Patrick McNamara has made a thoughtful and nuanced contribution to a growing field centered on questions concerning brain activity required for, and involved in, religious life. In a field spanning the disciplines of neuroscience and religious studies it is often hard to find a perspective that has been thoroughly developed on both frontiers for the obvious reason that both are so expansive. But in McNamara’s book we find both. This is exemplified by McNamara’s discussion of the intimate relationship between—and not merely the juxtaposition of—reason and religious faith (cf. 7-11), as well as the depth to which he dissects the neurophysiological data (cf. ch. 5 & 6).

McNamara’s point of interest—as the title indicates—is religious experience. McNamara is particularly interested in what research into the relevant brain activity can reveal about the possible benefits religious experience has to human life. In his words, “Religious experiences are realized by the brain in human beings, and knowing how the brain mediates religious experiences can tell us something about potential functions of religious experiences” (11). But what are religious experiences? This question must be addressed before neuroscientific research into religious experience can start. McNamara seems to primarily focus on a type of religious experience rather than on religious experience altogether. This narrowed purview seems to be a function of McNamara’s research purposes and methods. But it does have its costs.

In chapter 1, McNamara provides a list of 17 “properties” he claims, along with others, characterize religious experience (15-16). Most of these are sensations (e.g. “sense of integration”, “noetic quality”, a feeling that is “beyond words”, “euphoria”) or some other momentary experience (e.g. visual imagery). Others do not seem to be properties of experiences but instead are enhanced or newfound abilities (e.g. ability to respect opposing views, “enhanced awareness”), or changes in patterns of behavior (e.g. ritualistic behaviors).

However, McNamara does not provide an extensive discussion of “religious experience” until chapter 7. In this discussion he primarily focuses on experimental research he has performed with Wesley Wildman. In their research participants were asked to recount a recent episodic religious experience, along with “a recent happy experience, and a recent emotionally neutral experience” (149). Participants were then asked to rate each experience along 12 “dimensions” (or “properties”).1 And, as McNamara reports, the episodic, “religious experiences” individuals were asked to focus on were distinguished as “significantly more meaningful, with stronger altered states of awareness, increased inwardness of attention, higher amounts of imagery, more internal dialogue, lower volitional control and more negative affect” than other episodic experiences. McNamara uses these characteristics to form a theoretical model of the distinctive aspects of religious experience (149-50).

McNamara’s focus on exceptional episodes serves his purpose well. It allows him to isolate and study a particular phenomenon. This being said, by characterizing religious experiences this way, McNamara seems to (a) exclude some of what are rightly called

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1 These were taken from Pekala et al.’s “Phenomenology of Consciousness Inventory” (PCI) to study ordinary and non-ordinary states of consciousness’ (150).
“religious experiences” and, at the same time, (b) fail to distinguish between vastly different experiences (e.g. extraordinary joy and despair).

For instance, one may experience or witness God’s work throughout an extended period of suffering. Thus, rather than being transient as McNamara typically characterizes it (presumably lasting minutes to days), a religious experience could be more enduring (lasting months to years). Further, the recognition of God’s presence, or work, may be retrospective. Looking back one may recognize that God was working in past situations—one was experiencing God’s direction—even though one never had a certain feeling, sensation, or an “altered state of awareness”. One may also see a change in one’s perspective over time and this change may not be associated with any particular feelings, sensations or other momentary event (psychological or otherwise).

Additionally, one may consider experiencing the compassion of a friend over the duration of their relationship to be a religious experience. Through it, one experienced the love of God. One may, further, notice that one is calm when one would typically be stressed, and attribute this to God’s work; i.e.—a religious experience. People often describe drastically different life events, like the birth of a child or events that bring despair, as religious experiences. Through them, they come to more deeply appreciate God’s love or to depend upon God more. In keeping with the idea that there are varieties of religious experiences, in a recent set of interviews focusing on how individuals understand their own spiritual formation, or development, several individuals indicated that they experienced God through being “re-educated” over a period of years.2

