Liturgical Anthropology:
A Developmental Perspective

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Abstract: According to recent accounts of so called "liturgical anthropology," human beings are ritual creatures shaped more by what they feel than what they think. This is because the liturgies that make up our daily lives orient our desires towards certain goals and visions of the good life. We seek to expand this vision of liturgical anthropology by offering a critique of a predominantly affective vision of human development in which liturgy shapes primarily what we love. Drawing insights from developmental psychology, we argue that affect and cognition are intertwined throughout development, each reinforcing the other. Instead of attempting to artificially separate cognition and affect, then, we offer a vision of liturgical anthropology that is holistic, paying attention to the ways in which both our desires and beliefs are shaped by participation in liturgies, whether these be religious or otherwise. Finally, we argue that the psychological concept of "joint attention" can provide a helpful focal point for establishing why liturgy and ritual is so formative for human development.

Keywords: Liturgy, Anthropology, Developmental psychology, Cognition, Affect

1. Ritual and Anthropology[1]

Human beings are ritual creatures. From an early age, we understand the world through repetitive habits and practices. Mundane activities, like eating and sleeping, involve regularly repeated routines, and rituals of family storytelling

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and reminiscing shape our sense of identity and memory. This ritualized development is also inherently social in nature; it is through engagement with caregivers and parents that we learn how to engage properly in ritualized action. As developmental psychologists are keen to remind us, without interaction we cannot properly realize our capacities to think, to feel, or to act in the world.[2]

The importance of ritual for understanding what it is to be human has not gone unnoticed by theologians either. In his recent work on the rituals of Hebrew Scripture, Dru Johnson has outlined the importance of ritual participation in coming to understand ourselves, the world and its creator. Summarizing his thesis, Johnson writes, "Ritual participation forms us to recognize and then discern as one of its central functions. Because humans are ritualized creatures, we will always have embodied understanding of the world even where our understanding appears to be solely verbal" (2016, 5). According to James K.A. Smith (2009)—who has developed one of the most influential accounts of liturgical anthropology—the reason rituals and liturgies are so formative to us is because human beings are primarily desiring creatures. Smith argues that rituals are a vital means by which our desires are shaped, even if we are not aware of the ways in which they do so.

Johnson's and Smith's accounts find resonance with many of the ways the psychological sciences describe ritual formation.[3] And there are clearly points of contact between the psychological sciences and the topics of theological anthropology. Yet, we think that the discussion stands to benefit from a more in–depth dialogue between these two disciplines. For as we show, many of the presuppositions made by theological approaches to ritual oversimplify, and sometimes contradict, the insights found in psychological sciences. More specifically, developmental psychological research presents a complex and intertwined account of the relationship between cognition and affect, problematizing a liturgical anthropology rooted only in desire. Furthermore, developmental psychology has demonstrated the profoundly social origins of human cognition (Rogoff et al. 1995, Tomasello 2019; Vygotsky 1978).

While we agree with Smith that human beings are undoubtedly shaped by the practices they engage with from a very young age, we argue that it is simplistic to think that these practices are *primarily* desire orientated, and problematic not to emphasise the social origins of these practices. Whereas Smith thinks rituals are important because they shape our desires, instead, we argue that a liturgical anthropology requires a complex account of human formation; we are shaped cognitively (implicitly and explicitly), affectively, and bodily through

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[2] Whilst the specifics of leading theoretical accounts differ, there is widespread agreement regarding the crucial role of social interaction in development. See: Hobson (2004); Reddy (2008); Tomasello (2019).

[3] See, for example, a recent collection of papers on ritual: Legare and Nielsen (2020).

participation in liturgical practices that are social in origin. Finally, we conclude by proposing an alternative focus for future work in this area, namely, to consider the role of joint attention in liturgy. It is our contention that liturgies are so formative not merely because they shape our desire (per Smith) but because they direct the focus and quality of our attention in important ways.

First, a caveat concerning methodology and a second on terminology. Throughout the article, we seek to do "psychology–engaged" theology, showing the insights that can be gained by drawing upon the empirical findings psychologists have generated, and considering psychological perspectives on existing theological questions.[4] But it is important to acknowledge that our insights here are drawn from a particular tradition in psychology; that which can be broadly termed a *sociocultural approach*. This perspective can be found in the influential works of Vygotsky (1978), Bruner (1986, 1990) and Rogoff (Rogoff et al. 1995), and more recently is championed by psychologists such as Tomasello (2019). Broadly speaking, it refers to those views that give a central role to social and cultural influences on human development. We adopt this viewpoint as we argue that it provides the most promising theoretical framework in light of the current best available evidence that psychologists have identified. Psychology and the cognitive sciences consist of a large variety of theories and disciplines with no overarching unifying framework; it is thus not a "mature science" in the sense used by Varela and colleagues (2017). On our view, to be psychology–engaged requires accepting that, at present, there can never be a single "Psychology" with which to engage; thus, it is necessary to adopt a particular theoretical starting point from which to build a psychology–engaged argument.

Secondly, we use the terms "practice", "ritual", and "liturgy" throughout. There is no uncontentious way to use these terms, particularly when attempting interdisciplinary engagement. We opt to use them, broadly following their usage in the psychological sciences, as increasingly specific terms capturing related concepts. "Practices" are any kind of repeated, defined sequences of bodily activity,[5] while "rituals" are practices as used in symbolic, culturally meaningful ways that are at least partly non–instrumental; either the ritual has no apparent practical effect, or it is not clear how the ritual achieves its stated aim.[6] Rituals are also conducted with the goal of generating various cognitive and affective

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[4] See Perry and Leidenhag (2021).

[5] For an example of this usage, see Racine and Carpendale (2007).

[6] Psychologists and cognitive anthropologists use the term "goal demotion" to describe cases where participants are unaware of why they and/or others are required to act in a certain manner, and use "causal opacity" to describe cases in which participants cannot articulate the mechanism by which a ritual achieves its purported effects; see Kapitány and Nielsen (2017). Our definition of ritual here draws primarily from Kapitány, Kavanagh, and Whitehouse (2020).

responses in participants.[7] Finally, we use "liturgy" to refer to the format of specifically religious rituals.[8] However, the work with which we engage will not always use these terms in the same manner, and thus we will try to be clear on the sense in which each term is used.

1.1. *Homo Liturgicus*: Smith's Anthropology of Desire

Let us begin by considering one of the most influential discussions of liturgical anthropology in the theological literature. James K.A. Smith, in his ambitious and wide–ranging "cultural liturgies" series, outlines a vision of what it is to be human, which thinks of human beings as primarily *desiring* creatures. For Smith, in contrast to what he takes to be a dominant view in Western philosophy and theology, human beings are not fundamentally *thinkers*, but *lovers*. Our desires, he thinks, are shaped by the practices we participate in, whether that be our shopping habits, or the liturgies of religious worship. Hence, Smith thinks, human beings are *homo liturgicus*; creatures shaped by desire–orientated practices, which aim to inculcate competing visions of the good life.

The most important insight from Smith's work, as we see it, is to notice that understanding the propositional content of liturgy is not sufficient for understanding how liturgy shapes us. Consider an example from the Danish philosopher, Søren Kierkegaard (1846/1992). Kierkegaard claims that to understand the concept of gratitude is not to understand what it *is* to be grateful. For instance, Kierkegaard imagines, hearing the words in a sermon: "You should be grateful to God each day," understanding the semantic content, and still lacking an understanding of what it means be grateful. What is needed, he thinks, is that gratitude is lived out, reflected upon by the individual, and not merely that the propositions are understood. This sentiment seems to be at the heart of Smith's reflections on liturgy; the best way to become grateful, Smith might say, is not to think carefully about gratitude, but to participate in practices which inculcate this gratitude in one's life.[9] For instance, one might use liturgies which express gratitude to God, spend time listing the things one is grateful for, always remember to send thank–you cards to relatives after receiving gifts, and so on.

