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Brad D. Strawn & Warren S. Brown

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LITURGICAL ANIMALS: WHAT PSYCHOLOGY AND NEUROSCIENCE TELL US ABOUT FORMATION AND WORSHIP

Brad D. Strawn and Warren S. Brown

How does Christian liturgy form participants? Does liturgy fill the mind with thoughts and ideas that can trickle top-down to eventually influence the sorts of persons we are and the way we act? Or, does liturgy allow us to act individually and corporately in ways that reshape our minds and change our behavioral tendencies? If the former is true, then we must consider Christian liturgy in the light of the rightness of its abstract ideas. If the latter be true, then we need to consider liturgy as an embodied practice. And if embodied, then we also need to consider what the sciences of human nature tell us about the nature of liturgical animals.

The Problem

In *Desiring the Kingdom: Worship, Worldview and Cultural Formation*, James Smith argues that Christian education, Christian worldview language, and even Christian worship have been undergirded by the idea that humans are “thinking beings.”¹ This perspective purports that it is cognition that forms humans and shapes their behavior in the world. What persons think becomes the motivation for what they do. If a person’s thoughts are known it is possible to predict the person’s behavior. The consequence of this anthropology is that humans became walking heads, disembodied and disconnected from what they actually do in the world and disconnected from the other bodies around them. The subsequent model of human formation is to fill persons up with the right kind of information so that they will act rightly.

Smith further posits that in Christian circles, “thinking” was thought to be preceded by faith or “believing.”² And while this idea of the human as believing animal might have been an important critique of rationalism, Smith points out that this view also conceptualizes humans in individualistic and disembodied ways. Many churches teach that what is believed about the creeds, scripture, and so forth, not only forms the person but also motivates Christian behavior. Again, the process of formation becomes to fill persons up with the right kinds of beliefs so they will live rightly. The consequences

here are that Christianity becomes understood primarily as an intellectual assent to a set of propositional beliefs, which among other problems, reduces Christianity to something accessible outside of the church.³

The problem that Smith points to is that, although thinking is important, perhaps it is not the only or primary way in which people are most deeply formed. And perhaps it is also not what most fundamentally motivates human behavior. He wonders if the core of human identity is more about the body than it is the mind.⁴

Something about this seems intuitively right. For years social psychology has demonstrated that persons' stated beliefs often have little to do with their actual behavior, and anecdotal evidence from congregations demonstrates every week that individuals with sound orthodoxy frequently do not live into the Gospel message as found in passages such as Philippians 2:1–4 (NRSV):

If then there is any encouragement in Christ, any consolation from love, any sharing in the Spirit, any compassion and sympathy, make my joy complete: be of the same mind, having the same love, being in full accord and of one mind. Do nothing from selfish ambition or conceit, but in humility regard others as better than yourselves. Let each of you look not to your own interest, but to the interests of others.

Smith's alternative anthropology is that human beings are not bobble head thinkers/believers but are "embodied actors" that are formed most deeply by what they do in their bodies.⁵ These "things that humans do in their bodies" are what Smith calls "communal practices" or "cultural liturgies." These liturgies (practices) create habits that in turn shape the intentionality of one's aim toward a particular telos. Smith speaks of humans as both liturgical animals and as lovers. The question is not will humans love, but what will they love? The telos of that love is directed by the habits that are formed through the embodied liturgies in which humans are embodied. In Smith's own words:

We are what we love, and our love is shaped, primed, and aimed by liturgical practices that take hold of our gut and aim our heart to certain ends. So we are not primarily *homo rationale* or *homo faber* or *homo economicus*; we are not even generically *homo religiosus*. We are more concretely *homo liturgicus*; humans are those animals that are religious animals not because we are primarily believing animals but because we are liturgical animals—embodied, practicing creatures whose love/desire is aimed at something ultimate.⁶

What Drives Human Behavior?

Contemporary research in psychology and neuroscience has repeatedly demonstrated the fundamental role of embodied action in shaping both thought and character. Research has demonstrated that most of human behavior is not cognitively conscious at all. We don't consciously think about most of what we do; rather, we react in embodied ways to environmental

stimuli. Conscious deliberation plays a role, but a lesser role than we imagine. Through repeated exposures to similar kinds of interpersonal experiences, we develop anticipatory expectations. These expectations become linked to behavioral habits that are processed primarily at the level of tendencies to act, emotions, and unconscious appraisals. Subsequently, these emotional and behavioral responses can be triggered in new situations that the brain interprets as similar to the original experiences. Consequently, what we may subjectively experience and automatically do in this new situation sometimes seems mysterious even to us. There seems to be no logical explanation for why we are feeling what we are feeling. Our learned relational templates create an automatic anticipation of the likely nature of this new interpersonal situation that unconsciously influences our perceptions and our behavior.

