the text's discussions on how language evolved, JM states that 'you [Chomsky] emphasize in the case

of human language—certainly the most distinctive and central mental faculty, one that no other creature has [. . .]—there is no evidence that a long-term selectional story will work. There are reasons to believe that language was introduced at a single stroke with the introduction of Merge, perhaps some fifty or sixty thousand years ago' (p. 103).

Early in *SoL* Chomsky states that 'We know by now that human language does not postdate about sixty thousand years ago' (p. 13). The date shifts between 50,000 and 100,000 years on different pages of the volume (rigorous copy-editing might have been useful), but these dates are all implausible in the light of evidence from the fossil record, archaeology, and genetics, which points to modern human beings being present in Africa about 260,000 years ago.

Chomsky's central claim for decades—for example, in *Language and Mind* (New York: Harcourt, Brace & World, 1968)—has been that humans possess innate neural mechanisms that make human language possible. For many years he posited a 'Universal Grammar' that instantiated hundreds of principles and parameters that were activated when a child came into contact with a language. In *SoL* Chomsky claims that only one innate mental capacity, 'Merge', accounts for humans possessing language, as well as mathematical and other cognitive capabilities. Merge is defined as the capacity for 'taking two things and putting them together or taking one thing and taking a piece of it and sticking it at the edge' (p. 16). Merge, for Chomsky, accounts for what he takes to be the defining feature of human language—being able to construct and comprehend complex sentences that include clauses or conjunctions.

However, when confronted with Daniel Everett's study of the language of the Piraha people, who live deep in the Amazonian rain forest, Chomsky dismisses the fact that their language lacks such complex sentences. If Merge is the defining feature that sets human language apart from the communication systems of all other creatures, then the Piraha do not possess language. On page 30 Chomsky presents his solution to this problem: although Merge must be innate (preloaded, to use a computer software analogy) in their brains, the Piraha somehow do not make use of Merge. Chomsky has responded in a similar manner when supposed language universals present in English are absent in exotic languages, one example being Turkish. The current volume, then, presents an unfalsifiable story, rather than a theory. If the Piraha's lack of complex sentences can be easily sidestepped, then clearly, for Chomsky, it is impossible to refute the premiss that Merge is the key to language. If it is impossible to falsify a 'theory', it is not a scientific theory: the Chomskian enterprise falls outside the domain of science. Fittingly, *SoL* also presents Chomsky's views on the scientific method (pp. 18–20). Referring to two of the world's leading scientific journals, Chomsky states: 'If you look at the articles in the technical journals, such as, say *Science* or *Nature*, most of them are pretty descriptive; they pick around the edges of a topic' (p. 19). Of course, 'descriptive' data are the means by which scientific theories are formulated, refuted, or refined.

In place of the methods of modern science, *SoL* praises the 'rationalist' views of Platonists and seventeenth-century philosophers (pp. 5–7 and elsewhere), which

may explain why Chomsky, disputing Darwin, firmly holds to the view that there must be directing principles behind evolution. D'Arcy Thompson, whose data consisted of drawings that were supposed to be 'bio-plans' governing development and evolution, is invoked to support this premiss (p. 266). Chomsky's text cites Evo-Devo studies that point out similarities in the course of ontogenetic development and speciation in support of his belief that bio-plans must direct the course of evolution. But these studies do not claim that evolution is progressing towards some specified goal. Darwin, in 1859, also noted similar early nineteenth-century studies, on the basis of which Ernst Haeckel formed his 'law'—ontogeny recapitulates phylogeny (*Generelle Morphologie der Organismen* (Berlin: Reimer, 1866)). Darwin instead carefully noted that the similar ontogenetic development of related species perhaps showed affinities between closely related species or varieties.

Moreover, Darwin, in *On the Origin of Species*, took great care not to offend people (including his wife) who held strong religious convictions. He realized that natural selection replaces God's role in the creation of species and calls into question man's place in nature. That controversy is still with us and is implicit in the pages of *SoL*. Though God is never mentioned in the volume, some form of magic must have spread Merge throughout humankind if, as Chomsky asserted in 1972, natural selection has 'no substance'.

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*On Becoming God: Late Medieval Mysticism and the Modern Western Self*. By BEN MORGAN. New York: Fordham University Press. 2013. xiv+301 pp. \$55. ISBN 978-0-8232-3992-4.

Ben Morgan's *On Becoming God* is essentially a book about the vocabulary of selfhood: specifically, the ways in which we limit our understanding by defining selfhood in terms of isolation and individuality, as opposed to considering it as a fundamentally 'shared predicament' (p. 147). In forwarding a theory of 'human connectedness' (p. 36), Morgan offers an ambitious and wide-ranging reassessment of the ways in which identity is expressed, from the perceived misconceptions of modern identity construction to the mysticism of Meister Eckhart and his contemporaries, concluding with a comparison of the medieval confessor–mystic relationship with that of twentieth-century analysts and their patients.

The main theme underpinning Morgan's thought is the communal nature of human identity construction, and he specifically rejects what he terms the 'mystification of isolation' inherent in the work of thinkers such as Lacan, Lyotard, Derrida, and Žižek (p. 47). A secondary concern is the reassessment of how theorists, such as Jacques Lacan, Luce Irigaray, and Amy Hollywood, 'imagine alternatives to current forms of identity [. . .] in the terms of the very system they want to escape' (p. 5). Given that so much of the book deals with theoretical reinterpretations of selfhood and the inability of language to express certain aspects of reality, more might have been made of medieval apophaticism, especially in relation to the fact that practices of non-selfhood are in decline in the modern period (p. 106). Morgan does