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BOOK REVIEW

CONSTRAINTS ON SOCIOBIOLOGY

Philip Kitcher

Vaulting Ambition:

Sociobiology and the Quest for Human Nature.

The central message of Kitcher's critique of human sociobiology is expressed in the words of American humorist Josh Billings: "It is better not to know so much than to know so many things that ain't so." Unfortunately, unless we have some means of distinguishing between trustworthy and illusory knowledge, these words can be taken as a rationalization for contented ignorance. The value of *Vaulting Ambition* is that, in exchange for the serious doubts it casts upon various sociobiological assertions, it offers readers the knowledge of how to distinguish for themselves between the trustworthy and the illusory in sociobiological literature. Rather than advocating a blanket rejection of the sociobiological viewpoint, Kitcher suggests informed evaluations of individual sociobiological efforts. His work provides both the understanding of the nature of sociobiological inquiry and also the tools of scientific logic needed for such evaluations. Thus, in spite of its humanistic soapboxing and often hostile sarcastic style which might lead casual or defensive readers to think otherwise, *Vaulting Ambition* is not just another politically motivated lambasting of sociobiology. Politics and emotionality aside, it is a valuable contribution to our scientific methodology for investigating ambitious explanations of complex behavior. It offers important remedies for common methodological problems in sociobiological investigations, remedies that should not be turned down simply because of the often unpalatable form in which they are presented.

In the first part of the book, Kitcher explains clearly what sociobiology is and what it is not. He also offers a very convincing refutation of the use of falsifiability as a criterion in the scientific assessment of major theories, particularly those capable of generating alternative explanations for a given phenomenon. In place of reliance upon the falsifiability of an entire theory, Kitcher recommends the assessment of individual explanations arising from the theory. His proposed criterion for this purpose is a familiar one, namely, the successful elimination of rival explanations. Throughout his discussions of various sociobiological investigations,

Kitcher offers rival explanations for the origin of the social behavior in question. The scenarios that he creates for this purpose are purely speculative, but they illustrate his point that these investigations have yet to obtain sufficient information to rule out reasonable alternatives to the proposed explanation. If readers wonder why Kitcher does not offer empirically based alternatives instead of arbitrary, imaginary ones, they must first ask the original investigators why there is no empirical information available on the nature, development and context of the social phenomenon in question to constrain the generation of such speculative alternatives. Kitcher's scenarios are useful because they teach the reader to evaluate the adequacy of evidence offered by a given sociobiological investigation. If there is not sufficient evidence to rule out or at least to limit the generation of alternative scenarios, then no matter how much supporting evidence is provided, the proposed explanation remains to be justified.

Kitcher exposes another serious methodological flaw that commonly occurs in sociobiological studies. He points out that factors introduced into one analysis to provide a fit between data and explanation are frequently left out of other analyses already exhibiting a sufficient fit without their consideration. Using a variety of examples, he examines the logical consequences of such inconsistent attention to different factors and reveals the illusory nature of much of the apparently supporting evidence provided in sociobiological literature.

Having indicated some of the major challenges and methodological pitfalls that lie before valid sociobiological investigations, Kitcher focuses the rest of his critique on what he calls "pop sociobiology", that is, sociobiological literature which fails to meet even the most fundamental standards of scientific methodology. He singles out specific works of Wilson (1975, 1978), Lumsden and Wilson (1981, 1983), and Alexander (1979) for close examination. Again, he does not simply criticize these works but provides an understanding of the nature of his criticisms, teaching the reader how to approach such literature with an approximately questioning attitude. He demonstrates how to "press for details" (p. 298) and how to guard against being misled by the superficial consistency of accounts that are only "softly focused" (p. 165). Accordingly, Wilson's (1975) apparently coherent discussion of the origin of dominant male altruistic defense is revealed to be only a loose farrago of observations as Kitcher focuses sharply on its many lacunae and inconsistencies. Kitcher also cautions the reader to beware of vague language such as terms that slide in meaning between individual and group phenomena, engendering faulty logic and leading to false conclusions. His final warning to readers of popular sociology is to beware of authoritative statements about fields such as psychology, neuropsychology and philosophy, in which the author fails to demonstrate at least some mastery of the major issues and concepts.

No such fault can be found with Kitcher in his treatment of sociobiology. Clearly, he has made a careful study of the major issues, addressing

them more thoroughly and with greater attention to their complexity than have many experts in the field of behavioral evolution. Unfortunately, the course of Kitcher's exposition is not as smooth nor as consistently clear as it might have been. Indeed, he begins on very shaky footing with the all-too-familiar warnings against potential misapplications of unfounded sociobiological explanations. He attempts to distinguish his own political arguments from previous political arguments against sociobiology by emphasizing that he is advocating mere caution against premature application of untested sociobiological assertions rather than political repression of the entire sociobiological line of inquiry. However, caution against premature conclusions is justifiable on scientific grounds alone. It gains no further justification from political appeals regarding potential endangerment of the rights of the socially downtrodden. On the contrary, such appeals jeopardize the impact of Kitcher's many valid scientific arguments by providing an easy target for sociobiological rebuttals while the truly substantive issues go unaddressed. Thus, Kitcher commits the same regrettable error that he identifies in previous politically motivated critiques. Sociobiologists need only respond, as they have before, that they are not responsible for social misuses of their scientific inquiries. They may well add that a greater scrutiny of their efforts than would be afforded to politically more appealing lines of inquiry is simply a more subtle form of political repression. The public then cheers sociobiology for its bold devotion to the discovery of the truth in the face of unreasonable political pressures, and all of Kitcher's important logical and scientific arguments disappear under the settling dust.

Another flaw in his exposition is his reliance upon the all-encompassing concept of "genetic propensities". More careful formulations of developmental phenomena may have helped him to achieve a clearer demonstration of his legitimate use of developmental information to address evolutionary questions. As they are stated, some of his arguments could be mistaken for an erroneous pitting of developmental explanations against evolutionary ones. Alternative developmental formulations may have also provided a more scientific foundation for his largely humanistic dichotomization of human versus nonhuman behavior.

These flaws have no direct bearing on the substantive methodological contributions of this work. Regrettably, however, they are likely to undermine the immediate influence those contributions might otherwise have had in stimulating greater scientific rigor in sociobiological endeavors. The red flags that Kitcher waves in the form of political liberalism, humanism and hostile righteousness are far more salient than his logical arguments concerning scientific methodology. After a few critical sallies at these blaring false issues, defenders of sociobiology may well turn away without taking up the true challenges offered by this work. Nevertheless, behind the billowing, flapping rhetoric and sarcasm, there gleam incisive points of scientific logic. Sooner or later, sociobiological investigations which persist

in rushing directly to precipitous conclusions will come up against these points.

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