These sorts of habit-generated interpersonal scenarios are ubiquitous. Research suggests that such automatic reactions, involving unconsciously triggered appraisals and emotions prompting associated habitual behavior, may be enacted many times per day. In fact, because of our brain's limited capacity for conscious attention and information processing, researchers suggest that a majority of our daily behavior is initiated in this way, outside of our control or conscious awareness.⁷ This means that we often don't know why we seem compelled to act in certain ways, or even how we have acted, until well after the fact, if ever at all.

If conscious deliberation and decisions are not the primary driving force behind human behavior, what is? It appears that most of moment-to-moment behavior is driven by these unconscious habits, emotions, and appraisals. But how are these habits formed? We believe that these are formed through a long history of embodied social interactions—liturgies if you will—in which humans are constantly embedded with other bodies. We will briefly describe the foundational aspects of social embeddedness that results in acquisition of automatic behaviors and appraisals that often operate outside of conscious control.

The Formation of Persons

How do we become the complex interactive persons that we are? It is increasingly clear to researchers that the fine structure of the brain is formed (wired) through a kaleidoscope of daily experiences. Genes contribute only a rough blueprint of brain wiring; the rest is formed by a self-organizing process based on continual feedback from action in the world. Thus, the development of intelligence, personality, and character, while influenced to some degree by genes, mostly takes place through complex interactions with the environment.⁸ Human beings are neither fixed at birth with certain immutable qualities via genetic endowment, nor are they a totally blank slate (*tabula rasa*), to be etched and inscribed by life experiences. Rather, the human mind is a combination of certain predispositions and the experience-based emergence of mental capacities, personality, and character through a continuous history of situational and social interactions. Exploration, give-and-take, and trial and error with the physical and social environment fundamentally

change us at the level of our neurons, particularly as children. Within some genetic constraints, the brain is largely a self-organizing system.

The point we wish to emphasize is that intelligence, personality, and character are mostly open programs in the same way that some computer supergames develop new game knowledge as they are played. The program itself gets progressively modified and improved by the experiences of trial-and-success and trial-and-error feedback as the game is played. The same is true in the developing brain of a child. Thus, our neural openness gives us a great advantage in mental flexibility, allowing our personhood to be shaped for unanticipated roles and challenges.

If we are largely open persons formed by our interactions with our physical and social environment, then what are the primary forces at work in the shaping of persons? We now turn to an explanation of some critical processes of child-adult interaction that shape intelligence, personality, and character: imitation, emotional attunement, and interpersonal attachments. Many of these are enmeshed in cultural liturgies.

Imitation and Child Development

The openness of the human brain and person is not itself entirely sufficient for formation of the personhood of a child. It needs to be coupled with imitative interactions with other persons. Infants are born predisposed to imitate other human beings. As early as the first hours of life, it has been shown that an infant will imitate facial gestures, like sticking out the tongue, opening the month, or, the best part, smiling back. Given the openness of mental systems, the capacity to imitate allows an infant to learn about the nature of other persons. Infants engage in bidirectional learning in which they both learn new behaviors by observing and copying the action of others and learn about the meaning of the action of others through their own imitative behavior.⁹ Perception and production of behavior (seeing and doing) have a reciprocal influence on one another through the innate capacity to imitate. This perception-action reciprocity lays the foundation for an infant's ability to understand that another person is "like me," with similar behavior and, therefore, similar intentions, thoughts, and feelings.

There is much research to support the notion that acts seen and acts done are coded together in the brain and are therefore tightly linked to one another, providing a basis for "like me" inferences. This idea of similar brain coding for seeing and doing has received considerable support from the discovery of mirror neurons. Mirror neurons are found in the motor areas of the cerebral cortex of the brain and are characterized by being similarly active, both while making a particular movement oneself and while observing the same action being made by another. Observing the actions of others looks, at the level of neural activity, much like performing the act oneself.¹⁰ This mirroring of neural activity becomes a basis for understanding the presumed intention of others, such that observing the actions of another person causes one to implicitly imagine doing the same act and, thus, have the same intention to act. Our brains understand the actions of others by simulating what it would be like to do the same action ourselves. While these simulations facilitate our understanding of what another person is doing, they also prime the motor

circuits of our own brain in ways that increase the likelihood of imitating the actions we are observing.

