Chapter 3
Children's God Representations: Are Anthropomorphic God Figures *Only* Human?

Grégory Dessart

Abstract In many religious traditions, anthropomorphism plays a central role in visual representations of the divine. As suggested by the notion of *minimally counterintuitive* properties (e.g., Boyer, Mapping the mind: Domain specificity in cognition and culture, New York, pp. 391–411, 1994), some peculiar ontological arrangements (e.g., ontological violations) tend to characterize religious representations. In the case of human-like God figures, such ontological peculiarities may consist of either: a combination of humanness and non-humanness (e.g., a human figure with wings), or a lack of central characteristics presenting qualities that are central to the human category (e.g., a face). The former corresponds to Guthrie's (Faces in the clouds: A new theory of religion, New York, 1993) observation of the recurrent *sameness-otherness* combination with the human being to depict the divine. Such conceptual arrangements may change across a child's development. However, research on children's God representations has systematically considered anthropomorphic figures as distinct from non-anthropomorphic ones. The current work proposes a revised developmental model that accounts for domain-specific properties used by children to signify the special position of God as compared to human beings. That model is particularly appropriate to consider God representations as depicted in children's drawings.

Keywords Anthropomorphism · Cognitive science · Religion · God concepts · Children · Drawings · Development

G. Dessart (✉)
Institute for Social Sciences of Religions, University of Lausanne, Lausanne, Switzerland
e-mail: gregory.dessart@unil.ch

© The Author(s) 2023

P.-Y. Brandt et al. (eds.), *When Children Draw Gods*,
New Approaches to the Scientific Study of Religion 12,
https://doi.org/10.1007/978-3-030-94429-2_3

Anthropomorphism is present in most interpretations of the world that humans may provide. Are pine trees not standing fierce and tall against wind and snow? Is the moon not smiling at us? As Vosniadou (1989) has proposed: "They thus provide psychological explanations of the sun's movement (e.g., the sun hides behind the mountain, the sun went home to sleep, the sun plays with the moon, etc.), and attribute to the sun (and moon) certain human-like qualities related to the ability to move independently (i.e., intentionality, playfulness, fatigue, etc.)" (p. 13). Although this has to be taken with a grain of salt given that it can also reflect analogical thinking, it still underlines the central role of the human being to explain phenomena involving inanimate entities.

This applies to rather important aspects of life, including religion. In that regard, the following observation is striking: "Because no clear line separates models of humans and models of other things and events, we are able to find, with no sense of incongruity, all manner of humanity in the nonhuman world." (Guthrie, 1993, p. 194). As emphasized by Guthrie, gods in many religious traditions have exhibited combined sameness-otherness with the human being. Sameness concerns anthropomorphic traits; otherness deals with qualities that are not human. We propose revised developmental perspective based on the notion of *de-anthropomorphization*. It supposes that a human-based God[1] representation can be made less human, either by (also) implying nonhumanness (which equates to Guthrie's *otherness*), or by omitting central human characteristics.

It would be valuable to examine whether or not children utilize such an ontological mixture when they are asked to describe God, and if so, how. A child might de-anthropomorphize his/her representations of God to varying degrees across his/her development. Scientific insight on this phenomenon may lead to a better understanding of psychological underpinnings of God representations observed at different points in childhood. In addition, this could help explain such representations found in adulthood. Religious education could play a role as well. The current chapter will address anthropomorphism in God representations and draw upon cognitive approaches to concept development.

Children may find it difficult to communicate verbally their understanding of God, therefore, opting for a visual or graphic method, such as drawing, appears to be particularly appropriate. Moreover, the open-ended question is less limiting and allows children to ponder how they imagine God, without forcefully bringing their attention to matters of sameness-otherness. This approach helps to maintain both spontaneity in the process and richness in the answers.

[1] Why the term *god* begins sometimes with an uppercase letter G, sometimes with a lowercase letter g, and why it appears sometimes in the singular and sometimes in the plural, is explained in the introductive chapter of this book (Chap. 1, this volume).

Anthropomorphism in Religion

One may ask why anthropomorphism is so prevalent in our daily lives, why it appears in all religious systems, to some extent, and why it seems to persist both in individual and socially shared forms of religious entities. Guthrie (1993) gives some direction on this topic when he states that humanlike models are adopted and remain, mainly because they demonstrate what is most important to human beings in their world, that is, manifestations of humanness (p. 201). Anthropomorphism goes beyond religious or secular thinking. It encompasses the human's tendency to interpret and perceive any aspect of the world by applying human models. An operational definition of anthropomorphism could be: "systematic application of humanlike models to nonhuman in addition to human phenomena" (Guthrie et al., 1980, p. 181). The main reason we, as humans, over-anthropomorphize events around us is to maximize our chances for survival, by recognizing human presence in our environment (Gombrich, 1956). This sometimes results in false positives, especially when information is somewhat ambiguous (Guthrie, 1993, p. 90). Formerly, research advanced that children comprehend the world based on the understanding they have of their own parents, and conceive of God with a similar anthropomorphic understanding (Bovet, 1951; Piaget, 1929). This all ties into what has been called the *human agency hypothesis* or the *anthropomorphism hypothesis* (Barrett & Richert, 2003; Barrett et al., 2001), which posits that intentional agents (e.g., animals, supernatural agents), are generally explained preferentially in reference to human beings.

Additionally, individuals are also likely to attribute not only intellectual qualities but also emotional states to God (Gray & Wegner, 2010; Haslam et al., 2008). The incentive to do so, at a cognitive level, may be due to the existence of a *Hypersensitive Agency Detection Device* (HADD) that produces an inclination to perceive agency in most natural events, even those involving non-animate objects (Barrett, 2000, 2004). Anthropomorphism would be entailed by a preference for human agency, given that the human being is the "most outstanding exemplar" of the category sentient beings (Barrett & Keil, 1996). The HADD may help the formation of religious concepts and it may also serve to maintain them (Barrett, 2004). A similar, though slightly broader perspective is the one of Bering's (2002) Existential Theory of Mind, which is understood as a "biologically based, generic explanatory system that allows individuals to perceive meaning in certain life events" (p. 4). Close to the notion of agency, the detection of purpose in events is usually called teleological reasoning (Kelemen, 2004).

In addition to the possible cognitive mechanisms involved, the meaning endorsed by anthropomorphism in one's understanding of God is also relatively important. According to Guthrie (1993), God is often depicted with both theological *otherness from*, and *continuity with* the human being. While our general understanding of continuity appears to be rather spontaneous, our understanding of otherness is cultivated through education and intellectual reflections.

We now turn from this overview on anthropomorphism, involving constructs such as agency detection, in order to address theories in connection with the means by which individuals process various ontologies, in the sense of categories of being.

Cognitive Approaches to Religion

The cognitive science of religion has offered thought-provoking accounts of individual perceptions regarding the ontological status of the divine. Those that are of interest to this project relate to the *preparedness hypothesis* and to *ontological violations*. We will address them successively, and then discuss the socio-cultural status of religious representations and the function of analogical thinking in that regard.

