# Book Review/Compte rendu

**Carmen James Schifellite**, *Biology after the Sociobiology Debate*. New York: Peter Lang, 2011, 252 pp. $82.95 hardcover (978-1-4331-0018-5).

The sociobiology debate began in 1975 with the publication of E.O. Wilson's controversial study *Sociobiology: The New Synthesis*, proposing that biological influences underlay many human behaviours. The topics that Wilson discussed included dominance (e.g., pecking order), aggression, caste formation, sex selection, parental care, and homosexuality and though most of the book discussed these in relation to animal behaviour, he extended his examples to humans. Wilson claimed that animal behaviour had concordance with human behaviour, and second, that this biological concordance underlay existing inequalities between people of different sex, race, class, and intelligence. As may be expected, Wilson's thesis rested upon a strong genetic determinism, a methodological conviction that variation in sociocultural forms could be explained by reducing them to an underlying or innate genetic ordering.

Wilson's book reversed a trend in the academic discourse about the balance between nature/nurture. The prior thirty years had rejected the whole subject matter of eugenics and instinct because of the latter's strong association with fascism in Nazi Germany. The postwar trend had been to support the view that nurture was predominant in creating existing variation or inequalities in society. Wilson's "new synthesis" prompted a renewed interest in eugenics, and strengthened popular writing in the field of ethology and evolutionary psychology, which also drew connections between nonhuman and human animal behaviour. At the same time, Wilson faced immediate and intense rejection from anthropologists and sociologists, including a memorable critique from one of the senior anthropologists of the time, Marshall Sahlins.

Schifellite's study chronicles the sudden rise in influence of sociobiology from the mid-seventies to the mid-eighties and its relatively slow demise. Its slow demise continues despite the fact that a combination of the Human Genome Project, together with the rise of epigenetics and epigenomics, and a systems approach in biology have all shown the gene to have complex interrelations with the cell and with the cell's larger environment. Wilson and Richard Dawkins' ideas of a genetic template controlling the organism was at least feasible at the time of publication,

since the central dogma of molecular biology proposed that each gene in the coding part of the genome (2–5% of the genome) coded for individual proteins in the organism. Since that time, the results of the Human Genome Project showed that the human genome had between 25,000 and 35,000 genes, about the same as some small insects. As well, standard positions of Darwinian natural selection in relation to the supposed determinism of gene, mutation, and evolutionary adaptation, are being brought into question by alternate notions of genetic drift, horizontal gene transfer. Schifellite quotes one critic as saying that "sociobiology has become a term of some opprobrium in biology" (p. xiii) yet the deterministic and reductionist approach of E.O. Wilson has survived, with its fundamentals still being discussed in biology textbooks.

Schifellite's *Biology after the Sociobiology Debate* treats these issues through three streams of enquiry. The first concerns the academic debate about sociobiology, the second relates sociobiology to public discourse outside the academic debate, and the third is a selective examination of biology textbooks over a period of time from sociobiology's rise to subsequent decline. The textbook examination selected are those approved for use by the Ministry of Education for use in Ontario schools. The methodology is qualitative research from a standpoint of what the texts said about human behaviour in general; how they presented genetics in the context of evolutionary theory; and what the nature of scientific knowledge is. The textbook study therefore rises above a straightforward review of content in these textbooks about human and nonhuman sociobiology (p. 220). The second part of the book is an evaluation of textbook presentation of a) animal behaviour and sociobiology b) the subject matter of genetics c) evolutionary theory and d) the nature of "science" and scientific knowledge. The latter calls into question Wilson's support of neopositivism as the appropriate form of scientific enquiry. It traces textbook reaction to Wilson's claims to scientific objectivity against a more constructivist approach in biology — one which acknowledges the complexities of causes and effects that arise within the notion of "genetic predisposition."