To summarize, the process of embodied imitation begins very early in infancy and provides one of the important interpersonal dynamics for learning new behaviors. Imitation is a critical process in the development of social behaviors and social knowledge, including a theory of mind. Throughout childhood and adolescence, imitation plays a role in the development of character and in spiritual formation—a topic we will take up again later.

Interpersonal Attachment

Another important embodied relational process that forms the personality and character of children is the degree and nature of attachments formed with parents. Attachment theory describes an important process of human development that has become increasingly woven into the fabric of thinking about human personality within modern psychology. This theory was introduced in the 1960s by John Bowlby.¹¹ Attachment theory posited that a primary human motivation is interpersonal relationship and that this motive is at least as important as biological motives such as food and reproduction. Attachment theory hypothesized that relational motivation and behavior are purposeful and necessary for human survival. Babies express attachment-seeking behaviors, such as crying when separated from their primary caregivers, in order to assure proximity with caregivers.

Research has shown that the responses of caregivers to their infants lead to the development in children of one of four attachment styles: secure attachment, preoccupied attachment, avoidant attachment, and disorganized attachment. Bowlby theorized, and recent research has substantiated, that these attachment styles have some level of consistency over time. In other words, secure infants tend to grow up to be secure adults, and insecurely attached infants tend to remain insecure as adults. These early embodied infant-caregiver interactions set up a working model of relationships that children carry into adulthood. What we learn about relationships early in life, we use to anticipate what to expect in later relationships. If the responses of our early childhood caregivers were inconsistent, causing development of an anxious attachment style, we will tend, in later life, to be anxious about how our friends or spouse will respond. As a consequence, we may develop unconscious compensatory behaviors with the goal of bringing others into closer proximity. For children, among these behaviors may be tantrums, pouting, cajoling an adult, being silly, and being endearing. In adulthood, grown-up versions of these same behaviors can be readily detected.

Empathy

The relational processes we have described thus far—imitation and attachment—come together to foster in children a sense of empathy for the feelings of other persons. The primitive precursor of empathy in the emotional attunement between mother and child is an innate process—when mother cries, baby cries; when mother smiles, baby smiles. Infants have the tendency to attune their emotions to those of others around them and, thus, to have a basis for understanding what other persons are feeling. Of course, this

attunement is bidirectional. Parents experience the emotions of the child, as the child experiences parents' emotions.

Children learn empathy by being shown empathy. When a child first takes a fall, he or she is flooded with physical sensations. It takes an attuned parent or caregiver who says, "That hurts doesn't it?" for the child to understand and label the emotional experience that accompanies the physical sensation. Over time, this emotional attunement on the part of the parent will allow the child to display the same empathy toward the parents. Mother may bang her knee against a coffee table and the child will spontaneously say, "Ouch! That hurts mommy... me sorry!" This reciprocal attunement contributes to the development of a *theory of mind*, the ability of children to recognize that another individual (e.g., the parent) has a separate mind, but with feelings, thoughts, and perspectives similar to their own. They learn that others sometimes share their thoughts and feelings and sometimes do not.

Clearly, the developmental achievements of empathy and a theory of mind require imitation, are enhanced through healthy attachment, and are disrupted by poor attachment. Anxiously attached individuals have a harder time separating their perspectives and feelings from those of other persons. They seem to assume that if they are feeling or thinking something, then others around them must be feeling or thinking the same things. Disorganized attached individuals may even have a hard time separating self from others, with fuzzy personal and physical boundaries. It may be hard for them to recognize where they stop and another person begins. Because unhealthily attached individuals are less trusting of others they are also less open to new experiences that may promote positive growth.

Language and Stories

Sometime during the second year of life, language learning kicks into high gear and accelerates exponentially. It is obvious, but worth noting, that language is impossible for children to learn outside of a rich and constant verbal interchange with parents and other persons. Thus, this mastery of language is another relational process that does much to form the intelligence, personality, and character of children.

The capacity for language rests upon a particular architecture within the brain that is relatively unique to human beings and present in some form at birth. The existence of a genetic blueprint for language has been suggested in studies using brain scans. Functional magnetic resonance imaging (fMRI) makes visible those areas of the brain that are particularly active during various kinds of thinking and experiencing. Using fMRI, activity has been shown to occur in specific areas in the left cerebral cortex when people are listening to speech. This activity is also seen in year-old infants who have not yet learned to speak or understand speech.