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[7] See Whitehouse and Lanman (2014); Kapitány, Kavanagh and Whitehouse (2020).

[8] As an anonymous reviewer helpfully highlights, there are transformations between these different levels, with practices becoming rituals and rituals taking on religious significance and thus becoming liturgies. Moreover, whilst practices can involve the activity of individuals or dyads, liturgies typically involve larger communities. Whilst we go on to discuss the role of sociality in practices, rituals, and liturgy, we put to one side the issue of precisely how these processes of transformation might occur.

[9] Indeed, this insight is shown by empirical psychology, which shows that regularly writing down reasons to be grateful in a journal has advantages over just thinking about reasons to be grateful (see Emmons and Stern 2013).

These practices do not primarily shape our beliefs about gratitude, Smith thinks, but they orient our desires. Eventually, much like learning how to drive a car, being grateful will come as second nature to us.

Smith's account of being human is best understood in contrast; he aims to dismantle anthropologies that are primarily "cognitivist" or "rationalist," namely, those who think that the human is a fundamentally *thinking thing* or a fundamentally *believing thing.* Such ways of conceiving of human nature, Smith thinks, are overly reductionist, resulting in a "very disembodied, individualistic picture of the human person" (2009, 45). The problem, he argues, is not that cognition is unimportant, but that views that emphasise cognition over and above emotion or affect "are focused on only a slice of being human and so tend to be blind to other, more significant factors that constitute human identity. Instead, they take the slice to be the whole and thus absolutize just one aspect of the human person." (2009, 46).

Thus, Smith proposes an anthropology rooted not in cognition, but in desire. In his own words, this model "sees humans as most fundamentally oriented and identified by love" (2009, 46). According to this desire–oriented model,

> the way we inhabit the world is not primarily as thinkers, or even believers, but as more affective, embodied creatures who make our way in the world more by feeling our way around it. …One might say that in our everyday, mundane being–in–the–world, we don't lead with our head, so to speak; we lead out with our heart and our hands. (2009, 47)

This desire–oriented account is supposed to emphasize the importance of intentionality in all ritualized behavior. This is not to suggest that human beings always consciously intend an aim of some sort, rather, Smith has in mind a kind of "noncognitive and prereflective" (2009, 50) intentionality. What this amounts to, it would appear, is a kind of teleological claim; human action is always directed towards some good or goods. The implications of this account are far–reaching. Indeed, Smith thinks that his model provides an account of what a human being *is*, namely "a lover—a creature whose orientation and form of life is most primordially shaped by what one loves as ultimate, which constitutes an affective, gut–like orientation to the world that is prior to reflection and even eludes conceptual articulation" (2009, 51).

It is against the backdrop of this desire–orientated anthropology that Smith unpacks the notion of the *homo liturgicus.* For the *telos* of our desires is, unsurprisingly, not something that is decided intellectually through conscious reflection, but through "rituals, routines, and exercises…[which] train your adaptive unconscious" (2009, 58). Thus, added to the model of human beings as essentially those who love, Smith adds the qualification "we are selves who *are*

our bodies; thus the training of desire requires bodily practices in which a particular *telos* is embedded" (2009, 62). Summing this up, he writes:
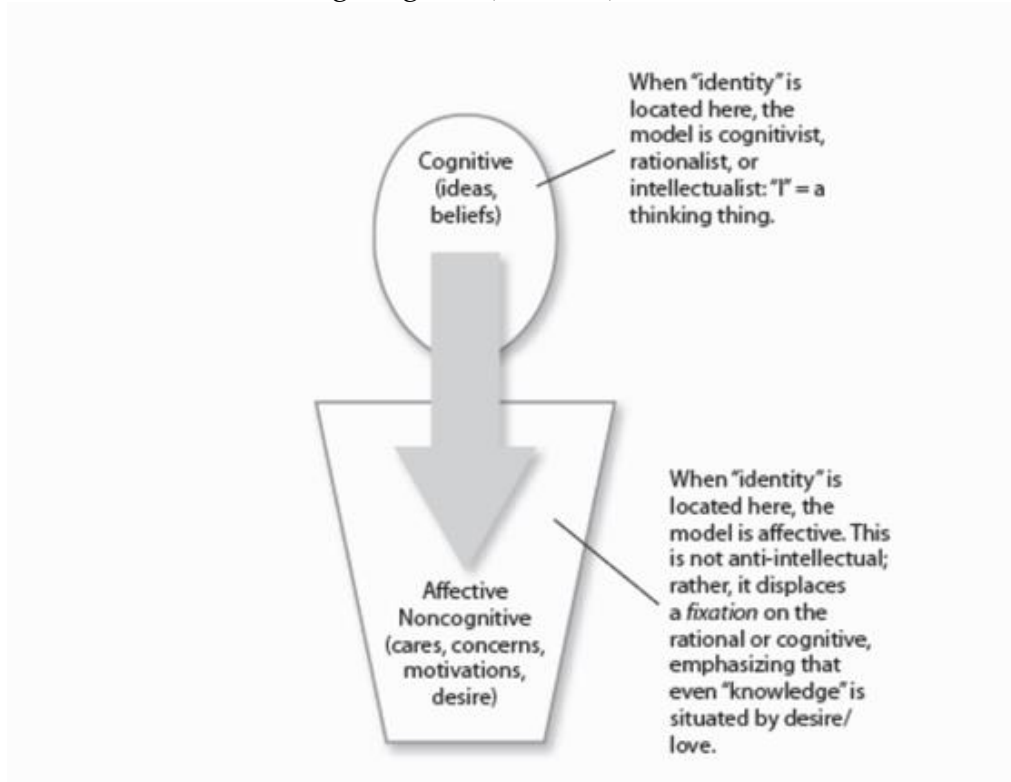
> Human persons are intentional creatures whose fundamental way of "intending" the world is love or desire. This love or desire—which is unconscious or noncognitive—is always aimed at some vision of the good life, some particular articulation of the kingdom. What primes us to be so oriented— and act accordingly—is a set of habits or dispositions that are formed in us through affective, bodily means, especially bodily practices, routines, or rituals that grab hold of our hearts through our imagination, which is closely linked to our bodily senses. (2009, 62)

If human beings are primarily desire oriented, ritual creatures—*homo liturgicus*— then our religious practices must reflect this; worship is something that "Christians *do*" (2009, 64). Liturgy which aims only at changing the mind (e.g. through a persuasive sermon), but doesn't engage the body or the unconscious through ritualized movement and repetition, for instance, will not engage the fundamental part of the person, but only the *cognitive slice* of that person. This much is shown compellingly by Kierkegaard's reflections on gratitude. Those engaged in Christian education and formation must wrestle with the fact that Christian liturgy competes for a person's *telos* with the liturgies of culture, whether they be goals of nationalism, capitalism, or some political ideology. Thus, we should pay attention not just to *what* we say we worship, but *how* we worship. The clothes we wear, the buildings we worship in, the bodily gestures involved in liturgy—these all shape the way in which our desires are shaped.

1.2. Cognition and Affect in Smith's Anthropology

It seems pertinent to ask, given that we attempt to move towards a psychologically–engaged account of liturgical anthropology, what the relationship between cognition and affect is on Smith's model. Smith repeatedly claims that affective processes are more fundamental to human functioning than cognitive processes, which have a secondary role. But given the repeated insistence that this model is "non–reductive," it is difficult to establish what the precise relationship is between human cognition, affect, and ritual on Smith's account. Instead, we are offered suggestive language—his model "shifts the center of gravity of human identity away from a fixation on thinking, ideas, and doctrines and locates it lower, at [sic] it were, in the region of our affective, nonconscious operations" (2009, 63). Such claims, while evocative, are hard to unravel from a psychological perspective, even though psychologically loaded terminology (e.g. "nonconscious") is employed.