The Preparedness Hypothesis

Research in the cognitive science of religion has suggested that children are cognitively equipped from birth to process information about God in terms of correct theistic assumptions—their knowledge about human beings, however, has to be learned (Barrett et al., 2001; Kelemen, 2004). This has subsequently been called the *preparedness hypothesis* (Barrett & Richert, 2003). The evidence provided relies strongly on the Theory of Mind (using false belief tasks) and concerns children in their very early stages of development. Barrett et al. (2001), for example, have shown that 3-year-olds would fail to recognize the knowledge and perceptual fallibility of a person (often the child's mother) vs. God, unlike slightly older children (4- to 6-year-olds). Other agents were included in that research (e.g., an ant, a bear, a tree) and, in the absence of extraneous information, children tended to perceive them as similar to human beings, but God seemed to receive special treatment as a quite different agent. However, these findings are limited, first, because performing well on a false belief task for God at age three does not necessarily equate with a good performance years later, and second, the child's justification may differ from then. This could be interpreted as a poor performance for the human being at 3 years old. It could also be interpreted as an early failure to attribute limits to any sort of agent. The failure to attribute limits seems more likely than a predisposition to understand God. Research in this area is, nevertheless, insightful with respect to the fact that there is, from early on, differentiation between God and the human being; they are processed as dissimilar agents to some extent.

These observations introduce fine nuances of anthropomorphism in religions, without contradicting Guthrie's thesis. Indeed, it has been proved that when individuals are put under cognitive constraints they tend to automatically explain events involving God with more anthropomorphic terms than they would usually use (Barrett & Keil, 1996). As acknowledged by Barrett and Richert (2003), not all divine attributes are likely to endorse *preparedness* because they are "conceptually burdensome" (e.g., non-temporality, omnipresence). A possible implication for developmental differences in the representation of God might be that older children may be more able to apprehend non-anthropomorphic properties of God due to more advanced cognitive functioning. In particular, they have better working memory skills. This breadth of research is, nonetheless, very specific to the perception of intentional agency, and this may only tap into one very specific aspect of God representations.

Ontological Categories of the Divine in Childhood

It has been suggested that what makes the social transmission of religious concepts successful is that they endorse attention-grabbing *ontological violations* (Boyer, 1994; Boyer & Walker, 2000). Such violations take place through the inclusion of *minimally counterintuitive* properties (Boyer, 1994; Norenzayan et al., 2006; Sperber, 1996; Upal, 2011) as the backdrop to a main ontological category. Such a category may be the human being, for example, which fits a Western Christian environment. As initially observed by Boyer (1994), religious entities are often represented as non-physical entities that resemble human agents psychologically, but are not bound to biological constraints.

From a developmental perspective, the notion of *ontological violation* as typical of religious entities is not self-evident because it requires the perception of a reasonable degree of counter-intuitiveness, which cannot be guaranteed at early stages of development. Focusing on a series of studies on preschool children we see a number of things. First, Harris et al. (Harris et al., 1991) have shown that it is not always clear for children whether an imagined creature may or may not become real. Second, plausible causality may be subject to various levels of credulity among young children (Johnson & Harris, 1994). Third, even though children's understanding of the distinction between living entities and inanimate objects may be somewhat elaborate at times, often, it remains uncertain (Carey, 1985; Wellman & Gelman, 1992; Wright et al., 2015). It is therefore unlikely that religious beliefs are socially transmitted because counter-intuitiveness has created salience. Rather than positing a voluntary attention-grabbing effect of religious entities through ontological peculiarities, the current paper will focus on conceptual changes taking place across the child's development. It will, nevertheless, draw upon this previous body of research showing that God, as a religious entity, may encompass several ontological categories, and the human category holds a particularly important place.

The Semi-Propositional Nature of Cultural Representations

Cultural representations are not necessarily understood literally. In fact, they might be *semi-propositional* for they are evocative and in-context notions that do not ineluctably have a tangible existence in the natural world (Sperber, 1975, 1996). If they are semi-propositional, cultural representations still ignite genuine emotions, for example in the course of religious rituals. Atran (2004) suggests that religious propositions are evocative and leave the sphere of "normal" meaning. He bases these ideas on his understanding of culture as a shared cognitive structure, with various intertwined ideas and conducts. Such a cognitive approach, in addition to addressing specialized information processing systems and explicit representations, puts a special emphasis on the social and the cultural (Clément, 2003). Shared (religious) representations are explicit, but part of their structure might remain implicit, because they are based on a cognitive structure that is not systematically accessible to one's consciousness.

In addition to cultural representations being counterintuitive or semi-propositional, there is a possibility for them to be taken for granted. This claim has been made in relation to *cultural analogies*. Cultural analogies may have a binding effect between domains of knowledge by highlighting their commonalities, drawing conceptual connections between human and non-human being, for example (Descola, 2005). Kaufmann and Clément (2007) have proposed a social naturalism thesis that emphasizes two major aspects. First, analogy-making is a basic operation that acts as a binder for relational networks typical of human culture. Second, *quasi-perceptual* systems of inference are at work in order to recognize forms that are socially relevant within a given society. By emphasizing the intuitive quality of *cultural analogies*, Kaufmann and Clément (2007) have suggested that these are based on mainly unconscious mental foundations. These shared foundations offer a limited range of possible patterns of meaning, which makes cultural representations commonsense and rather intuitive through the continuity of analogical mapping. As they put it: "… natives 'see' the analogical mappings that make sense of their society as a whole without being able to justify them" (p. 245). Analogies, therefore, enable the folk apprehension of even highly complex or hardly graspable notions—such as the concept of God. It is important to note that the metaphoricity of analogies can be forgotten if they become socially conventionalized (Johnson, 1981; Miller, 1979). A lack of access to their historicity and their progressive construction, may lead to conceiving of various cultural forms as "natural" truths.

At a cognitive level, this view competes (in part) against a more standard ontological understanding of minimally counter-intuitive qualities of religious entities. The latter focuses mainly on domain-specific information processing, positing that subjects necessarily use a causal, sequential thinking that divides representations into different parts according to the domains they cover. The current explanation, however, suggests that analogical reasoning is mostly at work in the context of collective representations that involve a holistic form of reasoning, hence the rather intuitive nature of religious entities within a community.

In this section of the chapter, we have presented notions that are central to the conception of religious ontologies. We have reviewed theoretical aspects that draw significantly on analogical thinking and metaphoricity. We now turn to more general concept development: the formation of categories and the acquisition of domain-specific knowledge in childhood.

Concept Development: Children's Cognition and Socio-Cultural Background

Categories and Domain-Specific Information

A child's intuitive physics and intuitive psychology are so elementary that they may guide his/her basic early categorization of the world into a category of physical objects and a category of sentient beings (Carey & Spelke, 1994). Thus, if God is perceived as an intentional agent (Barrett et al., 2001), then as a consequence of

categorization process, God would likely fit the psychology/sentient beings category. In addition, having "humans as the most outstanding exemplar of this category it would be expected that God would share many properties in common with humans" (Barrett & Keil, 1996, p. 243). Indeed, children do identify persons as persons based on their action-related agency (Wellman & Woolley, 1990), which may be perceived as similar to God's.

Basic conceptual domains, such as physical objects, biology or psychology, undergo major conceptual changes throughout childhood. For example, *differentiation* occurs for concepts of dead and inanimate, and *coalescence* takes place for the concepts of animal and plant, which are both included in a new *living thing* concept (Carey, 1985, 1988). Carey and Spelke (1994) define conceptual change as follows: "Conceptual change involves change in the core principles that define the entities in a domain and govern reasoning about those entities. It brings the emergence of new principles, incommensurable with the old, which carve the world at different joints" (p. 179). Accordingly, conceptual change consists in the creation of new ontological categories through conceptual differentiation (p. 179).