However, even this genetically predisposed language system is highly malleable and plastic, requiring social experience to become functional. Brain systems involved in language develop specific wiring based upon experience with language. For example, research has shown that infants start life with the ability to tell the difference between all human language sounds. They are alerted when a repeating vowel changes from "la" to "ra." However, within

a few years of hearing their native language, they progressively lose the ability to detect differences between sounds that do not occur in their native tongue.¹² If the language they are learning does not include this distinction, they soon are no longer able to “hear” the difference. In fact, if language is not used at all, due to some form of social or sensory deprivation, the language capacity can suffer permanent damage and loss of function.

Language opens the malleable minds of children to a world of new complex ideas about the physical and social world. It also allows them to know vicariously the experiences of others. Telling children fanciful imaginative tales or reading stories to them (often at bedtime) are wonderful ways to entertain and relate to children. But such storytelling is also an important way of illustrating and teaching values and virtues that contribute to the development of their characters. Story narrative allows children to imagine new situations, vicariously try out a range of new behaviors, and safely experience the positive or negative consequences, forming rich impressions in their minds about what is good and bad, right and wrong, and conducive or not to the well-being of others.

Humans as Self-Organizing Complex Systems

A theory borrowed from applied mathematics, called the theory of complex dynamical systems, has advanced our understanding of formation and change in very complex, open, and self-organizing systems such as biological organisms, human societies, and economies. This is a technical theory about how really complex characteristics (like minds and personalities) can emerge from myriad ongoing interactions between the millions of parts (like neurons) making up a system (like an organism or person).

What is most important to our current discussion about the formation of persons is that the characteristics of such systems can help us understand the nature of human formation and change. One important characteristic of dynamical systems is that they are originally self-organizing and always retain the potential to reorganize in ways that result in new system characteristics. This happens whenever the system is destabilized by an inability to successfully interact with its surroundings. Situations that force reorganization are called, in the parlance of dynamical systems theory, *catastrophes*—a technical word that merely refers to a significant mismatch between a system and its surroundings. For example, ant colonies are complex dynamical systems that have been shown to change their pattern of organization (and thus their behavior) when important changes occur in their environment, such as changes in the availability of certain foods—a catastrophe from the point of view of the colony as an organized system. Catastrophes in the lives of persons (for example, coping with a change in the demands of one’s job or with a new coworker) can force reorganization of the person in major or minor ways, depending on what is demanded by the challenges of the new situation.

Thus, the very nature of the kind of complex physical systems that constitute us as human beings means that we are continually open to change and reformation, even as adults. Changes are prompted by catastrophes, in which our current self is no longer able to deal adequately with our circumstances. The younger the person, the more likely are personal reorganizations,

but older systems still change. Changes that take place generally preserve most of the characteristics of the previous state, allowing for growth but with the continued preservation of the integrity of ourselves as particular persons. Again, these changes are embodied reorganizations of our neural systems brought on by the complex interaction of embodied persons embedded in a world of others. Lasting change and formation occur as physically embodied persons experience new things (catastrophes) and try out new embodied activities.

The Maturation of Self-Organizing Complex Systems

We have outlined some of the interpersonal forces that come together to form infants into adult persons. We are born bodies with needs and develop sensory, motor, and mental systems that are very plastic (that is, open to change) and subject to formation based on our experiences. In the process of growing up, infants imitate others (particularly their parents), share attention with others, form emotional attachments, learn empathy for the experiences and feelings of others, develop the ability to share thoughts and feelings through language, and hear stories that provide vicarious experiences. All of these embodied processes strongly influence the personality and character of the persons they are becoming. None of these processes happen without human interaction.

In describing the development of children above, we made the point that the human nervous system is an open program. That is, the preprogramming of genes has only a very general influence on the processes that create the sort of person we become. Openness to experience allows for great flexibility in our formation, particularly the formation of our most human characteristics: intelligence, personality, character, and the assimilation of cultural modes of thought and behavior.

Clearly, the embodiment of the personhood of children has been implicitly recognized by the church in its programs for children. The role of physical and brain development and the necessity of physical and social interaction with the world to learn anything are almost universally built into church curricula for children. For some reason, our view of adults as walking heads creates a disconnection between our understanding of Christian formation in children and our comprehension of the forces at work in adult Christian life. The impact on human development of these processes of ongoing reciprocal interaction with one's social environment does not come to an end somewhere in later childhood or early adolescence. Rather, this developmental process is ongoing, allowing for continuing development, formation, and change as adults.