What seems clear—especially given Smith's claims about the fundamentality of desire, rather than cognition—is that the account thinks of human beings as affective creatures necessarily (or fundamentally), and cognition merely provides an input to this affective, noncognitive core of a human person. This much seems clear from the following diagram (2009, 64) Smith offers:

Cognitive (ideas, beliefs)

When "identity" is located here, the model is cognitivist, rationalist, or intellectualist: "I" = a thinking thing.

Affective Noncognitive (cares, concerns, motivations, desire)

When "identity" is located here, the model is affective. This is not anti-intellectual; rather, it displaces a *fixation* on the rational or cognitive, emphasizing that even "knowledge" is situated by desire/ love.

We *are* what we love, Smith thinks.[10] This is an anthropological claim about what is fundamental to the identity of human beings. All knowledge, desire and motivation are rooted in an affective core on this picture. It is not that cognition drops out entirely, but that it must be grounded in affect, or else we end up with the Cartesian *thinking I* at the center of anthropology, Smith thinks. Consider an example to help show why. In a revealing passage, Smith considers how engaging with liturgy alongside young children and the cognitively disabled might tell us about the way it shapes us as human beings:

> As I've been articulating this, I have had two special cases in my mind: children and mentally challenged adults. Both have limited capacities for grasping theological concepts or the sorts of theoretical formulations that characterize even worldview–talk. Their ability to process the sorts of abstractions that characterize even beliefs is limited, either temporarily (in the case of children) or

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[10] This is the title to his accessible–level summary of the Cultural Liturgies series (2016).

chronically (in the case of the mentally handicapped). Does that mean that they cannot achieve fullness in Christ? Do the limits of their cognitive abilities impair the hope of their "growing up" into Christ (Eph. 4:15)? Does their inability to traffic in concepts preclude them from being educated? Not according to the anthropology I have sketched above; rather, because we are more fundamentally creatures of love and desire than knowledge. (2009, 136)

An appeal to those with limited cognitive capacities is supposed to show that we cannot be content with a "cognition first" model. And we wish to affirm Smith's concerns for debunking an overly "cognitive" approach to liturgy, and to stress that liturgy is forming for all its participants, not just mentally typical adults. But the conclusions for anthropology do not follow from the premises here.

Why suppose that the relationship between cognition and affect operates as such? As we argue shortly, it is not so easy to simplify the relationship between cognition and affect from a psychological perspective, such that we can neatly point to the operations of these parts of the human person. Indeed, as we look at how cognition and affect develop in early infancy, we will present a mutually reinforcing relationship, rather than one taking priority over the other. We do not need to think that affect is fundamental or primary in order to show that liturgy forms us in ways that do not involve learning facts and doctrines. As we will go on to show, our cognition as well as our affect is shaped implicitly and subconsciously through ritual participation just as our affect is. Even in the very early days of infancy, cognitive development is occurring. And so, a simplistic picture in which liturgy is said to shape us only, or primarily, as creatures of desire will not suffice.

Perhaps, it will be argued, we are merely splitting hairs, and that Smith is using "noncognitive" in a loose and non–scientific sense. While it is true that there may be good reasons to oversimplify psychological frameworks to enforce a conclusion, the effects of this oversimplification downstream, so to speak, are significant. If liturgical practices are seen to be primarily desire shaping and only ever secondarily belief shaping, then Smith's account of liturgical anthropology is potentially as problematic as the position he critiques. In the final two sections, we will show that a holistic approach is needed to explain the formative effects of liturgy. While it is important to see here that while Smith is *not* offering a psychologically–informed account of anthropology, he is using psychologically charged vocabulary such as "affect" and "cognition." And so, a nuanced discussion about liturgy and formation cannot proceed without consideration of the psychological literature.

To be clear: we are not arguing that a theological anthropology which sees love at the centre of human existence can be scientifically falsified. In fact, the psychological perspective we develop in this paper could easily affirm such an anthropology; it would seem strange to think that love is primarily affective

rather than cognitive given how complexly these states interact. Intuitively, although we will not argue for it here, an anthropology makes more sense on our holistic account than on Smith's affect–first account. Thus, while we think Smith is successful in showing that what we believe is not as important as some traditions maintain, a psychologically–informed approach to liturgical anthropology has more scope to explain why this is the case than an anthropology that thinks of affect as our primary driving force.

2. Development and Psychological Holism

A better starting point for thinking about liturgical anthropology from a psychological perspective, we think, is to examine the critical role of *development* in the process of ritual learning. Looking at the development of cognition and affect in infancy can help shed light on how ritual participation shapes the way we think and feel in adulthood. We explore three insights which can help provide what we call a "psychologically holistic" account of liturgy and formation, which we summarize in the next section.

First, developmental psychology underscores the unity of affect, cognition, and action in human experience; while each can be contemplated in abstraction from the other, in lived experience they are always aspects of an interdependent whole (Bruner 1986). The question of which aspect is *primary* or *fundamental* is not a well–formed question from a psychological perspective. Secondly, a developmental perspective highlights the need for a nuanced approach to "cognition," which recognizes that cognition involves processes that are implicit (non–propositional) as well as explicit (propositional) (Gómez et al. 2017). Finally, we argue that an appreciation of development provides insight into the developmental and evolutionary origins of explicit cognition. It has been widely argued that explicit cognitive processes find their origin in social engagement, even from divergent theoretical perspectives (Heyes and Frith 2014; Hutto 2008; Mercier and Sperber 2011; O'Madagain and Tomasello 2019). And thus, we have a helpful paradigm for thinking about how liturgical practices shape our minds (e.g., cognitively and affectively, implicitly and explicitly), the contexts and situations in which this development takes place (e.g., in social interaction and shared practices), and indeed the very central place of development in providing an understanding of human psychology and behavior. In what follows, we unpack these insights in more detail.

2.1. The Unity of Cognition, Affect and Action

The first issue we address is the relation between cognition and affect. These terms are notoriously difficult to define and are used inconsistently in the

psychology literature.[11] However, for our purposes it suffices to use a broad definition to allow us to highlight the salient issues we are aiming to address.[12] Cognition is classically defined as those processes used by an agent to organize incoming information and using this information to plan and direct behavior (Aizawa 2015). We are employing cognitive resources when we compare multiple streams of incoming information, suppress unneeded information, switch between tasks and draw upon previously stored information (Schmeichel and Tang 2015). For example, to cook a meal we may need to remember the recipe, plan in what order we prepare the ingredients, track the temperature of the pan while chopping the onions, all while ignoring the phone ringing. Behavior controlled by cognitive processes is considered intelligent, in that it involves planned and coordinated action as opposed to reflexive, automatic responses.[13]

In defining affect, we follow a broadly constructionist approach in treating affect (or "core affect" (Russel and Barrett 1999), as the feelings arising in the body that are consistently present to us. They can be felt more or less strongly, and more or less positively. When we try and understand or communicate about specific episodes involving these feelings, we conceptualize them in the form of emotions (Hoemann and Feldman Barrett 2019). For example, if we have a conversation, our inner affective state will constantly fluctuate, remaining low–level and slightly positive as we engage in small talk, being experienced as strongly negative as someone says something rude. These fluctuations may need to be conceptualized in order to be articulated, leading to us interpreting these feelings as "I am *angry* she said that" or "I am *worried* by that statement."