Wellman and Gelman (1992) have proposed that *foundational frameworks* are constructed as children's concepts coherently fuse into theory-like systems of understanding. In that context, they stress the importance of *coherence* and *consistency*, which concern, respectively: the reliance of one concept on another, and the contradictions between concepts. One could then hypothesize that the God concept is *coherent* with the one of the human being, but not fully *consistent* with it. The degree of non-consistency could represent the extent to which god is perceived as different from a "standard" human being. Following this line of thought, it appears that maintaining such coherence alongside partial consistency is intuitive (rather than not), and therefore it leads to the maintenance of the conceptual bonds between God and the human being.

Children, nevertheless, do face conceptual challenges when confronted with overlapping properties or transgressions in core principles of some categories. For example, sand does abide by the continuity principles of physical objects but does not obey cohesion, and therefore it fits the *matter* category better. Likewise, the Christian God may display love and benevolence, which are qualities typically attributed to the concept *person*, which is also part of *living things*. At the same time, God may be understood as more than a living thing, but does not necessarily fit the category of *physical object*, and so on. Conceptual reorganization may occur in children based on their own experiences and education, which goes beyond simple conceptual enrichment (Carey & Spelke, 1994). Education is a particularly relevant potential source of influence on developing a concept of God, given that unlike many other concepts there is no real-life referent for this category. Carey and Spelke's *mappings across knowledge domains* (1994) may apply to the notion of God, and modifications of the core principles of the domains concerned would then lead to consequent alterations of God concepts.

In a similar fashion, children may use *analogical reasoning*, which is defined as the "identification and transfer of an explanatory structure from a known system (the source) to a new and relatively unknown system (the target)" (Vosniadou,

1989). Such reasoning can take place between two systems, across domains on the basis of similar salient properties. It can evoke structural resemblance, and can facilitate knowledge acquisition for new conceptual systems in situations where current knowledge fails (e.g., in the absence of a real-life tangible referent, such as in the case of God). The more richly structured a representation system is, the more potential it has for drawing relational analogies with others. Analogies between God and a person may be based on either surface properties (e.g., physical human-like resemblance) or structural properties (e.g., intentions, thought, deliberate action), and, referring back to earlier claims, one is not more abstract than the other, but rather, situated at a different level of analogy. Theories may change through the use of (other) analogies when an existing theory is deemed no longer adequate. This is how religious education or frequent reflection on the topic of God may lead to a wider variety of analogies (in addition to the most frequently used analogy, the human being). Furthermore, multiple analogies may support the understanding and acquisition of complex concepts (Spiro, 1988). This corresponds even more closely to the way God is understood in a Western Christian environment: complex and of a manifold nature (Gibson, 2008). Progressive de-anthropomorphization of God representations and ontological hybridism may therefore partly be explained by resorting to analogies.

The Importance of Testimony in Children's Development of Various Concepts

Children may have spontaneous ideas about certain notions, and, for example be called "intuitive theists" (Kelemen, 2004) when it concerns their initial understanding of the religious domain. However, they do not grow up in a vacuum. They may rely much on claims that are made by other people around them. In particular, Harris et al. (2006) have investigated the ways that a child's development of certain concepts might depend on what they hear, or see, from adults, that is to say, on the testimonial evidence provided to them. Harris and Koenig (2006) have shown that children's acceptance of other individuals' testimony does not only apply to the empirical domain but also to domains for which they cannot receive first-hand observations, such as religion and spirituality. It is important that they do not only repeat what they are told, but they rework that information into coherent conceptualizations of the domains concerned. Indeed, testimonial knowledge might at times be incomplete, and in such a case the children would need to fill the knowledge gap. Testimonies may also not only complete a child's current understanding of a notion, but they may be conflicting with his/her own views (e.g., the fact that the earth is shaped as a globe). A child's intuitions do not seem to block later acceptance of testimonial claims.

Harris et al. (2006) have explored children's (between 4 and 8 years of age) judgement about different sorts of entities: real entities (e.g., cats), scientific entities (e.g., germs), endorsed beings (e.g., Tooth fairy, God), equivocal beings (e.g.,

monsters), and impossible entities (e.g., flying pigs). The goal was to examine children's intuition about the ontological status of such entities. It is important to note that, apart from real entities, children have never had access to firsthand observations for the other kinds of entities under scrutiny. On that basis, their own beliefs, their perception of others' beliefs, their degree of certainty and the types of justification they use likely reflect the surrounding discourse about the entities concerned. Similar patterns were observed between beliefs about the scientific ontological category and the endorsed beings category. However, children were more confident that scientific entities exist, arguably reflecting the relative degree of consensus about them in the discourse they are exposed to. The types of justifications they gave also differed. It is interesting that, while they gave more generalization arguments to justify the existence of the former they were also less sure about their appearance, this was not the case for the latter (endorsed beings, such as God).

This new set of evidence departs slightly both from assumptions made by theorists that children progress towards more objectivity, and from a strictly Piagetian framework, given that they rely on second-hand observations. The importance of children's background, from early on, can be shown also through a careful re-reading of a study by Harris and Koenig (2006) of Evans's, 2001 work. Evans (2001) compared 6-, 9-, and 11-year-olds belonging to two different groups, fundamentalist or non-fundamentalist, with regard to their understanding of creation and evolution. Findings indicate that children from the fundamentalist group, at all ages, support creation explanations more strongly than those in the non-fundamentalist group do, even among 6-year-olds.

Trust is an essential aspect of testimony reliance. Children prove to be sensitive to their informants' accuracy to predict future behaviors, they judge the informants as sources of information, and adjust their own attitude to specific informants accordingly (Clément et al., 2004; Koenig et al., 2004).

In the case of religious beings, children are influenced by claims that they hear about religious beings. Moreover, the *minimally counterintuitive qualities* (MCI, Boyer, 2001) attributed to the religious beings add to the number of reasons why children should remember and recall them in a certain way.

Complexity of God Figures: A View of Multiplicity

Un-Dichotomizing a Binary-Based Change and Calling into Question Non-Anthropomorphic-Abstract/Symbolic Connections

It seems necessary to propose a somewhat more nuanced outlook on children's drawings of God with regard to the issue of anthropomorphic-concrete and non-anthropomorphic-abstract/symbolic connections that have been made in past research. Such assumptions have strongly relied on a Piagetian framework of cognitive development to explain how growing out of the concrete operational stage (by 11–12 years old) may coincide with greater ability to deal with abstract concepts.

This translates into more abstract or symbolic God representations, that is, representations that are non-anthropomorphic. Positing that non-anthropomorphic figures are more abstract or symbolic appears to be a mistaken assumption because a human figure, a bird, a cloud, or a light are no more or less abstract than one another. In fact, either a light or a human being (or both together) may be used as metaphors for protection and guidance, and their drawn form does not change their level of abstraction.

Nevertheless, the notion of *centration-decentration* (also borrowed from the Piagetian framework) might be more useful to interpret such a shift in children's God representations. Centration is characteristic of the preoperational stage and consists in looking at only certain *egocentric* aspects of a situation (Piaget & Inhelder, 1969). In the present context, it may lead young children to focus particularly—and almost exclusively—on anthropomorphic properties, but as their cognitive abilities develop, children may simultaneously take into account other, non-anthropomorphic, aspects of the God figure as they conceive of it. In this way, they move from a position of centration toward a position characterized by a stronger sense of decentration. Although this notion seems to apprehend the occurrence of non-anthropomorphic features better than the notion of abstraction abilities, it still does not fully explain the reason that such features appear, given that they are not naturally entailed by decentration. Indeed, unlike a problem-solving situation, expressing a representation of God may not consist in looking at a relatively wide range of options that are readily available, choosing elements from among these options, and incorporating them into a representation (cut and paste). Instead, expressing the concept of God may require that a child tap into a potentially complex conceptual network of ontological categories that overlap when activating the concept of God.

