
Title: Computer Experience and Cognitive Development

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This book covers more than its title suggests. As one would expect, Papert's hypotheses on computers and cognitive development form a key problem for Lawler, but his study is also interesting in many other ways. These include a novel theory of the filiation of cognitive structures, the introduction of Levi-Strauss's concept of 'bricolage', and his use of what he calls 'the intimate study' — an account of development based on a genuinely intimate knowledge of the child. Lawler is very modest about this latter break with prevalent usage and his reasonable assumption that diagnosing the internal structure of a single child's understanding may be as fruitful a method as amassing large samples of isolated measures, yet his findings are of an order and richness that would be unattainable by other means.

Lawler accepts Papert's 'interpretation' of Piaget, that formal operations are so delayed only because the child lacks opportunities to discover the techniques available in later life. The relationship between formal and concrete operations is seen as depending on acquiring particularly powerful pieces of substantive knowledge rather than a qualitative transcendence. To test this hypothesis, Lawler has attempted to create the appropriate 'sub-culture', and claims that his results confirm Papert's case. However, none of Lawler's results refute Piaget's account of cognitive development, and in particular fail to demonstrate any premature attainment of formal operations. Indeed, Lawler seems to confuse operational reasoning in general with specifically formal operations: his examples of formal reasoning are all either marred by methodological flaws (which Lawler himself points out) or simply reflect the application of operational understanding to strictly concrete problems. Nor can it be said that his account of the filiation of cognitive

structures is convincing: like his introduction of the concept of bricolage, and his extremely mechanistic AI terminology, it serves only to show that this 'interpretation' of Piaget in fact has almost nothing in common with the latter.

Whatever its theoretical weakness, the strength of this book lies in its sensitive study of a single subject. For that reason at least the reader should take seriously Lawler's motto, 'Don't bite my finger; look where I'm pointing'.

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