The experiences outlined above seem to be quite different from one another. Many of them also seem to be quite different from the kinds of experiences McNamara focuses on. Nevertheless, we would not want to say that any one was less religious than another. Thus, it seems that—to draw upon an idea first developed by Wittgenstein—religious experience, like the concept of experience itself, is a “family resemblance” concept;3 that is, there is no set of defining characteristics shared by all that can be appropriately called a “religious experience”. Rather, as Anthony Kenny puts it, when we examine the ways we use such terms we find “a complicated network of similarities and relationships overlapping and criss-crossing”.4 In keeping with this idea, it seems that some of what can rightly be called a religious experience (and some of what gives rise to spiritual transformation) may share little to nothing in common with the types of experiences McNamara focuses on. And, even when these experiences do, they can still be quite different from one another (e.g. joy and despair).

With this in mind, we turn to the central argument coursing through this book. Though McNamara mentions other kinds of religious experience and other aspects of religious life (e.g. 16-9, 41, 53-4, 149), he seems to think that religiosity, and spiritual transformation, hinge upon a particular type of exceptional experience (cf. 5-6, 13-9, 46-7, 55-8, esp. 149-52). However, a strong case can be made that religiosity is a way of life that involves typical experiences as much as (if not more often than) exceptional experiences.5 As a way of life it, further, involves both a certain perspective and a way of conducting oneself—and McNamara rightly notes the integral part of one’s will, and the relaxing thereof,

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in both human life and religion (cf. 22-9, 42-3, 62-5). It is, then, from this way of living that spiritual transformation comes about and experiences are endowed with religious meaning.\(^6\)

If religiosity is a way of life (and we do not think McNamara would object), then it is conceivable that one may be religious and never experience the kind of exceptional episode McNamara focuses on. Further, there does not seem to be anything intrinsically religious about the kind of experience in question. As McNamara reports, amongst 137 Japanese who had temporal lobe epilepsy (TLE)—which is associated with the kind of exceptional experience McNamara thinks to be pivotal to religiosity—only 3 “reported significant religious interests” (88).\(^7\) This is in contrast with studies on Western individuals with TLE which show heightened religiosity in comparison to the average population. So, it seems that exceptional experiences, such as those had by TLE patients, can either be given religious meaning or not; they can either be part of a religious way of life or not. This being said, it may be true that exceptional experiences lend themselves to religious interpretations, or religious meaning. Nevertheless, all experiences can be endowed with this sort of meaning (cf. Rm. 8.28). And we would suggest that all sorts of everyday experiences (like those mentioned above) and ways of living (including patterns of conduct) can give rise to spiritual transformation and its physiological correlates—even when the kind of experience McNamara seems to think of as a criterion of religiosity is absent.

If the arguments presented above are correct, McNamara’s work primarily sheds light on a certain type of exceptional experience which may influence spiritual transformation. And, for the rest of this review, it is this light that we will follow. We will summarize some of the central aspects of this work. Embedded in this summary will be some points of criticism regarding certain theoretical notions about “the Self” that McNamara brings to his discussion of the neuroscientific data. His discussion of “the Self” is of central importance because McNamara is interested in examining “religion through the eyes of this Self” (1). We see McNamara’s notion of the “the Self” to be contentious, as well as unsupported, but also unnecessary to his overall point, which we find both interesting and illuminating. As will become clear, rather than presupposing a reductive idea of personhood, as McNamara seems to, we prefer a different idea of personhood for both conceptual and empirical reasons. However, it should be noted that due to the expansive research synthesized by McNamara it will be impossible to do justice to every aspect of his work within this review.

McNamara opens his book with a discussion of what he calls “the Self”. Drawing from statements made by the Russian philosopher Nikolai Berdiaev, McNamara claims that this “Self” is “utterly unique”, “an end in itself”, and that “one of religion’s major self-proclaimed aims is the salvation of the individual Self” (1). But what is he referring to by “the Self”?