Types of God Representations and Their Multiplicity

God representations might be particularly composite and complex, and such complexity may be modeled in different ways. The generic term *god representations* (Davis et al., 2013) may comprise two distinct kinds of representations (Lawrence, 1997; Rizzuto, 1979). On one hand there is the *God concept*, being explicit, intellectual, and conscious; on the other hand there is the *God image*, being implicit, emotional, and mostly unconscious. The former may be called the "head" God and the latter the "heart" God (Davis et al., 2013). Another distinction has been made by Barrett and Keil (1996), who have posited that people hold at least two parallel god concepts. One is anthropomorphic and readily accessible in daily life, particularly when cognitive resources are limited, and the other is theological, deeply reflected upon, and mostly non-anthropomorphic. According to these authors, the task itself could not drive people to anthropomorphize a God concept that is exclusively non-anthropomorphic. An alternative view may be that the God concept is doubly anthropomorphic. It is rooted in anthropomorphism from early conceptual

development, drawing on the human being as an exemplar of the psychological category, and it is also likely explained in very anthropomorphic ways when cognitive resources are limited due to our general inclination to anthropomorphize the world around us. Therefore, more theologically elaborate characteristics of the God concept may reflect only more cognitively advanced accounts of God, without changing its anthropomorphic core. This interpretation is scientifically more economical, given that it does not assume the existence of several God concepts, but instead posits different aspects of one concept that are evoked differently, depending on the situation. In addition, without corresponding exactly to descriptions of the God concept or the God image, this interpretation lines up with notions of implicit and explicit expressions of that concept.

Consistent with this idea, several God schemas may be derived from a God concept in which they are embedded (Gibson, 2008). A schema can be defined as: "a cognitive structure that represents knowledge about a concept or type of stimulus, including its attributes and the relations among those attributes" (Fiske & Taylor, 1991). Schemas are stable and accommodate new information and experiences into their structure (Neisser, 1976). God schemas can be distinctly triggered, and even occasionally overlap at different points in time (Hill & Hall, 2002). This feature according to Gibson (2008) lends itself to the notion of a *working God concept*, temporarily accessible to one's consciousness (cf. working self-concept). For example, based on one's recent experiences, one's concept of God may be more readily accessible as loving or judgmental. Those qualities, loving or judgmental, would refer to different schemas, rather than to two distinct concepts.

Conceptual Hybridism: A Case for God Representations?

Looking at this issue through an ontological lens, we may suppose that God representations are conceptually hybrid, drawing on various categories, most frequently the human being, in order to form as a concept. This paves the way for the current claim that the God concept may be hybrid. Vicente and Martínez Manrique (2016) have argued in favor of the existence of conceptual hybridism. Nevertheless, before delving into more advanced theoretical consideration, I review two central notions of concepts borrowed from the cognitive sciences: *prototypes* and *exemplars*. Prototype theories posit that a prototype is an average representation of a concept, thus it is liable to change and depends on input properties of exposure to new entities that belong to that category (Lin & Murphy, 1997). Exemplars are prominent examples of a given category and their prominence is representative of the frequency of encounter with them (Reisberg, 2015). Exemplars may be retrieved from memory more quickly and with more ease due to their high accessibility (Rohrer, 2002).

Now, in their defense of conceptual hybridism, Vicente and Martínez Manrique (2016) have suggested that two theoretical perspectives are particularly relevant. The first of these, the Varying Abstraction Framework (Verbeemen et al., 2007),

posits that several exemplars, or pseudo-exemplars, can be available for a single category and that these might even be merged together into one representation. Pseudo-exemplars are derived from both prototype-like and exemplar-like properties. Varying levels of abstraction may be reached, from total abstraction involving one prominent single exemplar to lesser degrees of abstraction, indicating that several exemplars are competing because they are simultaneously accessible in memory. The second one, the Conceptual Structure Approach (Moss et al., 2007) proposes that concepts, as they are activated in memory, depend on special features, on the distinctiveness of those features, and on how likely they are to occur together. Their distinctiveness is based on their prototypicality, and the way a concept is activated will depend on the relations among several key features characterizing its internal structure. Even if a particular feature is not selected, it may still influence the process of accessing the working memory and therefore be explicit.

Both hybrid perspectives are potentially insightful when considering God representations. In the context of drawing God, children might be calling forth a conceptually hybrid representation. This might be due to either the co-activation of several pseudo-exemplars, or to the co-occurrence of key features characterizing the concept. Moreover, both perspectives are able to account for slight differences occurring between instances of recalling a concept (e.g., leading to varying god representations) while at the same time, one central criterion for hybrid concepts is maintained, that is, *functional stable coactivation* (Vicente & Martínez Manrique, 2016). On the whole, a hybridist view of the God concept stands as a good candidate to explain why drawn God figures tend to combine several semantic categories (e.g., human being, bird and other animal sub-categories, light, fire and other inanimate categories, vegetal, and so on).

Ontological categories have classically been explained as combinations of predicates and terms depending on predictability relations that concern basic categories of existence (Sommers, 1959). There are two central yet distinct aspects of concept development. New categories can emerge (implying conceptual insight), or they can be developed through refinement—not necessarily ontologically based—between two close categories (Keil, 1983).

If the expression of ontological categories associated with God changes (either in nature or in prominence) across an individual's development, then there must be a reasonable explanation as to why the change has occurred. Previous research has consistently shown that the human being is an early and very important category for developing a concept of God. One plausible explanation for change in the expression of ontological categories may be that a progressive conceptual differentiation from the human being occurs as cognitive abilities develop. Following this reasoning, human features may be dropped and/or some extraneous, non-human elements may be included in the conscious formation of the God representation. Alternatively—and not necessarily in contradiction—there may be variations across development regarding the relative prominence (or selection) of exemplars or features within the conceptual network. In addition to these process-oriented considerations, it is likely that the forces that drive such conceptual refinement pertain both to the general formation and evolution of categories occurring throughout a child's

development, and also to specific education on one particular topic. For example, it is naturally expected that anthropologists hold a different view on the social world than non-anthropologists, one which does not claim essential truth but only serves as a way of understanding: as a theory. In a like manner, religious schooling might lead to a more developed concept of God.

With all these notions in mind, I now consider past research on children's drawings of God, works that accept the binary view on anthropomorphism. After scrutinizing these works, I will suggest a revised developmental perspective on God representations that will lend itself well to empirical testing on visual data, such as children's drawings.

Anthropomorphic vs. Non-Anthropomorphic God Figures in Children's Drawings of God

A classical view on God concepts is that they are initially "crudely" anthropomorphic (Gorsuch, 1988) but they grow into more symbolic or abstract forms of representations, following the child's general cognitive development. Different theoretical frameworks have been used to explain such a change overtime. While a Freudian perspective would posit that the God concept presents itself as the projection of one's father (Freud, 1927); under a Piagetian framework God is assumed to be understood after one's own parents, and can only be appreciated with more distance as one reaches higher stages of cognitive development (Piaget, 1929). Such a shift could be revealed in experimental tasks (Goldman, 1964) and interviews (Nye & Carlson, 1984), but mostly it has been demonstrated in children's drawings.