It has been argued that cognition and affect only make sense in relation to some kind of situated action involving sensorimotor (bodily) activity; cognition is primarily a means of deciding how to act using the body, and affective patterns arise in response to the environment and the need to act within that environment (Bruner 1986). Critiquing approaches that split cognition, affect and sensorimotor activity,[14] Jerome Bruner coined the label "tripartism" (1986, 61). He cautioned that,

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[11] See discussions in Adams and Garrison (2013); Russel and Barrett (1999).

[12] See Allen, 2017, for an argument in favor of this approach.

[13] There is a large and longstanding debate over how to define cognition. See Aizawa and Adams (2008); Adams and Garrison (2013). On whether cognition is embodied, see Aizawa (2015); Varela et al. (2017). Whilst our perspective bears similarity to some arguments from embodied cognition theorists regarding the interdependence of cognition and action, we avoid entering specific conceptual disputes in this domain as they are not relevant to our overarching argument.

[14] Bruner uses the term "action" rather than sensorimotor or bodily activity, but his intended meaning is similar.

> It seems far more useful to recognize at the start that all three terms represent abstractions, abstractions that have a high theoretical cost. The price we pay for such abstractions in the end is to lose sight of their structural interdependence. At whatever level we look, however detailed the analysis, the three are constituents of a unified whole. To isolate each is like studying the planes of a crystal separately, losing sight of the crystal that gives them being. (Bruner 1986, 118)

While Bruner elsewhere accepts that it can be useful to study each in isolation (and that it may be practically expedient to do so), his core claim is that, however we conceive of cognition, affect, and sensorimotor activity, we must recognize that they are fundamentally interdependent.[15] What Bruner offers is a psychologically *holistic* approach. This approach emphasizes that the three are only separable when considered in the abstract. Treating each independently and only building theoretical bridges between them after constructing domain–specific theories will create insoluble theoretical issues.[16]

Bruner's claim is explicitly developmental. He highlights that the tendency to split the three domains has a chronological dimension, with cognition purportedly emerging later in ontogeny than affect and action. However (as we explore in more detail below), cognition is not the "late bloomer" of the three. In fact, the importance of recognizing the unity of cognition, affect, and sensorimotor activity is strikingly apparent in the study of infant development. The developmental literature on infant social development provides convincing evidence in support of Bruner's thesis concerning the inseparability of affect and cognition.

First, starting early in the first year, we see that infants engage in responsive, reciprocal "proto–conversations" (Bateson 1975), in which attention and positive affect are shared between infant and caregiver. These engagements are so named as they exhibit features of timing, coordination, and contingency that are characteristic of a conversation, and have been shown to be the basis of later more complex communicative exchanges (Csibra 2010). When a caregiver completely ceases to respond (as in the "Still Face" paradigm (Tronick et al. 1978)), infants will employ a range of methods in order to resume the interaction, such as breaking attention away and back, and vocalizing loudly (Adamson and Frick

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[15] It is important to note the three–part division here is not of central importance; one could opt to split affect into "emotion" and "motivation," or, as we go on to do, subdivide cognition into "implicit" and "explicit" cognition. The nature of the split is not as important as the ultimate unity and interdependence of any abstractly divided components.

[16] In recent years, a number of theorists have made similar claims regarding the unity of psychological processes (see Gray 2004; Schmeichel and Tang 2015) with some arguing that cognition and affect are ultimately indistinguishable (see Duncan and Barrett 2007; Hoemann and Barrett 2019; Pessoa 2008).

2003). These behaviors are not only involved in developing socio–cognitive understanding, but also are implicated in the development of socio–emotional attachments (Ainsworth et al. 1978; Dunst and Kassow 2008; Meins 1997). To understand these early engagements, both the cognitive (control, timing, and coordination) and affective (motivation to seek interaction, pleasure gained from interacting) each need to be appreciated.

Secondly, towards the end of the first year, infants go beyond "dyadic" engagement solely between persons, and begin to engage in what have been termed "triadic" engagements, involving two persons attending to some object or event of interest (Tomasello 1995). It has been repeatedly argued that such engagements cannot be understood in solely informational terms, whereby this change is purely a shift in cognitive resources such that infants can process objects and persons simultaneously. Rather, infants' attention sharing is an experience charged with positive affect for infant and caregiver alike (Carpenter and Liebal 2011; Hobson 2005; Leavens et al. 2014). Infants share attention and interest at least in part because of the pleasure it brings them to do so. Efforts to distinguish "mere" looking from looking to communicate about some target frequently involve a concurrent behavior such as a smile or vocalization (Jones and Hong 2001; Venezia et al. 2004). Put simply, to make sense of early attention sharing, it is necessary to recognize the role of both the cognitive dimension (namely, the attentional and memory resources to keep track of both a person and an object), as well as the affective dimension (evidenced by a smiling expression, for instance).

Thirdly, while we have focused so far on cognitive and affective processes, research on the impact of sensorimotor developments in infancy also reveal that, as one recent review put it, "Motor development and psychological development are fundamentally related" (Adolph and Hoch 2019, 141). In other words, the seemingly straightforward theoretical divide between mental and bodily development is more complex from a developmental perspective. For example, the onset of self–locomotion towards the end of the first year has cascading developmental consequences for infants, with some going so far as to claim it heralds the "psychological birth" of the infant.[17] Self–locomotion has been linked to improvements in cognitive abilities such as understanding of causal relations, working memory and intention understanding (Anderson et al. 2013; Brandone 2015; though see Brandone et al. 2020). The ability to move oneself also changes the kinds of social situations that infants encounter. Some have argued that it increases the number of situations in which caregiver and infant will be required to communicate at a distance (Campos et al. 2000). This sort of communication

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[17] We take this claim from Anderson and colleagues' (2013) reading of Mahler and colleagues (1975).

may be positive, but it may be in response to the new kinds of potentially dangerous situations encountered by a locomoting infant, such as encountering a high cliff edge or steep slope (Sorce et al. 1985). These new and uncertain situations require the infant to apply their cognitive, affective, and sensorimotor resources in new ways, whether by assessing if they are capable of descending alone (Adolph 1995) or seeking information or emotional support from a caregiver (Ehli et al. 2020).[18]

The findings of research into infant social development are undoubtedly complex, but demonstrate that cognition, affect, and action are intertwined and interdependent domains. Early social interactions involve an interplay of cognitive and affective processes, while sensorimotor developments have cascading consequences on infant social and psychological development.

2.2. Implicit and Explicit Cognition

The second issue highlighted by a developmental perspective is the nature of cognitive processes. In a nutshell, the point is this: to emphasize cognition in liturgical development is not to talk only of conscious or explicit cognitive processes.

Recall that on our broad definition, cognition refers to processes involved in organizing information and using this information to plan and direct behavior. What is not part of this definition is any requirement that cognitive processes need have propositional content, of the kind enabled by language. The work of developmental and comparative (across species) psychologists has shown that pre– and non–linguistic beings behave in ways that indicate that there are coordinating and planning processes involved (Adams and Garrison 2013; Gómez et al. 2017).

Developmental psychologists have long recognized that pre–linguistic infants behave in intelligent, purposive ways. Perhaps the most famous exponent of this view is Jean Piaget, whose account of "sensorimotor intelligence" has been enormously influential in helping psychologists appreciate that infants' behavior is not random and disorganized but controlled and intentional (Piaget 1952). Even simple behaviors like reaching towards an object or turning and visually

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[18] A further argument for this view draws upon evidence of dissociations between infants' predictions and actions. For example, there can be a mismatch between visual attention and reaching behavior when infants track an object following an irregular, non–linear trajectory that moves within their reach (von Hoftsen et al. 1998). This implies that multiple separate systems are involved in processing incoming perceptual information and subsequently acting on this information. If multiple systems are implicated in prediction and action, it becomes more difficult to claim that any one system is primary or basic. With thanks to an anonymous reviewer for this point.

attending to a target involve intentional, goal directed coordination of multiple movements, with careful timing and responsive corrective maneuvers (Delafield–Butt and Trevarthen 2015).

