

Natural-Theological Understanding from Childhood to Adulthood

OLIVERA PETROVICH



A **Psychology Press** Book

Essays in Developmental Psychology

NATURAL-THEOLOGICAL UNDERSTANDING FROM CHILDHOOD TO ADULTHOOD

It is commonly assumed that young children only begin to think about God as a result of some educational or cultural influence, perhaps provided by their parents. *Natural-Theological Understanding from Childhood to Adulthood* asks if there is anything about God that children can know independently of any specific cultural input; does their knowledge of God simply come from their everyday encounters with the surrounding world?

Whilst children's theoretical reasoning in biology, physics and psychology has received considerable attention in recent developmental research, the same could not be said about their religious or theological understanding. Olivera Petrovich explores children's religious concepts from a *natural-theological* perspective. Using supporting evidence from a series of studies with children and adults living in as diverse cultures as the UK and Japan, Petrovich explains how young children begin to construct their everyday scientific and metaphysical theories by relying on their own already advanced causal understanding. The unique contribution that this volume makes to the developmental psychology of religion is its contention that religion or theology constitutes one of *the core domains* of human cognition rather than being a by-product of other core domains and specific cultural inputs.

Natural-Theological Understanding from Childhood to Adulthood is essential reading for students and researchers in cognitive-developmental psychology, religious studies, education and cognitive anthropology.

Olivera Petrovich is Research Fellow at the University of Oxford in the Department of Experimental Psychology. Her research deals with the origin and development of natural religious understanding across different cultures.

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To the memory of my mother and father and the friends
whose interest in this work I always found encouraging and
stimulating yet who did not live to see its completion.



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PREFACE

This book has taken much longer to complete than I could have anticipated when first embarking on research of natural-theological understanding and its development. Unusually for psychology, most of the material in the book has not been previously published, except for two articles (Petrovich, 1997, 1999). I nevertheless benefited greatly from the comments of several anonymous peer reviewers following the attempts to have some of the material published in psychology journals. As the reviewers' feedback seemed to convey, the project involved a number of assumptions and definitions not shared by developmental psychologists working on some closely related issues. It thus became clear that only a monograph would provide sufficient space to justify its rationale and develop those key assumptions *ab initio*. In a nutshell, the studies reported here were not designed either from the theory-of-mind or the anthropological (cultural or evolutionary) perspective but from the science-religion perspective, historically known as "natural theology".

Although much of the material in the book has not been previously reviewed by psychology journals, the design of the studies, the methods used and the hypotheses tested were reviewed by several funding bodies on more than one occasion, when the projects either received the funding sought or I was directed elsewhere as the projects, chiefly on account of the combination of the disciplines involved, were judged to be outside the remit of a particular funding organisation. Working in an interdisciplinary niche can doubtless be greatly rewarding but also a lonely enterprise. The most keenly felt drawback throughout the years has been the lack of regular peer feedback. Such disadvantages notwithstanding, a major and welcome bonus from the delay in publishing the findings has undoubtedly been the opportunity to draw on the achievements made in many areas of developmental research which, although not directly related to the questions pursued in this volume, helped me see more clearly how the key issues addressed here fitted within the broader developmental research and theory.

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INTRODUCTION

The current book is about a little-appreciated aspect of young children's theory-building capacity: their ideas about the origin and structure of the world as a whole (i.e., the universe or cosmos) and conjectures about the nature of its ultimate cause. As such, the book complements a growing body of evidence regarding young children's ability to construct theories about different aspects of the world, notably those that correspond with scientific domains such as biology, physics and psychology (e.g., S. Gelman & Noles, 2011). It also suggests that children begin their understanding of the world in many ways like the 17th century "natural theologians" or "physico-theologians" did and, indeed, their forerunners many centuries earlier. The history of modern science demonstrates that the search for answers to scientific questions often terminates in metaphysics as exemplified by natural theology (e.g., White, 1967). In this volume I propose that children start with many of the same questions about the natural world and arrive at broadly similar answers about its structure and origin as those reached by their illustrious predecessors. In other words, children's questions about the physical world lead them, too, to postulate causal agents which transcend the empirical domain altogether.

