Summary

The main thesis of this article is that the interplay between changing world-views and religious development from childhood to young adulthood depends on cognitive development among other variables, including the capacity to reflect on human cognition itself. After presenting the theoretical framework and the empirical research*, the thesis is illustrated by way of five case studies. Then conclusions are drawn of pastoral as well as of wider concern.

1. Theoretical Framework.

In the absence of a fully satisfactory explanatory account of cognitive development we assume that, in childhood and adolescence, an individual's intelligence develops both biologically and through interaction with the physical and social environment (Kuhn 1988). The overall cognitive structure as envisaged here is composed of a number of partial structures, each of which — singly or in combination — has to do with a particular line of development. These relevant structural aspects and processes will now be briefly discussed in turn.

1.1 Development of Logical Thought and Levels of Reflection

Piaget has studied the ways in which the operations on operations (in the logico-mathematical sense) — which are the main characteristics of formal operations — develop. What we have termed 'reflection' goes beyond these operations. Reflection refers to any 'objectified' insight that results from a meta-analysis of the primary 'data'. Campbell and Bickhardt (1986) correspon-

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dingly conceived the deepening of insights as a hierarchy of knowing levels. Our study suggests a further differentiation. A person's reflection about the object which he or she is trying to elucidate is different from a reflection on the means — representations, concepts, models, etc. — by which he or she tries to gain knowledge and understanding, and on the limits of these means. These types of reflection appear successively, i.e. the related structures are also generically different. The first stage we designate as the stage of 'object reflection', the second as the stage of 'means reflection'. This second stage has two levels upon which reflection is applied upon: (1) to individual representations and concepts, and (2) to entire systems of thought, respectively.

Level (2) may involve a type of reflection which was labelled 'epistemic cognition' by K.S. Kitchener (1983), epistemology being 'the study or theory of the nature, grounds, methods, and limits of experience, belief and knowledge' (Longman Webster English College Dictionary). One might think that this is not a domain open to children. Quite to the contrary, we hypothesize that children, and certainly adolescents, have implicit or even explicit epistemologies, which will co-determine their world views (cf. Reich & Oser 1989).

One of the basic hypotheses of our study is then as follows: The current level of logical thought and reflection (as just evoked) strongly influences the manner in which a person perceives and deals with external or internal stimuli, and in particular with paradoxes and contradictions. Among the external stimuli, the socially transmitted, codified belief systems that enjoy high public standing, are of particular importance. Internal stimuli include fantasy and dreams. Paradoxes and contradictions occur in particular if various belief systems are presented to a child at home, in the church and at school in an uncoordinated manner.

1.2 'Ontological' Development: Propositions concerning Existence and Categories of Reality

As a result of the mechanisms and processes just referred to, children conceptualize reality differently from adolescents, and adolescents differently from adults, even if the inputs are identical. As already noticed by Piaget (1926/1929/1972), young children preponderantly believe that everything has been manufactured by someone in the same manner as products of human workmanship (artificialism). Furthermore, anything that moves is considered alive (animism). Later on at school a child will understand mechanical processes and correspondingly he or she will realize that the world also contains lifeless things. We call this general conceptualization the child’s 'ontology', and thence we refer to ontological development. Such an 'ontology' has two main components. Propositions about reality establish which entities the subject considers as existing. Categories of the real determine how the existing entities are conceived.