Recently, new experimental methods have found ways to assess implicit forms of understanding demonstrated by infants in their first year. Novel methodologies have identified that infants reliably look longer at surprising or unexpected events and will look to locations where they predict an expected event (Baillargeon et al., 1985; Johnson et al. 1991). These methods have subsequently been leveraged to identify that infants have an implicit, "naïve" grasp of physics and psychology. In the physical domain, infants expect inanimate objects to behave in consistent ways, such as being solid (Baillargeon et al., 1985) and being affected by gravity (Kim and Spelke 1992). In the social domain, infants understand agents' goal–directed and referential actions (Csibra 2003), and prefer agents that are helpful over those that hinder others (Hamlin, Wynn and Bloom 2007).

Similarly, comparative psychologists have provided overwhelming evidence that, despite lacking language, animals behave in intelligent ways that indicate a capacity for cognition. Chimpanzees act according to others' knowledge and beliefs (Call et al. 2004; Hare, Call and Tomasello 2001; Krupenye et al. 2016), and fashion tools that they can use to solve tasks (Boesch and Boesch 1990; Whiten, Horner and De Waal 2005). Corvids understand causality, manufacture tools and engage in prospective behaviors (Emery and Clayton 2004). Further work in animal cognition has looked at the cognitive abilities of a range of taxonomically diverse creatures, from cetaceans (Marino et al. 2007) to elephants (Byrne, Bates, and Moss 2009) to bees (Chittka 2017).

As a consequence of such research, it is common to draw a distinction between *implicit* and *explicit* cognitive processes (Kahnemann 2011; Gómez et al. 2017).[19] Broadly speaking, explicit cognitive processes are of the kind that have propositional content and can be expressed using language. In contrast, implicit cognitive processes are those that cannot be expressed in propositional terms.[20] There is an important theoretical role for processes that are genuinely "thinking" processes yet are not explicit, or forms of knowledge that are implicit.

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[19] In a similar vein, discussions in philosophy of mind have highlighted the role of "tacit knowledge" (Davies 2015) and the distinction between "knowledge that" and "knowledge how" (Stanley 2011).

[20] There is no clear consensus regarding how to define what constitutes implicit versus explicit processes, though some have suggested differences such as implicit versus explicit being related to associative versus rule–based learning, sensorimotor versus abstract representations, simplicity versus complexity or non–conscious versus conscious processes (Gómez et al. 2017). It has also been highlighted that the acquisition of language plays a key role in explicit cognitive processes (see Vygotsky 1978), but it is beyond the scope of this discussion to unpack these issues further.

It is important to see that implicit and explicit processes differ in the manner in which they operate. Implicit processes are typically rapid and automatic, in comparison to slower, reflective explicit processes. While some have argued for distinct cognitive systems, such as in Kahneman's "two–system" account (Kahnemann 2011), others have argued that implicit and explicit processes are instead aspects of a unitary system (Carruthers 2013; Mercier and Sperber 2017). Regardless, there is broad agreement that the different kinds of cognitive processes allow for flexible ways of dealing with different challenges that arise in complex environments. Furthermore, there is agreement that implicit cognitive processes are not in any sense replaced by explicit cognitive processes; explicit processes build on and supplement implicit processes.

Theorists have also tried to understand the process of change between implicit and explicit cognitive processes. On Karmiloff–Smith's "representational redescription" account (1992), learning involves the transformation of representations from implicit to explicit and vice versa. Being able to do so allows for great flexibility in learning, whether over the course of development or in skill learning in adults. For example, a violinist may have developed a technique that contains flaws on the implicit level. She will have acquired implicit–level knowledge of how to angle the bow or where to put her grip on the violin's neck, knowledge which she cannot propositionally express. To unlearn this implicit technical flaw, it can be helpful to have a skilled teacher who can identify and articulate the issue in an explicit manner (e.g., "Try gripping higher up on the neck"). The reverse process is also important; it would be dangerous to learn to swim just by acquiring knowledge of facts about the bodily movements involved in swimming. One must also build up the requisite implicit forms of knowledge regarding how these movements are to be performed.

Bringing these ideas together, we can see how the account of cognition that we have articulated understands a simple case that is provided by Smith, that of driving a car:

> Most of the day, we are simply involved in the world. We navigate our way and orient ourselves in the driveway unable to remember driving home. Our default mode of intending the world is noncognitive and pre reflective: it is an affective mode of "feeling our way around the world." (2009, 50)

On our account, driving a car involves a range of cognitive processes at both implicit and explicit levels. When driving home along familiar roads with predictable levels of traffic, one can rely on implicit cognitive processes. These are not solely affective, as they still involve processes of memory, inhibition, and prediction in the service of behavioral control. While driving a familiar route may be experienced in a non–conscious, "felt" sort of way, there are many cognitive

processes that continue to occur to facilitate this activity. Furthermore, we can see how a range of cognitive processes are involved in learning to drive. One must develop the forms of implicit knowledge and memory that allow one to have a sense of the biting point of the clutch (assuming one is driving a *real* car, rather than an American car with automatic transmission) or how early to brake. But this will involve both explicit instruction in addition to the accrual of experience. In fact, following Karmiloff–Smith's insights, we can see the situation of learning to drive as involving a complex integration of a range of implicit and explicit processes, with explicit knowledge being redescribed into implicit knowledge (e.g., being explicitly told the process of checking one's mirror and signals, versus having an implicit grasp of when to do so) and vice versa (struggling with reversing and trying to explicitly articulate why one is struggling to do so).

What this example also nicely highlights is the relation between explicit thought and communication. Implicit forms of knowledge or belief are difficult (if not impossible) to articulate, whereas explicit knowledge or beliefs can be shared, discussed, and debated. And as we highlight in the next section, there is a close relationship between explicit cognitive processes and social engagement.

2.3. The Social Origins of Explicit Cognitive Processes

Writing on the development of "higher cognitive functions"—what we are labelling explicit cognitive processes—the pioneering developmental psychologist Lev Vygotsky made a stark claim:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological)… All the higher functions originate as actual relationships between individuals. (Vygotsky 1978, 57)

Vygotsky's claim was that to understand the developmental emergence of any explicit process, one must first examine the developmental precursors of that processes within social engagement. While Vygotsky's approach has been refined and critiqued, recent research has vindicated many aspects of his approach to the development of explicit cognitive processes. It is now widely argued, from a range of theoretical standpoints, that explicit cognitive processes are both ontogenetically and phylogenetically dependent on social engagement (Heyes and Frith 2014; Hutto 2008; Mercier and Sperber 2011; O'Madagain and Tomasello 2019).

Recent work in developmental psychology has provided evidence that explicit cognitive processes emerge out of early social experiences. Before explicit reasoning is used to solve abstract problems or make sophisticated future plans, it is used to interpret and understand the behavior of others in social contexts (O'Madagain and Tomasello 2019; Köymen and Tomasello 2020). Moll and Meltzoff (2011) present evidence that sophisticated understanding of others' perspectives can be traced back to early shared engagements. In infancy, children engage in joint attention, the ability to attend to features of the world with others and understand that these features are shared with that other (Tomasello 1995). Through engaging in these shared experiences, children can begin to differentiate perspectives and thus understand that others have their own perspective on the world that is distinct from one's own. This in turn allows children to understand that what another believes about the world might not only be different, but in competition with what they know about the world, an ability known as "false–belief understanding" (Dennett 1978; Wimmer and Perner 1983). Research has supported the view that successful explicit understanding of others' beliefs relies on the ability to manage conflicting perspectives on the world (Moll et al. 2013; Salter and Breheny 2019), combined with developing linguistic capabilities for talking about others' minds (Astington and Jenkins 1999). By engaging in social interactions, children are introduced to the world of reasons and beliefs. They can then apply these abilities to plan and problem–solve in other domains, and to assess and update their own beliefs (O'Madagain and Tomasello 2019).