I will begin by providing a rationale for the main terms in the title of this volume, that is, why "theology" rather than "religion" is a more suitable term for the purposes of describing children's thought studied here. Most dictionaries define *religion* as a term that encompasses not only belief in a supernatural power (i.e., God) but also the ways in which the belief is expressed in different cultures and traditions (i.e., dogma, ritual). In much of the anthropological and psychological literature "religion" indeed signifies a cultural variable on account of its multifaceted nature and "culturally transmitted counterintuitive information" (e.g., Lane & Harris, 2014, p. 146; see also Boyer, 2003; Boyer & Walker, 2000). By contrast, *theology* denotes a theoretical discipline concerned

2 Introduction

with rational analysis of religious belief (*Concise Oxford English Dictionary*, 1995), “the attempt to talk rationally about the divine” (*Fontana Dictionary of Modern Thought*, 1979, p. 632) or “reasoned discourse about God” (Wiles, 1976, p. 1). Given the emphasis in this volume on the theoretical nature of children’s thought about the world as a whole, and the concept of God as a causal inference in the context of the world, I will adhere to the distinction between “religion” as a cultural variable, on the one hand, and “theology” as a conceptual domain, on the other. Such a distinction is consistent with Kant’s view of “physico-theology” as separate from doctrinal religion (1983, p. 523). More to the point, it is consistent with the natural-theological perspective as a framework for studying children’s concept of God as a causal agent, which they construct in the course of processing everyday information about the physical world rather than acquiring it from their culture or religious tradition. Finally, the hyphenated term *natural-theology* has a dual purpose in the current book: first, to convey its many similarities with the historical “natural theology”, a period in the development of modern science whose luminaries engaged in the study of nature with the aim of comprehending God’s mind as revealed in natural laws (e.g., Brooke, 1991; Hunter, 2009; Lennox, 2009); second, and more pertinently, to highlight its “naturalness”, i.e., prevalence in everyday thought about the world from childhood through adulthood and hence its direct psychological relevance.

Concepts of God in natural-theology

The natural-theological concept of God as a causal agent (i.e., First Cause, Creator, Designer), which does not specifically include God’s moral attributes (i.e., Judge, Redeemer, Saviour), has led some Christian theologians to reject natural-theology as suspect and argue that only revealed theology, rather than one’s own thought, can be the basis for correct reasoning about God (e.g., Moore, 2010). A further criticism of natural-theology is that the very word “nature” is not a neutral term but carries the cultural baggage that we impose upon it, which only reinforces the need for reliance on revelation as a basis for theology (McGrath, 2001). Whilst the emphasis on revelation is undoubtedly of major interest to professional theologians, it is not to the field of psychology, especially developmental. The key psychological issue in the domain of theology is the origin of the concept of God in early cognitive development, something that theologians do not address. Put simply, theologians are not asking the prior, psychological question of how humans come to understand the meaning, and hence accept the possibility, of divine revelation in the first place. To suggest, therefore, that the natural-theological concept of God as a causal agent developmentally precedes the concept of divine revelation does not contradict the mainstream theological view about the importance of revelation but simply draws attention to the core psychological component implicit in all theological reasoning; namely, the concept of God. Finally, although God’s moral agency was not a distinct component of the historical natural-theology, this should not be seen as

a reflection of the natural-theologians' view that God's moral attributes are irrelevant to human beings but rather that there were no scientific methods available to them for studying those attributes as an aspect of the natural world.

Natural-theology and science: Past and present

As stipulated in The Royal Society Charter (17th century), its Founding Fellows were expected to direct their studies of nature to the glory of God and the benefit of the human race (Brooke, 1991). According to Boyle (1627–1691), for example, science is a religious task in which to “discover the true Nature of the Works of God” (Tambiah, 1991, p. 13). The structure of God's creation is thus inherently worthy of investigation because it can “teach us about the nature of God”, “while it incidentally also helped us better to understand the phenomena under study” (Hunter, 2009, p. 202).

