

of a number of the major participants in the parity revolution, in particular Lee's own reminiscences. There are also several reports on contemporary research topics, including a paper by Lee on soliton stars and soliton black holes.

Under Lee's energetic leadership, a program (CUSPEA) was set up in 1980 to identify highly qualified physics students in China for graduate work in American universities. Since then about 800 students have engaged in Ph.D. studies here. The origins, vicissitudes, and successes of CUSPEA merit a book-length account, and one hopes that Lee will some day write it. The proceedings volume concludes with papers by CUSPEA students. It also contains a large number of photographs taken at the symposium. It is good to report that the heroes of the parity revolution have not changed all that much in appearance over the intervening years, least of all Lee himself.

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Piaget Under Scrutiny

Piaget's Construction of the Child's Reality.
SUSAN SUGARMAN. Cambridge University Press,
New York, 1987. vii, 258 pp. \$34.50.

On reading *Piaget's Construction of the Child's Reality*, one is reminded of the panoramic scope of Piaget's description of the development of thinking. Sugarman tackles the formidable task of exegesis in heroic fashion, and she succeeds on her own terms. She painstakingly analyzes Piaget's early works, pointing out that Piaget contradicted himself in fundamental ways, that he made arbitrary claims about connections among his constructs, that his a priori assumptions were not necessarily true, that his results and methodology did not necessarily test his theoretical claims, that negative observations (a child's apparent failure to take others' perspectives, for example) do not necessarily imply positive theses (such as that the child has a special mode of thought that prevents this), and so on. Sugarman constrains the enterprise by limiting herself to Piaget's data, by assuming for the sake of argument that the data are essentially correct, by excluding other data gathered in the 50 years or so since the works were published (20 or 30 years since their translation into English), and by excluding from consideration other theoretical analyses of Piaget's work. Instead, she concentrates on

logical coherence within the theory. Piaget's logical inconsistencies are so numerous and profound that they provide much grist for the critical mill. Sugarman performs a sympathetic and thorough analysis and is mostly correct in her assertions about Piaget's shortcomings.

It is noteworthy that Sugarman has reached the same bottom line about Piaget's approach as other analysts before her, although the specific debits and credits differ. Those not convinced by earlier critiques are encouraged to read this one. However, her assessment of the current state of the psychology of cognitive development, and of Piaget's role in it, seems wildly distorted. Beyond the small circle she refers to, there are many theorists who have departed radically from the Piagetian perspective. Sugarman asserts that these thinkers are nevertheless "bound to some of the same problematic assumptions that Piaget made" (p. 241), such as the continuity in development from childhood to adulthood. That particular assumption has more to do with Occam than with Piaget. However, to persist in a theory that fails to capture subtle discontinuities is to be simpleminded rather than simple. It remains for Sugarman to demonstrate some connection between Piaget and specific occurrences of such simplemindedness.

In general, Sugarman appears to misapprehend the influence of Piaget in current work. First, she treats moribund constructs equally with viable ones. Second, she devotes much analysis to empirical phenomena that modern techniques indicate are probably nonexistent. Such an endeavor would be useful (for reasons other than historical) to the extent that it made contact with current thinking. Sugarman dismisses the fading of Piaget's persona from the modern stage as mere illusion. However, if Piaget continues to influence cognitive developmental psychology subliminally, she must make these effects manifest. In the absence of references to recent research and theory, she has failed to position her work convincingly in the context of contemporary research.

Most critical surveys begin with a review of the target theory, followed by a critique, which in turn is followed by the author's spelling out the implications of his or her analysis. Typically, increasing emphasis is given to these three components. Sugarman has chosen to spotlight Piaget and to touch only glancingly on the implications of her approach. She does not develop alternatives but delivers a litany of "it could be," "it is not necessarily the case that," and similar open-ended claims. We are left with a plethora of logical possibilities but little guidance regarding what is psychologically plausible. Inevitably, when the only criteria are logical,

we find ourselves entertaining exotic possible worlds (for example, ones in which intentionality is not linked with responsibility) on the same footing with empirically supported relationships.

This book is excellent philosophy, closely reasoned and perceptively argued. Unfortunately, however, the author has set the conditions so that the work falls out of the mainstream of science. In science, current data are never irrelevant. It is incumbent upon the theorist to evaluate the data, separating the good from the bad, in accordance with metatheoretical principles. This is the "due process" of science. To say that one will not consider relevant data, or will accept flawed data for the sake of argument, is to place the enterprise outside the accepted forum of adjudication. Piaget's theory is deep, dazzling, and undomesticated by data, and so is this analysis of it. But interesting ideas can be false. Pure logic is paralyzing because there is no perfect experiment, no experiment that embraces every logical possibility. Each discipline has its susceptibilities. In the psychology of cognitive development, we need to inoculate ourselves against the infinite regress of inordinate philosophizing.

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