

TOP-DOWN GUIDANCE FROM A BOTTOM-UP THEORY

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Review of C. Lumsden and E. Wilson, Genes, Mind, and Culture
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It is not uncommon in psychological circles to hear the claim that "Psychology is a young science." This statement is typically made defensively, often in response to the criticism that psychology, and the social sciences in general, lack internal unity and common scientific goals.

Such a criticism is a telling one. The field of Psychology is broken into a variety of subareas - those of developmental, cognitive, social, personality and physiological, among others - and communication among workers in these subareas is minimal. Experiments are typically performed with the notion that the results of a given research endeavor will provide another brick in the mythical edifice whose construction is somehow supposed to constitute a common goal. The architectural plans for this edifice, however, are rarely glimpsed or even considered to be important. It is therefore a noteworthy event when a work appears in which an overall scheme for the social sciences is proposed as appears to be the case in Genes, Mind, and Culture. This particular book may not, and probably will not, represent the ultimate unifying structure. What is important, though, is that it might, and it at least represents a serious attempt to do so.

Given the potential of Genes, Mind, and Culture for providing some guidance for research in the social sciences it seems that two issues should be given primary consideration. First, presentation of the ideas should be designed so as to be maximally comprehensible to all workers whose intellectual sympathy the authors hope to capture. Second, the data forming the empirical

foundations for the theoretical claims must be evaluated very critically. In the remainder of this review, I will remark on both of these issues.

The Top-Down/Bottom-Up Distinction

The ideas in Genes, Mind, and Culture are difficult to assimilate, particularly if one has only a passing acquaintance with the major issues and tenets of sociobiology. The authors, to their credit, anticipate this problem to some degree, and they have provided some clever pedagogical devices to smooth the waters. I applaud, for example, their efforts to at least partially separate their core ideas from the mathematical framework within which these ideas are formalized. I found, nonetheless, that after reading a third of the book I was in the uncomfortable position of trying to absorb a substantial amount of theory and data without really having formulated a clear idea of what it was all supposed to mean or how it was all supposed to fit together. What seemed to be most sorely lacking was a clear initial delineation of a reasonable alternative to the authors' own position. Indeed, it is not until page 176 that such an alternative is casually suggested, under the heading "Can Culture Have a Life of its Own?" My reaction after reading this section was: "Aha! The critical issue we're dealing with here is a distinction between those systems that operate top-down on the one hand versus those that operate bottom-up on the other."

It is at this point that the reader (at least this one) comes to realize that a perfectly reasonable a priori view of a culture

is that it operates top-down - that culture is "...a virtually independent entity that grows, proliferates, and bends the members of society to its own imperatives." In this same passage, we simultaneously acquire an encapsulated version of the opposite, bottom-up, view - that espoused by Lumsden and Wilson, who "...have perceived culture as the product of a myriad of personal cognitive acts that are channeled by the innate epigenetic rules. The 'invisible hand' in this marketplace of culturegens has been made visible by characterizing the epigenetic rules at the level of the person and translating them upward to the social level through the procedures of statistical mechanics."

With an understanding of this passage, the main point of the book becomes considerably clearer than it had been previously, since we now realize that the arguments being made and the data presented can potentially serve to disconfirm a particular, interesting, alternative view rather than to merely provide support for the authors' position. If the top-down/bottom-up dichotomy had been explicitly spelled out in the beginning of the book, however, the reader would have had an easier time from the outset. Lumsden and Wilson provide earlier hints of such a spelling-out (as with a brief description on page 20 of the excellent Micromotives and Macrobehavior by their colleague, Thomas Schelling) but these hints are not nearly sufficient.

Cautionary Notes on Psychological Data

Lumsden and Wilson review a massive number of psychology experiments whose results they then cite as support for their

position. Unfortunately, however, another shortcoming of the young science of psychology is that the quality of its research methodology along with the robustness and replicability of its data is far from exemplary. Yet Lumsden and Wilson describe experiment after experiment in a completely uncritical way as if its validity were entirely unquestioned and as if the pervasive squabbles and debates within psychology did not exist. In short, the empirical foundations of the Lumsden and Wilson theory are not as solid as they might appear to be from a casual reading of the book. A review such as the present one is obviously not the place for an extensive critique of all the data described in Genes, Mind and Culture. But such a critique should certainly constitute a primary focus in a future, major evaluation of the theory that Lumsden and Wilson have offered us.