Contemporary scientists *cum* natural-theologians have continued to pursue some of its perennial questions in a range of modern scientific fields: biology (Denis Alexander), genetics (Sam Berry), medicine (Francis Collins), materials science (Colin Humphreys), molecular biology (Ken Miller) and physics (Freeman Dyson, John Polkinghorne) as well as mathematics (John Lennox), to mention but a few. Neither in the past nor the present has there been a shortage of scientists seeking to address the questions asked by the original natural-theologians. Claims about scientists as believers or non-believers that are based on public surveys are not always reliable as they offer somewhat superficial and crude categories that lead to contradictory conclusions (e.g., Gross & Simmons, 2009; Larson & Witham, 1999). Whilst some psychologists have recently advanced claims that the majority of scientists are atheists who prefer logic and rational reasoning over an interest in “a reality beyond this world” (Caldwell-Harris, 2012, p. 4), that analytic reasoning promotes religious disbelief (Gervais & Norenzayan, 2012) and that intelligence and religiosity are negatively correlated (Zuckerman, Silberman & Hall, 2013), such claims need to be evaluated in light of the meanings attached to “supernatural agents” and “religiosity” in those studies. As we will see later in the volume, the category “supernatural” has been used to encompass a host of disparate and incongruous notions, including ancestors, ghosts, gods, rituals and sacrifices, spirits and witches as well as God. Clearly, such definitions of “religion” are in stark contrast to the natural-theologians' understanding of religion, which does not put any emphasis on rituals and sacrifices but, instead, on the study of the natural world and its laws, interpreting them as an expression of God's mind. It would be absurd to claim that natural-theologians' *intelligence* did not correlate with “religiosity” just because their belief in the Creator was not motivated by any of the “functions of religiosity” on which contemporary scholars of religion have focused.

The continuing importance of the questions addressed by natural-theology is evident from the contemporary religion–science debate where even non-believing

scientists play an active role either by challenging, or being challenged by, the opposing views. Hawking (1988), for example, does not rule out the existence of God but rather thinks that God may not be necessary to explain the origin of the universe, which he considers to be, in principle, fully explicable in terms of the laws of physics. But, Lennox (2009), a mathematician and a Christian, is critical of the claim that the laws of physics, and not God's intention, explain how life on Earth began, pointing out that laws are merely descriptions of what happens under certain conditions rather than the laws themselves being endowed with a creative capacity. In agreement with the natural-theologians of the past, Lennox proclaims that it is the beauty of scientific laws which reinforces his own faith in an intelligent, divine creative force at work rather than making the idea of such a force superfluous. I convey the points above mainly to highlight their psychological relevance (i.e., as instances of causal reasoning) and thus as a prelude to describing in this volume evidence from young children asking and answering the very same questions. That these are indeed psychological issues is implicitly acknowledged by Lennox when he appeals to the religious experiences of millions of believers as a given that should not be lightly dismissed.

Science and religion: Psychological issues

The fact that both science and religion make ontological assumptions about the nature of reality and share concerns about the nature of causality is of direct interest to psychology. This is because psychological science is interested in explaining the *assumptions* themselves; that is, how early in development, and under what conditions, do specific assumptions about the world begin to emerge. Put differently, psychology's distinct role among the sciences is to identify the developmental trajectories of concepts from different domains, physical as well as metaphysical, in order to elucidate their respective roles in our theories about the world. Although much more scholarly effort has gone into studying children's scientific concepts than their metaphysical or religious concepts, there is sufficient evidence to suggest that the two conceptual domains interact already in childhood.

Yet a number of scholars have argued that scientific and religious thought are fundamentally opposed. According to the views espoused by this group of scholars, there is no way of resolving the conflict between the two because religion purports to offer scientific explanations even though it conveys none of the truthful statements that science does (e.g., Arieti & Wilson, 2003; Blakemore, 2009; Dawkins, 2006). It is especially interesting that such claims often appeal to some psychological factors (e.g., inferior reasoning capacity among believers, emotional vulnerability) yet without citing any purposely obtained psychological evidence to corroborate them. Paradoxically, the same scholars acknowledge that spiritual beliefs of one form or another are universal, almost as defining of humanity as language is, yet reject any parallels between the capacity for language and that for religion by arguing that the universality of language is