When asked to draw God, younger children usually compose very anthropomorphic representations, unlike older children who tend to compose non-anthropomorphic drawings of God. Harms (1944) suggested this in a seminal paper on children's drawings of God. Harms study took place in the United States, but it has been replicated in various Western Judeo-Christian environments (Hanisch, 1996; Kay & Ray, 2004; Ladd et al., 1998; Pitts, 1976; Tamm, 1996), as well as in non-Western and non-Christian environments, such as Japan (Brandt et al., 2009) and Buryatia (Dandarova, 2013). This demonstrates the widespread major role of anthropomorphism that can be shown in the religious domain, which is consistent with Guthrie's thesis of anthropomorphism, and it supports the primary role of cognitive development over culture.

In this body of research, different age ranges have been studied: 3–18 years of age (Ladd et al., 1998); 9–19 years of age (Tamm, 1996); 6–15 years of age (Dandarova, 2013); 6–10 years of age (Pitts, 1976); 7–14 years of age (Brandt et al., 2009); 7–16 years of age (Hanisch, 1996). For reasons of sampling and methods discrepancies, as well as an occasional lack of available data, it is difficult to detect if the reduction in the use of anthropomorphism is sudden, or if it is a progressive phenomenon, taking place over a period of years. Based on Hanisch (1996), the existence of a sudden shift may be hypothesized. However, as noted in some of the

studies above, drawings of God judged to be non-anthropomorphic can be observed, to some extent, at any age (e.g., Tamm, 1996).

In addition to age, religious education and socialization seem to play a facilitating role in the use of non-anthropomorphic God representations. Hanisch (1996) has reported an earlier shift among children who were formally exposed to religion when compared with children who had had no prior exposure to religion. Anthropomorphic figures dropped from 70.3 to 21.1% between 10 and 16 years of age in the former group, and went down from 91.9 to 76.2% between the same age range in the latter group. A similar effect of religious education was found in Brandt et al. (2009). Concerning potential differences between religious denominations, evidence is inconsistent as to whether the denomination itself is a significant factor (Pitts, 1976), or not (Ladd et al., 1998).

There are a number of issues with the usage of terms describing what is not anthropomorphic across those studies. Ladd et al. (1998) uses the term *symbolic*, Pitts (1976) uses *abstrac*t, Brandt et al. (2009) and Hanisch (1996) both use the term *non-anthropomorphic*, while Dandarova (2013) uses the term *non-figurative*. In addition to the disparity of terminology, and perhaps meaning, it is not always very clear what is being assessed in the study. Is the focus placed on the God figure in the drawing, or on the entire composition? Furthermore, different forms of epistemic hurdles appear: a binary view of anthropomorphism has often been adopted to describe developmental changes (e.g., Tamm, 1996); categories of being might be somewhat arbitrarily ordered along some level of abstraction (e.g., Brandt et al., 2009). Examples of more adjusted measures can be found in Ladd et al. (1998) and Pitts (1976), who have specifically employed measures of symbolism and anthropomorphism, respectively. However, there is a lack of clarity regarding what the precise object of study is in the former, and the latter has used measurements that may be appropriate for drawings of human beings (see the Goodenough-Harris Draw-A-Person test) but show limited application on drawings of God that do not appear entirely human. Yet what is common to all such research is that there seems to be an overall tendency for children to move away from merely anthropomorphic God representations, as they grow older.

This general literature review of relevant theoretical constructs, on the one hand, and of children's drawings of God, on the other hand, leads to the goal of the current chapter, which is to suggest a revised developmental perspective on anthropomorphism in God representations.

A Revised Developmental Perspective on Anthropomorphic God Representations: Progressive *De-Anthropomorphization*

As it has been shown, anthropomorphism in religion can be understood as the "systematic application of human-like models to nonhuman in addition to human phenomena" (Guthrie et al., 1980). Our perspective departs from such views by looking at this issue from the other end. Anthropomorphic forms of God in individual

representations will be considered a first conceptual anchor. Unlike the HADD postulated by Barrett, our view does not attend to perception under cognitive constraints, but instead on the deep conceptual construction of the divine.

The main issue at stake, therefore, is how such representations lose their humanness, that is, how they are *de-anthropomorphized*. I propose that it is not (only) a matter of shift (i.e., from anthropomorphic to non-anthropomorphic), but (also) a question of balance between ontologies (i.e., between humanness and non-humanness). As a first step, I will define de-anthropomorphization. As a second step, I will hypothesize the developmental course of God representations, on that basis of de-anthropomorphization. More specifically, I will address the following question: If God representations are initially mostly anthropomorphic, how do they become progressively less "human"?

What Is Meant by De-Anthropomorphization?

There are a few theoretical assumptions that are implied by the term *de-anthropomorphization*. First, *un*-doing something supposes that there is an initial representation of that something. In this case, it means that the subject conceptually grasps the idea of a human being in a first stage and then proceeds to some alteration of that idea in a second stage.

Past developmental research indicates that very young children are capable of representing the human being. Children as young as 4 years of age manage to draw a human figure that can be recognized as such, and from age five or six, they are generally able to draw the limbs with increasing detail, including the extremities (Royer, 2011). At a conceptual level, children begin by making broad distinctions between the categories of things and sentient beings (Carey & Spelke, 1994). Ultimately, through conceptual change, they come to make finer distinctions within each category and to recognize more accurately what is human and what is not.

Second, de-anthropomorphization entails that some characteristics drawn in conjunction with a human figure contribute to an alteration of its humanness. In a second stage, after conveying the idea of a human being, there is some alteration made to the human figure, in such a way that it is no longer recognizable as an entity that entirely fits the human category. Such alteration may take place outside the human category or within it. More specifically, elements associated with other categories of being (i.e., ontologies) may be brought into the representation. In a similar manner, typically human elements may, by their presence or absence, alter the human nature of the figure. Examples are provided below in the third point addressing assumptions regarding *de-anthropomorphization*.

Some similarity to this may be found outside the study of God representations. Research in developmental psychology has shown that when asked to draw a representation of an entity that does not exist (e.g., a person, a house, or an animal that does not exist) children as young as 4 years exhibit the ability to do so (Karmiloff-Smith, 1990). The complexity of the drawings increases as age increases, reflecting the corresponding increase in cognitive abilities.

Although Pnevmatikos (2002) contended that the background is not an indicator of "conceptual change" about the God figure, but only a possible sign of "belief revision." I suggest that the context in which the God figure is depicted (the background of the drawing) could potentially contribute to de-anthropomorphization. Certainly, if the point of interest lies in whether the God figure is ontologically altered as a human being, the background should be relevant. Indeed, one may consider *superhuman* properties such as the ability to self-propel into the sky or to hover over the ground. Either of these abilities do convey non-human properties, and when they supply the context for the figure, they suggest to the viewer that the figure deviates from the human category, as ordinary human beings do not self-propel into the sky, nor do they hover over the ground. Such qualities may not only be superhuman but more broadly *supernatural*, making the ontological nature of the God representation more complex and "not only human."