Similarly, it has been argued that reasoning emerged phylogenetically as a result of the selection pressures of complex social living (Cummins 1996; Mercier and Sperber 2011). While some have suggested that reasoning is adaptive as it helps with planning and dealing with novel challenges (Evans and Over 1996), it is not clear why such an issue cannot be overcome through learning and other forms of cognitive adaptation, as it is in other species. Clearly, reasoning can be useful in planning and dealing with novelty, but it does not follow that this is why it evolved. Mercier and Sperber (2011, 2017) argue that complex social groups create challenges such as determining trustworthiness and being able to convince others. Their "argumentative" account of reasoning explains humans' tendency to favor information that supports already–held conclusions by proposing that this is a symptom of a system that has arisen to deal with social conflict, not abstract truth. Thus, "errors" such as confirmation bias (preferring information that fits with one's pre–existing beliefs) are in fact features of a system that has evolved for argumentation.

Overall, a developmental and evolutionary perspective on explicit cognitive processes views them as emerging as a result of human sociality. Developmentally, children are first introduced to explicit cognitive processes in the context of social engagements, as they start to think and talk about reasons

and beliefs. Evolutionarily, explicit cognitive processes are hypothesized to have arisen primarily as a means of dealing with cooperation and conflict in social groups. From this perspective, humans' sociality has a transformative effect on our psychology, both within development and across evolutionary history (Kern and Moll 2017).

3. Liturgical Anthropology: A Psychologically Holistic Approach

Where can these insights from psychological sciences take us in thinking about the relationship between liturgy and theological anthropology? Drawing the above discussion together, in this section we offer three insights we think can move us towards a constructive liturgical anthropology. Then, in the next section, we argue that these insights build towards an overarching conclusion that a liturgical anthropology requires a recognition of the centrality of humans' social nature (Kern and Moll 2017; Tomasello 2019). Finally, we propose that these insights suggest that understanding the role of joint attention in liturgy is crucial for future work on liturgical formation and anthropology.

First, it seems clear that affect and cognition are present from the very earliest stages of infant development. The attempt to artificially separate these categories simply does not reflect the way psychologists think human beings learn to navigate the world. A liturgical anthropology that takes this insight seriously will resist thinking of liturgy as shaping us as primarily cognitive creatures, or primarily affective creatures. Instead, it will affirm that, in all ritual behavior, cognitive and affective states are intertwined in ways difficult to disentangle. While there may be polemical value in opposing a dominant trend to think of worship and formation in only cognitive terms, overemphasizing the role of affect is equally detrimental, to the extent that it implies that one can be affectively transformed with only incidental effects on explicit cognitive processes, such as reasons or beliefs. On a holistic account, there is a dynamic interplay between (explicit) cognitive transformation and affective transformation, and liturgy involves psychologically holistic changes.

Thus, it is clear that what we believe about God is shaped by the practices of liturgy in important ways. Take the example of the so–called "early high Christology" movement in New Testament studies. As Larry Hurtado (2010) has argued at length, understanding the practices of the early Church in worshipping Christ as God are key to understanding the doctrinal commitments of the early Church. As Hurtado puts it, "Jewish–Christians of the first few years of the Christian movement are pictured as *practicing* a religious devotion to Jesus that involves attributing to him powers and a status that is closely linked to God" (2010 43). Sidestepping the issue of whether Hurtado is right to affirm the early origins of Christological doctrine, it seems plausible to think that we need a

liturgical anthropology that affirms both affect and cognition to make sense of claims like these. If we assume that worship requires some level of affect (i.e., of devotion or desire for God), we might ask the following: Did the early Christians worship Jesus because they believed he was divine? Or did they believe he was divine because they worshipped him? The insight offered from the psychological sciences suggests that these questions are not in conflict; the relationship between affect and cognition in this case is instead irreducibly complex.

This point is also important for the use of liturgy with children. For if we assume either that liturgy is primarily a desire–shaping activity or primarily a belief–shaping activity, then we will not realize the formative power of liturgical action for the development of faith in children. In her discussion of childhood spirituality, Rebecca Nye argues that the "core" of children's spirituality is what she calls "relational consciousness." As she summarizes her studies: "children's spirituality was recognized by a distinctive property of mental activity, profound and intricate enough to be termed 'consciousness,' and remarkable for its confinement to a broadly relational, inter– and intra–personal domain" (2006, 109). As Nye goes on to clarify, what she means by "consciousness" is close to what psychologists have called "meta–cognition," that is, the capacity to reflect on one's own mental states (both cognitive and affective). In a revealing example, Nye writes,

> Six–year–old Ruth's conversation included a sensual description of heaven. She referred to the key elements in her spiritual response as "waking up" and "noticing", both of which suggest that a different quality of consciousness was crucial to her experience. The relational component in this was a strong feeling of connection to the natural world as something that was full of gifts for her and deserved her love and respect in return. This sense of intimacy also had reverberations in her relationship with herself, as seen in her self–conscious perception of a symmetry between her own joy and the joyful leaping of lambs. (2006, 110)

Is Ruth's religious understanding best understood as cognitive or affective? It seems to us that this is a question that we cannot answer easily. Indeed, in listing the different dimensions of religious consciousness, Nye includes both typically cognitive activities such as "reasoning" and "searching for meaning," alongside typically affective activities such as "staying with a mood" and "stimulation" (2006, 114). In discussing these dimensions she notes, "it is unlikely that light will be shed on spirituality of a child by considering these dimensions in isolation" (2006, 113). Thus, in nurturing childhood spirituality, David Hay goes on to argue, we must use "rituals, stories, music, poetry, art and architecture…[which] articulate the inexpressible" (2006, 157). Citing Vygotsky (1978), Hay suggests that these mediums can help provide a "scaffolding of language," in which

children can "come to grips with their spirituality" (2006, 157). The developmental insights considered previously suggest that Nye and Hay are right to emphasize both the affective and cognitive dimensions of childhood spirituality. To understand how liturgy shapes children, we must avoid overly simplistic accounts of liturgical anthropology.

Secondly, even if we artificially restrict our focus only to the cognitive effects of liturgy, the overall evidence suggests that cognition is not a monolithic category. It is more helpfully considered as involving a range of processes, involved both in fast, non–reflective processes and slow, deliberative processes. These processes are important and useful in their own right, as is the ability to transform our representations of the world between different formats. This ability is bidirectional; we can both come to articulate implicit knowledge in explicit ways, but also can come to understand explicit knowledge on an implicit level. Implicit thought is also not something that is left behind over the course of development; while implicit cognitive processes appear prior to explicit processes, this amounts more to an enriching of the available cognitive resources than the addition of cognition. On this approach, humans are not fundamentally non–thinkers who come to think; we are thinkers through and through, even though the kinds of thought processes we bring to bear differ depending on the activity at hand and the stage of our development. Furthermore, humans are not unique in our status as thinkers, even if our cognition is distinctive in its complexity (Laland and Seed 2021).

