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Griet Vandermassen: *Who's Afraid of Charles Darwin? Debating Feminism And Evolutionary Theory*. Lanham, MD: Rowman & Littlefield, 2005, 256pp. £18.99, $32.95 ISBN 0–7425–4351–X (pbk); £69.00, $91.00, ISBN 0–7425–4350–1 (hbk).

Griet Vandermassen challenges the viewpoint that feminism and evolutionary theory are inherently incompatible. In a critical exploration of feminist analyses of science, evolutionary theory, sociobiology and evolutionary psychology, and an evaluation of biological and sociological contributions to gender studies, the author calls for an integrated symbiosis of mutual benefit between feminism and evolutionary psychology. Feminism advances evolutionary psychology's scientific quest for accurate descriptions and explanations of human behaviour by identifying sources of bias. In return, evolutionary psychology provides a panhuman theory for feminism, a metatheory within which notions of gender superiority are redundant.

The book begins by providing a short and 'inevitably caricatured' (p.14) introduction to a selection of feminist theories. While this lays the necessary foundations of understanding for individuals unfamiliar with academic feminism, the author does not evade the heterogeneity of feminisms arising from the individual lived experiences of contributors to the field. She does, however, argue that in order for diverse, controversial and contradictory explanations (for the oppression of women) to simultaneously coexist, they must be grounded in an underlying theory of human nature. Many feminist explanations of behaviour, particularly environmentalist accounts, do not, in her opinion, suffice as a basis for human nature: '(t)heir explanation needs another explanation in turn, one that can explain the ubiquitousness of the described behaviour' (p. 14). She suggests that evolutionary theory can provide a comprehensive theory of human nature, an 'ultimate framework [in which] proximate feminist theories' (p. 14) can be understood.

Chapter 1 initiates discussion concerning the validity of a feminist suspicion of science. Blatant historical examples of misogyny within 'science' illustrate how women certainly had reason(s) for complaint. However, Vandermassen warns against the over-generalization of past sexism to a science that is *necessarily* sexist today. In contemporary science, she argues, women researchers can provide a female perspective. Women in science can also address other contributory factors to gender

bias, such as gaining observational access to sources of female power. In addition to exemplifying areas of sexism within science (e.g. the portrayal of women as carriers of HIV and men the victims of AIDS), Vandermassen argues against indiscriminate labelling of science as sexist, with androcentrism cited on the one hand (e.g. the lack of attention to menstrual cramps within medicine) and misogyny on the other (e.g. the labelling of PMS as a disorder) and maintains that there are *sometimes* legitimate reasons for a focus on gendered participant samples in scientific research. Biases can be observed in the assertions of both scientists and feminists. The author attempts to debunk the 'imaginary existence' (p. 25) of a pre-science organic utopia by appeal to archaeological and anthropological data. However, only the conclusions from selected researchers are presented, with little discussion of the evidence, weakening what might otherwise be a convincing line of argument. The chapter ends with a short, but refreshingly honest critique of the social embeddedness of science concluding '(b)ut despite its flaws at times, science is still the best method ever devised for understanding reality, the best knowledge filter ever invented' (p. 37).

Chapter 2 attempts the ambitious task of discussing empiricism, standpoint theory and postmodernism, whether science should be deliberately guided by (constructionist) political ideologies and whether a feminist science exists. Here, Vandermassen strongly advocates Radcliffe Richards' (1995) argument that examples of the poor application of science do not warrant rejection of science as a whole. Additionally, science's own standards can be used (by females) to identify patriarchal bias within science; a new (female) knowledge is not necessary. This commentary is too brief to cover anything but broad conclusions and there is a need to distinguish between language as thought and language that influences what we think about and how we think about it. Nevertheless, it is an encouraging introduction to the notion that the acceptance of scientific epistemology does not constitute the rejection of feminism.

In her third chapter, Vandermassen provides a historical overview of the development of evolutionary theory from Darwin, through social Darwinism (the misunderstanding of natural selection as 'survival of the fittest' then misapplied to society) to the theory that differential parental investment can lead to behavioural differences between males and females. As a (Darwinian) feminist she is thoroughly critical of gender bias within evolutionary theory, particularly the sexism detected in Darwin's writing, reflective of the Victorian ideals of his time, the horrific consequences of social Darwinism and the use of 'coy' (as opposed to 'discriminating') when describing female choice in sexual selection. However, in contrast to some feminists, she does not see gender bias, misapplication of theory or inappropriate metaphor as reason to reject evolutionary theories outright and she is particularly scathing of feminists who select or reject evolutionary theory depending on whether it supports the ideologies they wish to reinforce. In opposition to the outright rejection of evolutionary theories, Vandermassen argues that when biases are uncovered theory should be refined to reflect the complexities of the natural world. An often cited example of this is primatology, where the increase in female researchers to the field has addressed areas of androcentrism, and has lead to the development of theories that encompass the role(s) of females in primate society.