Third, such alteration may be communicated through the inclusion of elements taken from categories other than human or may be conveyed within the human category. In that regard, de-anthropomorphization was conceived of as combined sameness-otherness with the human being, following Guthrie (1993). Guthrie did not make any particular distinction between a human or non-human base as a conceptual anchor, but the current study does. I positioned anthropomorphic and non-anthropomorphic God figures on the ends of a continuum. This combines a categorical approach with a dimensional one: anthropomorphic stands for the human category and non-anthropomorphic stands for non-human categories, between which there will be forms that combine some parts of each category in various proportions. Closer to the anthropomorphic end we would find figures that are not only human, but are mostly so (i.e., human-based) therefore they are de-anthropomorphized. For example, an angel will generally be drawn as a human figure with wings and a nimbus. At a representational level, it is mostly human, but the wings and nimbus alter the character of the representation and make it not only human. Near the opposite (non-anthropomorphic) end, non-human figures (i.e., non-human-based) may include some human characteristics, hence be anthropomorphized. With this third point being considered, the reader may now get a better sense of what is meant by de-anthropomorphization in the context of the current study.

Additionally, de-anthropomorphization may be administered to a human figure without any reference to other categories of being, that is, while remaining within the human category. For example, a figure may lack essential features such as a face, or may possess extra human features, such as supplemental pairs of arms. Conceptually, this adds a dimension to de-anthropomorphization, in addition to the anthropomorphic-non-anthropomorphic axis.

As an effect, de-anthropomorphization, will be understood as the addition or removal of any element, such that it conveys a sense of *otherness* from the human being, ontologically. As a process, de-anthropomorphization applies to human-based anthropomorphic figures. More precisely, it requires an initial human model to which ontological alterations are made. This is relevant at a conceptual level and the order in which features are added contributes to the interpretation of the

drawing. In that sense, if a cloud has an eye added to it, it will be interpreted (in the context of this inquiry) as an anthropomorphized cloud, and not as a de-anthropomorphized face. For the latter to be observed, there would have to be a more substantial human base to the figure, such as a human body or body parts that comprise the greatest part of the figure.

As a next step, I propose to link de-anthropomorphization with strategies. Utilizing the term *strategy* might carry the underlying assumption that the approach to de-anthropomorphizing is necessarily fully conscious. However, following Bull and Scerif (2001), I concur that generating a strategy "may be spontaneous or may arise through some kind of problem-solving process" (p. 276). Therefore, the term *strategies* will hereby be understood as applying to a potentially broad variety of levels of consciousness (from fully automatic to highly intentional), proceeding from a series of actions leading to a goal (i.e., combined sameness-otherness with the human being). There is some speculation here: can the drawing task generate a goal of de-anthropomorphization as a means to the desired end, the representation of God? Postulating such initial motivation does seem sound when dealing with human-based figures, because the implicit incentive to distinguish God from an "ordinary" human being will be recognized by most participants.

What Is the Developmental Course for De-Anthropomorphization of Children's Representations of God?

Between the two extremes of a binary conception of anthropomorphism, *de-anthropomorphization* supposes two main possible ontological arrangements. In both cases, the resulting human-like figure exhibits some degree of decreased humanness. First, it may imply a combination of humanness and non-humanness, based on some ontological mixture. Second, by lacking characteristics that are central to the human being (e.g., a face), a human-based figure may also be de-anthropomorphized, without necessarily mixing ontological categories.

The main assumption is that de-anthropomorphizing God representations, following either of the two main ontological scenarios, increases with age. A possible consequence of this would be that de-anthropomorphized God figures lie on a continuum between anthropomorphic and non-anthropomorphic representations of the divine, based on the age of the artist. It is also possible that there is no mandatory course of development, and that de-anthropomorphization may be exacerbated without ever leading to completely non-anthropomorphic God representations.

Nevertheless, why should de-anthropomorphization, in this context, be closely associated with age? As demonstrated in previous research, there are several hypothetical reasons for this. One such reason might be that children are exposed to testimonies that orient them in the direction of combined humanness/non-humanness (see Harris et al., 1991). Stories told to young children about God are often simplified, unlike the complex, theologically focused information that the older ones hear

(or see). Suggesting such an impact of the surrounding discourse leaves open the possibility that some children among the youngest may also produce some forms of de-anthropomorphized God figures, depending on how much exposure they have had to differing descriptions of the divine.

Another possible reason is that children grow to reach progressive mastery of cultural codes regarding religious representations. These representations typically combine humanness and nonhumanness, in the Christian world as well as in many other, if not most, religions. This means that children might comply more and more with the analogical complexity of the representations provided within their cultural background. This supposes that they get to articulate symbols according to cultural analogies (see Kaufmann & Clément, 2007) relating to the divine.

How does this age tendency occur? It occurs due to increased cognitive abilities, further development of concepts and ontologies, as well as analogical thinking. The youngest children, when exposed to de-anthropomorphization in God figures, do not systematically perceive the analogical nuances that build ontological peculiarities. If the children do not detect them, they are not likely to reproduce them. The presumed hybrid nature of God as a concept (for conceptual hybridism, see Vicente & Martínez Manrique, 2016) is likely to lead children to represent human-like God figures with elements belonging to other ontological categories due to co-activation of conceptual networks that are more or less salient in the working memory. Additionally, children must have acquired a sufficient *theory of pictures* (see Freeman, 1998) in order for them to realize that their drawing has to be decoded by another individual, using a common visual language that supports the communication of ideas about God.

It is important to acknowledge the role potentially played by children's creativity and divergent thinking abilities in that regard; however, these aspects are not emphasized in this project because the general rationale was to make sense of the "mainstream" ontological peculiarities.

General Scientific Rationale

The main goal is to understand better how God representations develop in view of de-anthropomorphization throughout childhood. There is also an incentive to be able to explain continued development of this phenomenon into adulthood. Knowing more about the progress from the early stages will provide more insight the God representations of adults: what adults' God representations are "made of," what their core is, and what earlier forms might have looked like. A child's form of God representation is likely to bear strong influence on any future iterations of God representations because it will constitute the basis for change. It is worthwhile to note that the term "maturation" is purposefully avoided, as the notion of God cannot be reasonably expected to "grow" or to "bloom" from the perspective of the current concept- and analogy-based approach. Instead, it undergoes change, as a concept or a representation, without the idea of being "better." Greater differentiation from

other concepts, such as the human being, may be visible. Similarities to cultural analogies available in one's background may appear more strongly. Focusing on this type of change is radically different from assuming a "favorable" or "normal" course of development for God representations with regard to anthropomorphism.

While all of this concerns individual development, more specifically ontogenesis, there is an interesting parallel that can be drawn with phylogenesis. By adopting a general evolutionary perspective, cognitive approaches to the study of religion postulate the existence of various cognitive devices, information-processing biases, and so on, endeavoring to explain how those may have developed across the species history. Such historical development would be useful to the survival of the species, and this includes the detection of agency (e.g., Barrett, 2000, 2004) or anthropomorphism (e.g., Guthrie, 1993). I do not posit anthropomorphization of God, among many other intentional agents, to be necessary to survival. This project moves in the opposite direction: focusing on more reflected representations of God (rather than in-the-moment hasty inferences). I view anthropomorphism as a starting point, which may then be altered, either by adding non-anthropomorphic properties, or by removing central human ones. If God, as a concept, is hybrid, it may be hypothesized that it benefits from many exemplars; so many, in fact that individuals may be left feeling somewhat perplexed. Borrowing from different concepts, and primarily from the human being, to explain the divine, might have been a social work in progress that was never finished due to the lack of access to real-life referents (apart from cultural productions) and to its complex hybridism. Through the production of cultural forms, including pictures, generations of social actors have been exposed to such conceptually hybrid representations/suppositions about God. They have learned to reproduce such forms, but also to grasp the conceptual signification of such hybridism: God can be conceptualized as human, yet not exactly human. Therefore, without postulating a survival function (as an evolutionary perspective would do), only a parallel between ontogenesis and phylogenesis is drawn. I base the parallel on two main aspects. First, there is exposure to cultural forms about a concept (in this case, God) and their reproduction. Second, those cultural forms reflect human cognition, and the more developed the cognition (as children grow up), the greater the ability to grasp the nuances of the forms.