The processes we have described above that are necessary for child development (imitation, interpersonal attachment, empathy, language and stories) also remain operative in adults. Through the development of new secure attachments, accurate empathy, unconscious imitation, and the use of stories, adults can continue to grow. In fact, the desired outcome of Christian life is not simply conversion or belief, but continued growth in wisdom and virtue (that is, embodied sanctification). Wisdom is more than merely knowing what is abstractly true, but includes judgment, discernment, and insight

about how to act in various contexts.¹³ Virtue is sometimes thought of as moral excellence, judged in terms of scrupulous compliance with absolute standards of right and wrong. However, virtue is not so much about behavior with respect to the extremes of the distribution of right or wrong actions, but mostly about the nuances of personal conduct.

So, humans are deeply embodied and embedded creatures that are formed not as much by what we think or believe, but by the kinds of social and physical interactions with the world that we engage through liturgies. These liturgies are what shape humans in unconscious ways and orient them toward a particular telos. This telos may be toward love of God and neighbor (i.e., kingdom of God) or toward some other end (e.g., consumerism). If one of the major goals of the Christian life is acquisition of wisdom and virtue (e.g., embodied sanctification), then perhaps we can understand the social interactions we experience as church, including the ritual interactions we enact in worship, as essential aspects of this formation.

It is our contention that the church must recognize the embodied social nature of human formation. Much of adult Christian education and even some forms of worship have typically focused on getting Christians to think or believe the right things, and thus have missed the opportunity for the development of deep behavioral habits formed through embodied congregational life. Ironically we have not taken the liturgical nature of human beings seriously enough!

To be most thoroughly formative, the church must be a community that (a) fosters secure attachments between its parishioners, (b) provides opportunities for imitation of Christ through imitation of one another, (c) enacts an alternative narrative to that of the culture, and (d) engages in embodied worship that includes these features. We end with a few thoughts on embodied worship.¹⁴

Embodied Worship

Worship involves expressing our devotion to God in all aspects of our lives. Corporate worship is the gathering of the church for the specific intent of engaging in group practices and expressions of devotion. In some church contexts, the meaning of the term *worship* has been limited to times of singing sandwiched around prayers, but we mean to include as worship all elements of a corporate worship service (preaching/teaching, Eucharist, scripture reading, and even the body life expressed in announcements).

What should be the nature of worship if those who are gathered are truly physically embodied persons rather than simply walking heads—thinkers and believers of abstract ideas? We believe that worship that is truly embodied must *form the body* as opposed to being solely propositional or experiential. Thus, it is important to consider worship and the body more deeply, keeping the embodiment and social embeddedness of persons clearly in view. If we are bodies, then what is *done*, as opposed to simply what is said, thought, believed, or experienced, has greater importance and demands greater intentionality.

Most generally, for worship to be robustly formative of individuals and the church, care must be taken to ensure that worship does not disembody

either the individuals participating or the church itself, and that it does not disconnect worship from the daily life of the church and its members.

First, to disembodied individuals is to engage in worship in such a way that it focuses the attention of congregants inward to their own *individual* experience, as if spirituality is ultimately *inside* (whatever that may mean). An inward focus assumes the existence of a self, or mind, or soul inside persons that is different from who and what we are as whole persons, sitting in a worship service among other Christians. It also assumes that God is primarily or only inside, rather than present in the room and outside of (other than) any individual. Even silent thought and prayer are not the activities of a separate inner being or directed toward an inner presence, but are the response of the whole physical person directed to God we acknowledge to be beyond (outside of) us. The goal of worship thus cannot be to cultivate something inside, but, in unison with those gathered, to worship God who is outside of us as individuals, yet present among us. We do not gather in order for each individual to have some kind of inner experience or feeling but for each *whole* person and the gathered church to be formed through the context of worship. It is precisely through and because of its outward focus that worship includes the formative interpersonal forces we have described, such as attachment, imitation, empathy, and life-shaping narrative.

The issue of feelings and emotions in worship, often thought to be inner experiences unique to individuals, is worth comment. In fact, emotions are not solely inner. Emotions are instead continuous brain-body adjustments and attunements to our current situation and most particularly our *social* situation. When these adjustments or attunements become more intense or salient, we may say we “have” a particular emotion (“I have fear, joy, sadness,” etc.). What we are actually reflecting at such moments, however, is not a sudden phenomenon solely inside us, but rather the cumulative effect of the buildup of adjustments to our interpersonal or physical circumstances. In this respect, emotions are never entirely our own, but are things that occur as we encounter one another—sometimes attuning ourselves to each other, sometimes imitating one another, and sometimes confronting each other. Therefore, emotions in worship are not manifestations of an inner separate part (the soul) that is independent and disconnected from the social (communal) environment of worship. Rather, emotions are by-products of automatic bodily adjustments to the situation that, when rising to consciousness, provide information about the nature of our current relationship to the *social* or physical surrounding.