Chapter 4 commences with an historical discussion of environmental theories of behaviour. Vandermassen is not shy in alluding to biophobia in feminism and is

critical of feminist critiques that rely on outdated theories, already discredited within science. In defence of biology, the question is raised as to why biological causes of behaviour should be any more deterministic than environmental causes and the author contends that to equate fact to ideology constitutes the naturalistic fallacy. She rightly asserts that the nature–nurture debate represents a false dichotomy and that properly understood biology actually encompasses a complex interaction of environmental and genetic factors, not the genetic determinism it is often misconstrued to represent. Evolutionary theory holds that environmental factors play an integral role in the lifespan development and evolution of an organism. However, in support of this argument, reference is made to the ease with which humans learn to fear evolutionary significant stimuli such as spiders and heights, but not stimuli such as cars and electricity outlets, which are too recent to have influenced evolutionary adaptations. This in itself is an example of outdated theory and does not take into account research where fear of technological stimuli is acquired easily as a result of cognitive information biases brought about through cultural influences (e.g. Davey, 1995). While this does not (theoretically) undermine an evolutionary predisposition to acquire fear given a particular set of circumstances, it does indicate that the interaction between environment and genes is ever more complex. This chapter ends with a critique of environmentalist explanations for gender and sexuality, concluding that environmentalist explanations cannot account for the ease with which children tend to behave in sex-typical ways.

In Chapter 5, Vandermassen reasons that ultimate explanations of behaviour, such as evolutionary theories for why gender-specific behavioural adaptations came about, need not conflict with proximate explanations, such as differential hormones or socialization. She argues that feminist appraisal of evolutionary theory needs to stop regurgitating criticism aimed at past theory and take into account how the field has matured. Vandermassen cleverly introduces evolutionary psychology via discussion of the virtues of adaptive mental modules (compared to the behaviourist convention and the environmentalist over-emphasis of the mind as a blank slate). However, contemporary dual-process theory (e.g. Over, 2003), which engages both modularity and a content-independent component of the mind, is ignored, again over-simplifying the interaction between genes and environment. Nevertheless, Vandermassen is not afraid to criticize evolutionary theory where it is necessary and she acknowledges that evolutionary psychology may be biased towards generalities over variation and that it needs to avoid the invention of 'just-so-stories' to explain the existence of psychological adaptations. However, she maintains that evolutionary psychology can be defended as a science with respect to explanatory and predictive power and the degree to which it complements existing knowledge. In her opinion, evolutionary psychology is not negatively reductionist; it does not suggest that a complete understanding of individual behaviour, thoughts or feelings can be reduced to the evolutionary pressures of our past.

The final chapter lists gender differences observed by feminists and scientists, arguing that social role theory cannot explain a number of findings and evolutionary theory better fits the data. Vandermassen explains that while natural selection predicts many similarities between males and females, as a consequence of facing similar evolutionary pressures, sexual selection predicts some gender differences because of

differential parental investment. Evolutionary theory predicts gender-specific tendencies and within-gender variation. In Vandermassen's overview of these evolved male and female psychologies, it becomes apparent that females are not just pawns in male power games: they are active, strategic and dynamic. Contrary to defending a sexist status quo (this would constitute the naturalistic fallacy), evolutionary theory provides a framework from which to endorse the importance of feminine capabilities and diversity, understand issues of adaptive significance to women and begin to hypothesize on an ultimate explanation of the origins of patriarchy. The chapter concludes with a discussion of a 'Darwinian left', meaning not that Darwinian principles of cooperation dictate political policy (as again this would fall into the trap of the naturalistic fallacy), but where an essentially left political agenda takes into consideration scientific findings that limit the possibility of an utopian existence and heritability, as well as environment, is implicated in notions of equality.

In a brief conclusion, Vandermassen once again exonerates the benefits of feminism for evolutionary theory and vice versa. The book's emphasis on a defence of evolutionary psychology implies that resistance lies on the side of the feminists and openly implores feminists to take up evolutionary argument. However, the argument that the misapplication of science cannot be used by feminists to undermine science as a whole can be turned on its head to argue that the misapplication of feminist theory cannot be used by scientists to reject feminism. Does the fact that this application of the argument is not explicitly voiced suggest that evolutionary psychology awaits with open arms the influences of feminism? Vandermassen's faith in science to (eventually) uncover its gender biases and right its wrongs, with the influence of female researchers, indicates that she thinks it should. She does not deny the tautology that an infinite number of individuals differing in age, gender, ethnicity and social class must engage in scientific endeavour to uncover potential bias, but Vandermassen is right in distinguishing the objectivity of scientific epistemology from the potential bias of the differing levels of science in practice.

Vandermassen's book covers (ambitious) breadth at the expense of depth of argument and wealth of evidence required to convince the critical reader. However, she does make academic feminist arguments accessible to the evolutionary psychologist and (I would speculate) evolutionary theory accessible to the academic feminist, therefore inspiring the discerning reader to explore further and develop their own critical evaluation. Vandermassen's clear differentiation of epistemology, levels of theory and application of theory disambiguates the level at which critique can be aimed and is essential for a union between feminism and evolutionary theory. Where this book fails as a fully fledged argument, it succeeds as an introduction for feminists and evolutionary psychologists and as a supplementary text for students studying the uses and abuses of evolutionary theory.

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