Better insight into developmental changes that occur in the way children represent God may in turn shed light on the development of God representations across history. Supposing a primary layer of humanness in God, followed by some de-anthropomorphization, the current perspective would suggest that God was initially conceived of as a form of human. Then, the concept underwent some differentiation through decreased humanness. This might have taken the form of ontologically mixed figures or figures lacking central characteristics displayed by human beings.[2]

[2] It is important to clarify that such assumptions are meant to bear explanatory power for the current issue, and by no means are they intended to harm the psychological integrity of real-life individuals who exhibit unusual bodily appearance.

Conclusion

Past research on children's God representations, such as children's drawings of God, has relied on exclusive binaries in order to understand the anthropomorphism in such representations. The current project has addressed anthropomorphism in children's God representations from a theoretical perspective. By employing a mainly cognitive approach, I have scrutinized the central theories in the cognitive science of religion as well as those concerning how children develop concepts and ontologies. This theoretical background provided the impetus to move beyond such binaries, and propose a revised developmental perspective that offers two main inputs:

1. Guthrie's (1993) notions of *sameness* and *otherness* provided the basis for the scenario of the co-occurrence of both humanness and non-humanness in anthropomorphic God figures depicted by children. I identify this as a *cross-category approach*. An additional scenario occurs in the case of the lack of central human characteristics. I identify that as a *within-category approach*. These two scenarios contribute to the development of the notion of *de-anthropomorphization*, as described in this work. It implies that children begin with a conceptual anchor in the human category for conceiving of God. They might then proceed to ontological peculiarities, according to the above, that indicate that God is *not only human*.
2. De-anthropomorphization is likely to change across individual development. In particular, it should become more pronounced as children get older. Various factors were suggested in that regard, such as adult testimony and the progressive mastery of cultural analogies. This understanding draws heavily on sociocultural points of influence, with the caveat that these only come into play to the degree that children have gained sufficient cognitive abilities.

In the main, this sets the ground for further exploration of the issue of anthropomorphism in children's representations of God by proposing more complexity and acknowledging the possible multidimensionality of this phenomenon.

The next step will consist in testing this theoretically revised developmental perspective empirically. The data sample will be composed of children's drawings of God from French-speaking Switzerland. There will also be an attempt to replicate past findings, identifying a shift from anthropomorphic to non-anthropomorphic God figures and a clarifying the role of religious education in children's representations of God. This will permit the reader to observe how these data compare to the data used in previous studies. If the outcome of the replication attempt is positive, it will give more strength to the testing of *de-anthropomorphization* in that sample of drawings. De-anthropomorphization will be explored through the identification of different strategies possibly used by children. In that sense, the inquiry will be partly data-driven. Finally, besides those strategies, drawings of God will be considered according to the status of the representations they display (e.g., figurative vs. non-figurative).

References

Atran, S. (2004). *In gods we trust: The evolutionary landscape of religion*. Oxford University Press.

Barrett, J. L. (2000). Exploring the natural foundations of religion. *Trends in Cognitive Sciences, 4*(1), 29–34.

Barrett, J. L. (2004). *Why would anyone believe in God?* AltaMira Press.

Barrett, J. L., & Keil, F. C. (1996). Conceptualizing a nonnatural entity: Anthropomorphism in God concepts. *Cognitive Psychology, 31*(3), 219–247. https://doi.org/10.1006/cogp.1996.0017

Barrett, J. L., & Richert, R. A. (2003). Anthropomorphism or preparedness? Exploring children's God concepts. *Review of Religious Research, 44*(3), 300–312.

Barrett, J. L., Richert, R. A., & Driesenga, A. (2001). God's beliefs versus mother's: The development of nonhuman agent concepts. *Child Development, 72*(1), 50–65.

Bering, J. M. (2002). The existential theory of mind. *Review of General Psychology, 6*(1), 3–24.

Boyer, P. (1994). Cognitive constraints on cultural representations: Natural ontologies and religious ideas. In L. Hirschfeld & S. Gelman (Eds.), *Mapping the mind: Domain specificity in cognition and culture* (pp. 391–411). Cambridge University Press.

Boyer, P. (2001). *The evolutionary origins of religious thought*. Basic Books.

Boyer, P., & Walker, S. (2000). Intuitive ontology and cultural input in the acquisition of religious concepts. In K. S. Rosengren, C. N. Johnson, & P. L. Harris (Eds.), *Imagining the impossible: Magical, scientific, and religious thinking in children* (pp. 130–156). Cambridge University Press. https://doi.org/10.1017/CBO9780511571381.006

Brandt, P.-Y., Kagata Spitteler, Y., & Gillièron Paléologue, C. (2009). La représentation de Dieu : Comment les enfants japonais dessinent Dieu. *Archives de Psychologie, 74*, 171–203.

Bull, R., & Scerif, G. (2001). Executive functioning as a predictor of children's mathematics ability: Inhibition, switching, and working memory. *Developmental Neuropsychology, 19*(3), 273–293.

Carey, S. (1985). *Conceptual change in childhood*. MIT Press.

Carey, S. (1988). Conceptual differences between children and adults. *Mind & Language, 3*(3), 167–181.

Carey, S., & Spelke, E. (1994). Domain-specific knowledge and conceptual change. In *Mapping the mind: Domain specificity in cognition and culture*, (Vol. 169, p. 200).

Clément, F. (2003). *Les dieux disséqués. Vers une science du religieux, Critique*, (10), 747–762.

Clément, F., Koenig, M., & Harris, P. (2004). The ontogenesis of trust. *Mind & Language, 19*(4), 360–379.

Dandarova, Z. (2013). Le dieu des enfants: Entre l'universel et le contextuel. In P.-Y. Brandt & J. M. Day (Eds.), *Psychologie du développement religieux: questions classiques et perspectives contemporaines* (pp. 159–187). Labor et Fides.

Davis, E. B., Moriarty, G. L., & Mauch, J. C. (2013). God images and god concepts: Definitions, development, and dynamics. *Psychology of Religion and Spirituality, 5*(1), 51–60.

Descola, P. (2005). *Par-delà nature et culture*. Gallimard. English Edition: Descola, P. (2013). *Beyond nature and culture*. University of Chicago Press.

Evans, E. M. (2001). Cognitive and contextual factors in the emergence of diverse belief systems: Creation versus evolution. *Cognitive Psychology, 42*(3), 217–266.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). McGraw-Hill.

Freeman, N. (1998). Drawing on the imagination in young children. *Drawing and Visualisation Research*, 1–10.

Freud, S. 1964 (1927). *The future of an illusion*. Anchor Books.

Gibson, N. J. (2008). Chapter 11. Measurement issues in god image research and practice. *Journal of Spirituality in Mental Health, 9*(3–4), 227–246.