Many critics allege that sociobiology was tied to right-wing perspectives, though Wilson denied that political label. Nevertheless, there was an evident bias in Wilson's presentation towards hereditarianism and in support of right wing responses to "aberrant" homosexuality, to biological renditions of "intelligence quotients," and to the proposition of "natural instinct" in human behaviour. On these political issues, Schifellite justifiably accuses Wilson of doublespeak. Schifellite, as author, allies with Dorothy Smith standpoint theory approach; fair enough, but there is too much subsequent self-accreditation; hand-waving to Marxian,

Gramscian, Chomskian approaches, with T.S. Kuhn and Donna Haraway thrown in for support. The amount of space spent on self-accreditation obscures the wider point. "Environmental" critique of sociobiology began as a socio-political critique from a left wing perspective. It was a time in which "environment" referred to sociocultural order and the discovery of the way in which the genes were ordered in the genome became a "cultural icon" (p. xvi). At this time, skeptics of Wilson could fault his views from a sociopolitical perspective, but not yet from an "environmental" perspective, one that entered directly into the subject matter of genetics and biology. At first those who opposed Wilson's reductionist methodology (epistemological constructivists in biology) could only hope to shift Wilson's arguments to a more neutral phrasing. Perspectives from biologists who disputed the idea of genes as a template for biological order and offered alternative viewpoints — were few and far between.

This situation has changed as the more inclusive notion of "environment" has become the norm. If one is to look inside biology, then a number of strong alternative positions have emerged, all of which have led to current turmoil in the "evo-devo" debate. Developmental biology, long skeptical of the way in which mutation and adaptation were explained through Darwinian evolutionism (the "modern synthesis"), has received solid support for its critique that the development of the phenotype cannot be explained as a simple stages of growth from a genetic template. Schifellite does not consider this evo-devo debate and biologists important in the evo-devo debate are only given mentions in passing. Nor does Schifellite consider what green politics might add to the trenchant left-wing criticisms of Steven Rose and others discussed in the book. After all, the book title refers to "*after* the sociobiology debate"

As to the enigma of how Wilson, Dawkins, and sociobiological themes in general remain prominent in the public mind, Schifellite presents a very significant answer, namely that sociobiology appeared just as biology itself was shifting towards enormous expansion in applied biotechnology, where biochemists and the bioengineers amplified the central importance of the genome. All of these claimed with some justification that the genome was indeed important in ameliorating some human pathologies, providing new synthetic drugs, and providing a biochemical regime in agriculture. What has become more obvious today is that biotechnology can degrade the environment, or otherwise upset ecosystems. It would seem biological science as applied engineering, in the manner of physics, is becoming a new stage in the "science wars," for it has now run into intense environmental and public opposition on issues such as genetically modified food.

*Biology after the Sociobiology Debate* is a very thoughtful look at an important issue of our times. Not only is Schifellite is to be commended in providing an enormous help for any teacher considering taking up the shifting contours of the nature/nurture issue, but also in the way that sociobiology links to more general issues of scientific knowledge. The specificity of this book's approach will certainly alert readers to a rich critical literature about genetic determinism, and most particularly to remain skeptical about the media's never-ending blue-eyed interpretations of the relation of genes to bodily constitution. As a key case, it enables both teacher and student to grasp central points of a much more diffuse literature about reification and reductionism in science, and is suggestive of how this combination plays into media interest in textbook sales, and commercial interests in biotechnology. The level of the book's discourse is suitable for first or second year undergraduates either taking biology, or sociology, or culture and technology studies. As an interesting aside, it presents counter-intuitive effects about academic criticism and peer review literature in the context of polarized public discourse. Finally, Schiffilte's warning that sociobiological discourse, along with eugenics will grow, not diminish, as the spread of bioengineering grows, should be taken very seriously.

*York University* Peter Harries-Jones

**Peter Harries-Jones** is an anthropologist who began in the field of social networks and urban African studies. From here he developed an interest in communication studies, systems theory and ecology. He is the author of *A Recursive Vision: Ecological Understanding and Gregory Bateson*, nominated as the best social science book in Canada in 1995. He is currently engaged in a new science called Biosemiotics, which challenges materialist discourse in biology. He has taught in the University of Wales (Swansea, U.K.) University of Khartoum (Sudan) and founded the African Studies Program at York University (Ontario, Canada).
peterhj@yorku.ca