Consider a recent account of liturgical epistemology from Nicholas Wolterstorff, which helps press the complexity of cognitive formation through liturgy. Wolterstorff argues that what is taken for granted about God in liturgy shapes the way we relate to God, even if we do not directly attend to the propositional content of a liturgical script. For instance, consider the American Episcopal liturgy, which Wolterstorff cites:

> Eternal God, heavenly Father,
> *you* have graciously accepted us as living members
> of *your* Son our Savior Jesus Christ,
> and *you* have fed us with spiritual food
> and the Sacrament of his Body and Blood. (Wolterstorff 2015, 56)

According to Wolterstorff, addressing God using these words allows participants to gain knowledge in virtue of the things we take for granted. Just as in taking for granted that the world existed before we were born, it is possible for us to know that the world existed before we were born, in taking for granted certain things about God through our use of liturgy, we can come to know that God is a certain way. Repetition of certain content shapes our understanding of who God

is in ways that are not purely explicit. We can come to know, for example, that God is worthy of praise and adoration and that he capable of listening. Wolterstorff argues that,

> To participate in engaging God liturgically in the form of addressing God is to take God to be a 'thou' whom it is appropriate to address, to take God to be capable of listening, to take God to be worthy of praise and adoration, to take God to be capable of listening, to take God to be worthy of praise and adoration. (2016, 13)

It is not that we solely come to know propositions about God in this way, for Wolterstorff. Rather, repeated exposure to these words, which we begin to take for granted gives us a kind of knowledge of God akin to phenomenal knowledge; we know what God is like by repeatedly engaging God in a certain way and not another. Just as repeated exposure to a biography might provide us with a thick non–propositional knowledge of the author, engagement with the liturgy can shape our perception of God, Wolterstorff thinks.[21] The temptation is to think of Wolterstorff's insight in purely explicitly cognitive terms; namely, that the kind of formation that occurs in taking for granted certain things about God is shaping our explicit beliefs about God. We think this is mistaken. For if the psychological insights above are correct, the process Wolterstorff describes involves shaping of both explicit and implicit beliefs. A child might implicitly believe "God listens to my prayers," and only later in development be able to articulate explicit reasons for this belief. Or, following Nye (2006), explicit beliefs can serve as "scaffolding" that provides a framework that is later complemented by implicit beliefs and desires. We take this scaffolding to be the purpose of practices like catechesis.

We do not see these routes to psychological change as competing; rather, liturgies can potentially create a positive "feedback loop" between explicit and implicit forms of knowledge; repeated exposure to forms of explicit knowledge about God can start to gradually shape our implicit beliefs, which in turn make us more likely to accept further explicit beliefs and make us more open to a greater range of affective experiences. Whatever one concludes about these issues, the terminology of implicit and explicit cognition provides a means of developing more nuanced accounts of liturgy and its formative effects.

Thirdly, this body of work has built a compelling case from early ontogeny to adulthood that provides convincing evidence that explicit reasoning processes emerge out of the needs of negotiating complex social worlds, not primarily for discerning abstract logical truths. It is important to note that we are not claiming that humans cannot think in such abstract, logical ways. Rather, it is to argue that

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[21] Sarah Coakley (2013) makes a very similar claim concerning how liturgy might provide perceptual, non–propositional knowledge of God over a long period of time.

explicit cognitive processes have evolved and develop to deal with issues that arise in complex social groups; making sense of what others know and believe, discerning plausible reasons for others' behavior, convincing others of one's views and discerning others' deception (Mercier and Sperber 2011; O'Madagain and Tomasello 2019). As such, those that hold to the primacy of belief formation are not only mistaken regarding humans as fundamentally *homo cogitans* but miss the fact that explicit cognitive processes are themselves a consequence of our social nature.

Nye's notion of "relational consciousness" in childhood spirituality helps show the theological import of the social origins of development. She writes,

> the child's awareness of being in relationship with someone or something was demonstrated by what they said and, crucially, this was a special sense that added value to their ordinary and everyday perspective… In this "relational consciousness" seems to lie the rudimentary core of children's spirituality, out of which can arise meaningful aesthetic experience, religious experience, personal and traditional responses to mystery and being, and mystical and moral insight. (2006, 109)

Nye's claim that relationality is at the core of children's spirituality fits much more comfortably with the psychological literature we have been considering than the attempt to place either affect or cognition at the core of liturgical anthropology.

Moreover, this emphasis on sociality or relationality as a fundamental quality to being human fits with a number of recent discussions in theological anthropology. For instance, in Susan Eastman's recent book, *Paul and the Person*, she argues that there are some parallels between developmental psychological views on the nature of persons, and Paul's anthropology in the New Testament. After summarizing the psychological discussion on the importance of relationality for human thought, she argues that something similar can be found in Paul's thought:

> communion is the presupposition for a self that is capable of self–knowledge and action—and even for believers in Christ, such capacities are always limited under threat short of the final consummation. This is "relationism about persons" in which individuality presupposes relationality…'There is no possibility of existence outside such other–relation. The determining factor in whether such other–relation is for good or for ill depends on the relational partner. Apart from Christ, humanity is so enslaved and deluded by sin that there is no individual at all; agency is, as it were, swallowed up by the powers of sin and death. But in Christ individuals become "partisans" in God's liberating army, each living out a unique calling under God's lordship. Such connection does not, however, entail an end to the vulnerability that goes with understanding the body as connection

and communication. It may mean, rather, the capacity to endure and even flourish in the midst of affliction. (2017, 105)

In congruence with developmental psychology, Eastman claims that, for Paul, the human self cannot be understood in isolation but only in relationship. Thus, she thinks, human beings are fundamentally relational beings, defined either in our relationship to sin, or, ideally in right relationship with Jesus Christ. According to a recent article by Simeon Zahl, even our individualistic soteriological language must be understood in its social context: "To feel guilt towards God and to experience it being resolved, or to feel gratitude toward God, is always a 'social' experience, cognitively speaking, in that such feelings depend upon a mental representation of God as an 'other' to whom the subject stands in a social relation" (2021, 15). As Zahl shows, existing tensions in theological anthropology and soteriology between "individualism" and "communalism" can be alleviated by engaging with psychological sciences. He argues that a psychologically–engaged anthropology will emphasise both the importance of the individual person and the relational nature of the person. As both Eastman and Zahl show, there is much in common between psychological sciences and theology on the issue of whether the human self is relational in nature. What remains to be seen is where the issue of liturgy comes into play.

4. Liturgy, Development, and the Importance of Shared Attention

We began our discussion with the claim that ritual behaviour plays a formative role in the development of human thinking and feeling. Throughout, we have considered examples in which liturgy and ritualized behavior shapes us. Having presented an account of human development as deeply social and psychologically holistic, we can now conclude by considering the place of liturgy as an important part of this development. In this section we argue that crucial to our understanding of how liturgy shapes us is understanding how liturgy is shared between persons.

Drawing the psychological insights of the previous section together, our aim is to show that a developmental perspective has important consequences for theological anthropology. The approach we are advocating here is attempting to eliminate the tendency towards reductive or binary explanations that pit different kinds of processes (cognition, affect) against one another, rather than seeking to ascertain their role as part of an interdependent whole. This kind of "explanatory pluralism" is vital for progress in the study of the mind (Kendler 2005; Lilienfeld 2007) and provides a fruitful direction for theological anthropologies. Furthermore, it recognizes the holistic manner in which humans are influenced by their capacity for shared intentionality (Kern and Moll 2017);

all aspects of our cognition, affect, and action are influenced by our social nature. Adopting this strategy allows new, more fruitful sets of questions to arise. What role do "intellectual" (explicit cognitive processes) play in structuring liturgy? How do action and affect shape implicit and explicit beliefs? We have shown that these questions connect to important theological issues, and can now see the relevance of these insights to the importance of ritual and liturgical formation.