Second, worship that tends to disembodied the church is that which causes individuals to become more and more autonomous and isolated (focusing on inward thoughts, experiences, and feelings), allowing the church gathered to be nothing more than a loose association of independently spiritual persons. The more persons sit passively and view the program at a distance, or become focused inwardly such that those around them cease to exist in their consciousness, the more worship may serve to disembodied worshipers and disintegrate the church body. The result is worship that is about “Jesus and me,” rather than “Jesus and we.” Genuine church bodies emerge from interaction, sharing, communication, corporate prayer, common story, and connectedness of life together. To foster autonomous and individualist

worship that does little to encourage deeper and more meaningful connectedness between those attending is to disembodiment the church.

Third, both individuals and the church become disembodied when worship is not seen as part of the ongoing daily life of the church and the lives of each member. When certain music is played, candles lit, liturgy recited, the Bible read aloud, and the preacher speaks, God is not more present than when we gather in the vestibule, have a meal together, give our time and effort to works of compassion, or go to work each day. To make it appear so is to make the experience of worship disconnected and disembodied for members of the congregation. Corporate worship is necessary for vital Christian life, but it is not sufficient as the totality of that life. It must be seamlessly continuous with the rest of the daily communal life of the body of Christ. It is the totality of ongoing life that constitutes worship. “Therefore, I urge you brothers and sisters, in view of God’s mercy, to offer your bodies as a living sacrifice, holy and pleasing to God—this is your true and proper worship” (Romans 12:1, NIV).

Liturgy is an important part of all worship traditions. Although the term is sometimes associated with High Church traditions, it exists just as certainly in Low Church traditions. Liturgy literally means “the work of the people,” and thus refers to the patterns and rituals that all churches engage in on a regular basis. However, the aspects of liturgy we want to emphasize as most conducive to embodied worship are those that are most active, participative, and interpersonal. Corporate worship is most clearly about persons as bodies and active agents when we are engaged together in common activity—when, for example, we read responsively scriptures or texts, pray aloud, sing congregationally, or celebrate the Lord’s Supper.

The overall structure of liturgy (that is, gathering for and giving voice to praise, hearing God’s word, responding in faith, sending forth) should not be merely sections in the program for each Sunday service, but should designate what people actually *do* during various parts of a worship service. When they are participatory events, these categories of liturgy function to form persons and the church itself into the image and likeness of Christ. When liturgy is done well (even though rooted in different traditions) worship becomes a fully embodied and communal event that encourages participation and engages the entire person.

For worship to be truly embodied, we need to participate collectively. We are, after all, liturgical animals rather than merely thinking or believing animals. What we think and experience, and subsequently end up believing, is formed in worship by what our bodies are doing! To attend to bodily activity in worship is to be explicitly conscious of how the congregation is being formed in Christian faith, wisdom, and character.¹⁵

Brad D. Strawn is Evelyn and Frank Freed Professor of the Integration of Psychology and Theology School of Psychology, Fuller Theological Seminary in Pasadena, California.

Warren S. Brown is professor of psychology and director of the Travis Research Institute at the Graduate School of Psychology, Fuller Theological Seminary in Pasadena, California.

Notes

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2. Smith, *Desiring the Kingdom*, 43.
3. Smith, *Desiring the Kingdom*, 45.
4. Smith, *Desiring the Kingdom*, 32.
5. Smith, *Desiring the Kingdom*, 46–62.
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7. John A. Bargh and Tanya L. Chartrand, “The Unbearable Automaticity of Being,” *American Psychologist* 54, no. 7 (1999): 462–479.
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13. Warren S. Brown, “Discussion: Seven Pillars of the House of Wisdom,” in *A Handbook of Wisdom: Psychological Perspectives*, ed. R. Sternberg and J. Jordan (New York: Cambridge University Press, 2005), 353–68.
14. Exploration of the first three points can be found in Brown and Strawn, *The Physical Nature of Christian Life*, 140–57.
15. This article is adapted with permission from Warren S. Brown and Brad D. Strawn, *The Physical Nature of Christian Life: Neuroscience, Psychology & the Church* (Cambridge: Cambridge University Press, 2012).