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BOOK REVIEW: Seagrim G.N. and Lendon, R.J., 1980: *Furnishing the Mind. A Comparative Study of Cognitive Development in Central Australian Aborigines*. Academic Press.

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Are Aboriginal children of Central Australian origin capable of matching white Australian children in those thought processes identified by Piaget as being fundamental to all scientific advance and necessary, if not sufficient, for success in the modern Western world? If so, what are the factors that enable them to do so? If not, what prevents them from achieving these thought forms? These are the main questions posed by Seagrim and Lendon in a series of studies which came to be known as the Hermannsburg Project. *Furnishing the Mind* presents the findings of this project and speculates on their significance for Central Australian Aborigines.

In discussing the logic of the study the authors note that although their research was based upon the development of logical thinking (as measured by Piagetian tests) in Central Australian Aboriginal children, they were in fact interested in exploring the nature and development of logical thinking in general. They stated that they "were optimistic about finding some differences between groups of Aborigines because of the wide differences in experience, particularly of white contact, that various Aboriginal communities had had" (p.3). Furthermore, they reasoned that "if the children of some groups [of Aborigines] seemed to approximate more closely to white children in their development than others did, we might be able to identify elusive pressures that lay behind the uniformity of development exhibited by children of our culture." (pp.3-4)

Several groups of Central Australian Aboriginal children were involved in the research project. Firstly, there were a number of children from Hermannsburg who were tested and retested over a number of years (these children formed the basis of the longitudinal study). The second group consisted of children from Central Australian tribes who were brought up in white rather than in Aboriginal ways (children adopted into white families or reared in white institutions). Another comparison group consisted of children from tribal groups similar to those at Hermannsburg who were living in missions or government settlements in the Alice Springs district. Finally, there was a group of children living with their parents in or around Alice Springs

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who were, to varying degrees, acculturated into the white world.

The main finding of the study was that Aboriginal children of Central Australian origin *are* capable of performing as well as white Australian children on Piagetian tests of logical thinking at comparable ages and without special tuition. This will occur, however, only if the children are totally immersed in the white culture for extended periods and, additionally, only if they have been isolated from the effects of the Aboriginal culture. If these two conditions are not satisfied, the authors found, the Aboriginal children either lag considerably behind white children or they fail to exhibit the thought forms in question. Moreover, the authors speculate that Aboriginal children who have come to think like white children when isolated from their own culture may not, on return to that culture return to these forms.

To what, then, can the differences in performance between the groups of Aboriginal children be attributed? Seagrim and Lendon believe the most important factor is "the isolation of a child from ambiguous influences due to the total immersion in either the Aboriginal or Western culture" (p.151). They propose that "Immersion in a given linguistic culture determines to a considerable extent the modes of discussion that will be indulged in, what kinds of questions will be asked and what will be talked about...an indirect effect of these constraints will be to direct the child's attention to some issues and to make unlikely that his attention will be directed to others. An appropriate example relates to quantities" (p.151-2).

A child who becomes totally immersed in the Western culture, for example, will be exposed to a culture in which quantitative concerns abound, whereas a child reared in the Central Australian Aboriginal culture will face a lack of concern with precise numerical quantification. The authors go on to speculate that, because of this, the Aboriginal cultural pattern inhibits the development of quantitative thinking and threatens the acquisition of numeracy by its members. Furthermore, the authors argue that to endeavour to develop numeracy in Aboriginal children brought up in traditional or quasi-traditional ways would require changes in their way of life which would threaten the culture "at its very roots" (p.212).

Interestingly, the authors do not believe, however, that the task of overcoming illiteracy would be as difficult. They believe literacy would be easier to attain because of : "the availability in Aboriginal children of comparable skills to those required for reading, and possibly writing, but not for numeracy. Similarly, the threat posed to the culture by literacy is of a different order to, and less immediate than, that posed by numeracy and its concomitant quantitative thinking" (p.213).

The problem for educators, however, is that Aboriginal parents express a desire for the mathematical education of their children but do not recognize the likely consequences. What, then, is likely to eventuate? The authors believe "a gross disruption of the culture will be avoided only if a general change from qualitative to quantitative concern occurs very slowly, so that an indigenous adaptation, an Aboriginal solution, to its pressures can be worked out without haste. At best we would see this taking generations, not decades, to achieve" (p.212).

The speculations made by Seagrim and Lendon are interesting, provocative and thoughtful. It should be noted, however, that they are just that - speculations. Certainly, they are well thought out, reasonable, and based upon the results of their testing, but they do not warrant being considered as 'findings'. (I must add that the authors make no such claim). It is for further research and the passage of time to determine the validity of their speculations.

This book, I believe, may be of limited interest to teachers, especially those without a thorough grounding in Piagetian theory or those with no sympathy for Piagetian ideas. The theoretical discussions and the detailed descriptions of the tests and the test results are also likely to deter many readers. Nevertheless, *Furnishing the Mind* does raise several issues of considerable importance to educators and for this reason I would recommend it to teachers, especially those teachers involved with issues of literacy and numeracy in traditional or quasi-traditional Aboriginal communities.

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