In keeping with our approach, developmental psychology has found that infants' do not employ their cognitive, affective, and sensorimotor capacities in isolation. Rather, the three are unified in the "narrative envelopes" of structured activities (Rochat, Querido and Striano 1999, 950). In other words, developmental psychology repeatedly attests to the importance of repetitive, structured activities (e.g. games, routines, liturgies) in the development of these interrelated capacities. Structured activities of various kinds provide a foundational structure of repeated, predictable experiences, but also provide a backdrop against which changes can take place (Fantasia et al. 2014; Rossmanith and Reddy 2016; Rogoff et al. 1995; Spagnola and Fiese 2007). The practices considered by developmental psychologists are overwhelmingly social, whether that be simple routines such as being picked up (Reddy, Markova, and Wallot 2013), shared games like peek–a–boo (Rochat, Querido, and Striano 1999), singing songs with actions (Fantasia et al. 2014), or shared activities like reading a story (Rossmanith et al. 2014). Since these practices begin while the infant is unable to self–locomote and dependent on others for their basic needs, it is no surprise that the shared practices of infants' lives are intrinsically social. However, social practices and activities continue to play a central role throughout early ontogeny, and indeed across the human lifespan (Legare and Nielsen 2020).[22]

Moreover, the importance of regular, repeated routines can be observed in how infants engage in simple games like peekaboo. The peekaboo game is one that is played across a variety of different cultures, following the pattern of build–up, climax, and resolution (Fernald and O'Neill 1993). It is an activity that is charged with positive affect, while also providing a means by which infants can

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[22] In spite of their immaturity, young infants are still active participants in shared practices. Looking at the routine of picking up, Reddy and colleagues (2013) found infants as young as 2 months are capable of adjusting their body to make it easier for their mother to pick them up, and mother and infants are able to co–facilitate increasingly smooth pick–ups from 2 to 4 months. They suggest that these adjustments indicate a grasp of being the target of another's intentional action, a basic form of sociocognitive awareness. By around 5–months, infants are capable of raising their arms as a request to be picked up (see Carpendale and Carpendale 2010). This simple routine facilitates the infant's sociocognitive grasp of being the target of another's intentional action, charged with the positive affect involved in being reunited with one's caregiver, as well as involving increasingly complex sensorimotor control which facilitates increasingly smoothly coordinated action. Furthermore, the infant's role changes as their ability to communicate develops, going from solely co–regulator to potential initiator of the activity.

form social expectations (Bigelow and Best 2013). The formation of social expectations relies on the activity being conducted in a repeated, regular format. Rochat and colleagues (1999) found that 4– and 6–month–old infants engaged more (through direct gaze and smiling) with an experimenter who performed a peek-a-boo activity in a repeated, organized manner (using a repeated, consistent ordering of speech and actions) rather than an irregular, disorganized manner. These responses were not found with 2–month–old infants, suggesting that the 4– and 6–month–olds had formed expectations about how the game would proceed. As infants' sensorimotor abilities develop and their manual control improves, they can begin to initiate games of peek–a–boo by covering their face with objects such as muslins. This allows them to build on the prior format to become initiators of the activity. Thus, the game of peek-a-boo is not solely an enjoyable game for infants, but serves as a foundation upon which new understanding can develop and new skills can be tried out and established. This interplay of imitation and innovation has been highlighted as a key driver of cultural development across the lifespan (Legare and Nielsen 2015).

What makes humans capable of forming and participating in such structured activities? Psychologists and philosophers across a range of traditions have argued that it is the ability to engage in joint attention. Through joint attention, humans can establish "shared situations" (Barwise 1989) in which an experience of the world is felt to be perceived alongside others. By establishing such shared situations, humans can fluidly coordinate their attention, communicate, and act with others (Vessière 2016). Shared practices can thus be understood as involving the creation of a predictably structured shared situation, through which attention and activity are coordinated (Ramstead, Vessière and Kirmayer 2016). Thus, the ability to engage in joint attention enables shared practices to be developed, and in turn practices can be a means of shaping the joint attention of practitioners.[23] For example, through repeatedly engaging in shared book reading, a child becomes aware of the importance of attending to the words on the page, which are likely not to be the focus of attention prior to the more engaging images or textures that are present.

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[23] As well as facilitating communication and coordinated action, joint attention has also been highlighted for its a crucial role in the transmission of cultural knowledge; the instrumental skills and social conventions of a community (see Legare and Nielsen 2015). When humans jointly attend with others, their attention is guided to particular features of the world, shaping how they subsequently act on and learn from the world (see Tomasello et al. 2005; Mundy and Newell 2007). Shared practices, understood as attention–shaping practices, thus facilitate the acquisition of cultural knowledge by making certain features of the world more salient, and introducing practitioners to certain forms of activity. Over time, the shaping of attention and activity through joint engagements and shared practices enculturates infants into the community in which they are embedded, enabling them to become competent cultural participants.

Viewing liturgy through the lens of joint attention is a promising line of investigation, and we have already attempted to integrate these topics (Cockayne and Salter 2019). Elsewhere, Joshua Cockayne and David Efird (2018) have argued that one reason liturgy is an importantly corporate activity is because jointly attending to a liturgical script (and perhaps also jointly attending to the presence of God) allows those gathered to shape and guide one another's attention. If a structured and social game like peek–a–boo can direct the attention of a young child, developing both their cognition and affect as well as their sensorimotor abilities, then it doesn't seem far–fetched to think that religiously significant rituals (i.e., liturgies) such as the Eucharist, can be thought of in these developmental terms. One of the common features of the Eucharist and a game of peek–a–boo is that both practices involve a shaping of attention in a social context. How the practices are carried out (i.e., how often, who is present, who is allowed to participate) will shape the experience of the participants in important ways.

Human beings are ritualized creatures, who are shaped by participation in various practices and liturgies. We are now in a position to see the psychological and theological significance of the observation, which we began by noting. It seems clear to us, that Smith is right to push back against an overly cognitive understanding of this claim: namely, rituals shape us because we are rational, thinking creatures who are influenced by our exposure to the propositional content of liturgy. However, it should be clear now why the alternative presented by Smith is false. Smith's explanation runs something like the following: rituals shape us because we are affective, desiring creatures who are influenced by the *telos* of rituals. Here is the view we have been developing in a nutshell: rituals shape us because we are social creatures, whose minds and bodies are shaped through engagement with others. Rituals are fundamentally shared activities which allow us to jointly attend to an object with others, thereby allowing our fellow participants to direct our own focus of attention. In jointly attending the world with others, and in jointly attending to God in the context of liturgy, our beliefs and desires are shaped in community.

5. Conclusion

In summary, practices and rituals play a crucial role in development, requiring holistic psychological and social engagement. As we have now seen, one of the crucial reasons this is the case is that practices and rituals make possible the sharing of attention. The significance of this for thinking about liturgical anthropology promises to shed important light on our understanding of what it is we do when we engage in liturgies in the context of corporate worship. Unlike Smith's account, which suggests that liturgies themselves are inherently

teleological, we think liturgies are inherently *shared*. It is in virtue of their shared nature—the way they facilitate the sharing of attention and the social scaffolding they provide—that liturgies have a *telos*. We are shaped by liturgy because liturgy allows us to engage with others, in ways that go beyond the isolated forming of beliefs and desires.

This insight provides important questions for thinking about liturgy and anthropology in future work, we think: How can an immaterial object, such as God, be an object of joint attention? How might our beliefs and feelings about God be shaped by attending to God alongside others in worship? How do environmental features (e.g. architecture, layout, furniture) effect the ways in which our attention is directed in liturgy? And what are the limits of such sharedness: Can infants and adults participate in attention shaping liturgies in the same way? Does this sense of sharedness extend beyond those physically co–present? These are questions for future research.

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