Goldman, R. J. (1964). *Religious thinking from childhood to adolescence*. Routledge, Kegan & Paul.

Gombrich, E. (1956). *Art and illusion*. Phaidon.

Gorsuch, R. L. (1988). Psychology of religion. *Annual Review of Psychology, 39*(1), 201–221.

Gray, K., & Wegner, D. M. (2010). Blaming God for our pain: Human suffering and the divine mind. *Personality and Social Psychology Review, 14*(1), 7–16.
Guthrie, S. (1993). *Faces in the clouds : A new theory of religion*. Oxford University Press.
Guthrie, S., Agassi, J., Andriolo, K. R., Buchdahl, D., Earhart, H. B., Greenberg, M., et al. (1980). A cognitive theory of religion [and comments and reply]. *Current Anthropology*, 181–203.
Hanisch, H. (1996). *Die zeichnerische entwicklung des Gottesbildes bei kindern und jugendlichen*. Calwer/Evangelische Verlagsanstalt.
Harms, E. (1944). The development of religious experience in children. *American Journal of Sociology, 50*, 112–122.
Harris, P. L., Brown, E., Marriott, C., Whittall, S., & Harmer, S. (1991). Monsters, ghosts and witches: Testing the limits of the fantasy—Reality distinction in young children. *British Journal of Developmental Psychology, 9*(1), 105–123.
Harris, P. L., & Koenig, M. A. (2006). Trust in testimony: How children learn about science and religion. *Child Development, 77*(3), 505–524.
Harris, P. L., Pasquini, E. S., Duke, S., Asscher, J. J., & Pons, F. (2006). Germs and angels: The role of testimony in young children's ontology. *Developmental Science, 9*(1), 76–96.
Haslam, N., Kashima, Y., Loughnan, S., Shi, J., & Suitner, C. (2008). Subhuman, inhuman, and superhuman: Contrasting humans with nonhumans in three cultures. *Social Cognition, 26*(2), 248–258.
Hill, P. C., & Hall, T. W. (2002). Relational schemas in processing one's image of God and self. *Journal of Psychology and Christianity, 21*(4), 365–373.
Johnson, C. N., & Harris, P. L. (1994). Magic: Special but not excluded. *British Journal of Developmental Psychology, 12*(1), 35–51.
Johnson, M. (1981). *Philosophical perspectives on metaphor*. University of Minnesota Press.
Karmiloff-Smith, A. (1990). Constraints on representational change: Evidence from children's drawing. *Cognition, 34*(1), 57–83. https://doi.org/10.1016/0010-0277(90)90031-E
Kaufmann, L., & Clément, F. (2007). How culture comes to mind: From social affordances to cultural analogies. *Intellectica, 46*(2–3), 221–250.
Kay, W. K., & Ray, L. (2004). Concepts of God: The salience of gender and age. *Journal of Empirical Theology, 17*(2), 238–251.
Keil, F. C. (1983). On the emergence of semantic and conceptual distinctions. *Journal of Experimental Psychology, 112*(3), 357.
Kelemen, D. (2004). Are children "intuitive theists"? Reasoning about purpose and design in nature. *Psychological Science, 15*(5), 295–301.
Koenig, M. A., Clément, F., & Harris, P. L. (2004). Trust in testimony: Children's use of true and false statements. *Psychological Science, 15*(10), 694–698.
Ladd, K. L., McIntosh, D., & Spilka, B. (1998). Children's God concepts: Influences of denomination, age and gender. *International Journal for the Psychology of Religion, 8*, 49–56.
Lawrence, R. T. (1997). Measuring the image of God: The God image inventory and the God image scales. *Journal of Psychology and Theology, 25*(2), 214–226.
Lin, E. L., & Murphy, G. L. (1997). Effects of background knowledge on object categorization and part detection. *Journal of Experimental Psychology: Human Perception and Performance, 23*(4), 1153.
Miller, E. F. (1979). Metaphor and political knowledge. *American Political Science Review, 73*(1), 155–170.
Moss, H. E., Tyler, L. K., & Taylor, K. I. (2007). Conceptual structure. In G. Gaskell (Ed.), *The Oxford handbook of psycholinguistics* (pp. 217–234). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780198568971.013.0013
Neisser, U. (1976). *Cognition and reality. Principles and implication of cognitive psychology*. Freeman and Company.
Norenzayan, A., Atran, S., Faulkner, J., & Schaller, M. (2006). Memory and mystery: The cultural selection of minimally counterintuitive narratives. *Cognitive Science, 30*(3), 531–553.
Nye, W. C., & Carlson, J. S. (1984). The development of the concept of God in children. *The Journal of Genetic Psychology, 145*(1), 137–142.
Piaget, J. (1929). *The child's concept of the world*. Routledge & Kegan Paul.

Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. Basic Books.
Pitts, V. P. (1976). Drawing the invisible: Children's conceptualization of God. *Character Potential: A Record of Research, 8*, 12–25.
Pnevmatikos, D. (2002). Conceptual changes in religious concepts of elementary schoolchildren: The case of the house where God lives. *Educational Psychology, 22*(1), 93–112.
Reisberg, D. (2015). *Cognition: Exploring the science of the mind* (6th ed.). WW Norton.
Rizzuto, A.-M. (1979). *The birth of the living God: A psychoanalytic study*. University of Chicago Press.
Rohrer, D. (2002). The breadth of memory search. *Memory, 10*(4), 291–301.
Royer, J. (2011). *Dessin du bonhomme: La personnalité de l'enfant dans tous ses états*. Dunod.
Sommers, F. (1959). The ordinary language tree. *Mind, 68*(270), 160–185.
Sperber, D. (1975). *Rethinking symbolism*. Cambridge University Press.
Sperber, D. (1996). *Explaining culture: A naturalistic approach*. Cambridge.
Spiro, R. J. (1988). Multiple analogies for complex concepts: Antidotes for analogy-induced misconception in advanced knowledge acquisition. *Similarity and Analogical Reasoning, 2*, 2–23.
Tamm, M. (1996). The meaning of death for children and adolescents. *Bereavement Care, 15*(3), 32–33.
Upal, M. A. (2011). From individual to social counterintuitiveness: How layers of innovation weave together to form multilayered tapestries of human cultures. *Mind & Society, 10*(1), 79–96.
Verbeemen, T., Vanpaemel, W., Pattyn, S., Storms, G., & Verguts, T. (2007). Beyond exemplars and prototypes as memory representations of natural concepts: A clustering approach. *Journal of Memory and Language, 56*(4), 537–554.
Vicente, A., & Martínez Manrique, F. (2016). The big concepts paper: A defence of hybridism. *The British Journal for the Philosophy of Science, 67*(1), 59–88. https://doi.org/10.1093/bjps/axu022
Vosniadou, S. (1989). Analogical reasoning as a mechanism in knowledge acquisition: A developmental perspective. *Similarity and Analogical Reasoning, 2*, 413–437.
Wellman, H. M., & Gelman, S. A. (1992). Cognitive development: Foundational theories of core domains. *Annual Review of Psychology, 43*(1), 337–375.
Wellman, H. M., & Woolley, J. D. (1990). From simple desires to ordinary beliefs: The early development of everyday psychology. *Cognition, 35*, 245–275.
Wright, K., Poulin-Dubois, D., & Kelley, E. (2015). The animate–inanimate distinction in preschool children. *British Journal of Developmental Psychology, 33*(1), 73–91.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.