McNamara is in support of theories of “the Self as a collection of schemas” and “as a story” (24). Extending such theories, McNamara maintains that we “evaluate our current and past Selves with reference to possible selves”. These “possible selves are images of what people hope to become, expect to become, or fear becoming” and they come from “imaginary narratives” developed from past experience. The evaluation of various “Selves” with reference to possible and ideal “Selves” is the way to resolve internal conflict, and is a way of

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“self-regulation” (24-25). This process is performed by a central “executive Self” that performs “strategic behaviors and information processing” and strives for consistency (cf. 28). The “executive self” strives to consistently be who they think they should be. So, according to McNamara, “the Self” is an “agent” that, in addition to developing narratives, causes certain actions and makes decisions (cf. 26-27). It is a “decision-making system” (cf. 49). And it is this “Self” that he discusses at length. However, McNamara does so without presenting an argument for this view, or considering arguments against it.

In discussing “the Self”, McNamara (and the psychological tradition from which he draws) has taken a term used in everyday life—normally in conjunction with a pronoun (e.g. myself, ourselves, yourself, themselves) to refer to people—and has used it in a particular theoretical way. He does so seemingly without considering the criteria by which we distinguish an individual, or a “self”; or without fully considering the content of such concepts. A strong case has been made in philosophical psychology that an individual, or person, is one who is ascribed both certain psychological attributes (e.g. the ability to make decisions, think, develop stories, see, remember, is conscious) and certain physical attributes (e.g. a body, arms and legs, a face, eyes, a brain). In support of this view, it has been convincing argued that saying and doing certain things, or being able to, are defining characteristics of having certain psychological attributes—so, for instance, what one can think can be expressed publically. Thus, to understand what it means to have a psychological attribute is to be able to ascribe it using behavioral criteria. The first does not come without the second. If this view is correct, though an individual can develop, think about, or compare stories or narratives of their life (or regarding how they would like their life to be), and can make decisions, this is not all that distinguishes an individual, for several reasons.

First, psychological attributes can only be ascribed along with certain physical attributes; and, thus, the very same individual is ascribed both. Second, the psychological attributes McNamara discusses are surely only ascribed along with other psychological attributes (e.g. can see, remember, want, know). This is in keeping with Elizabeth Anscombe’s observation that “the ascription of sensible knowledge and volition go together”; one cannot want something one is unaware of. It is also in keeping with Peter Strawson’s realization that “to see each other as persons” is a lot of things, but not a lot of separate, unconnected things. Thus, developing narratives, a collection of schemas, or making decisions are not the only things that distinguish us as individuals since we would not be able to do these without possessing (a) the ability to do many other things and (b) certain physical attributes.

But there are additional problems with the idea that an individual is a “decision-making system”. An individual can typically make decisions, but they can equally act rashly, or choose fortuitously, without making a decision. Similarly, individuals are not simply agents. They are also, at times, patients. In certain situations they act upon others (they are active) and in other situations they are acted upon (they are passive). And one is no less an individual in the first case than in the second.

The issue raised above might seem semantic but it is more than that. For McNamara’s reduced notion of “the Self” leads him to equate it with a “neuroanatomical

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11 Strawson, *Individuals*, 112.
network” that, according to him, carries out processes performed by “the Self” (e.g. conflict resolution, self-evaluation, decision-making) (cf. 46). And this is problematic.

The observation that certain brain activities are required for, and involved when, an individual makes a decision does not show that certain brain regions, or networks, make decisions for both conceptual and empirical reasons. First, trying to make sense of brain activity without reference to what an individual—that is, a human being—is doing would be like trying to make sense of a Doppler radar pattern without reference to the weather. It would be futile. In this case, an instance of decision-making must first be identified—and an individual identified as a decision-maker—before we can identify relevant brain activities. So we must already know what deciding is and ascribe this ability to an individual before we can isolate the relevant brain activities. This shows that brain activities can only be inductively correlated with decision-making. Thus, decision-making cannot be properly ascribed to parts of the brain. This is exemplified by the fact that we would not deny that an individual was capable of making a decision if they were capable of everything normal individuals are, even though there were substantial differences in their brain activity.

Second, the claim that certain brain regions make decisions is to confuse necessary with sufficient conditions. Various precisely balanced states of activity throughout one’s nervous system are required for one to be in a state-of-consciousness, or awake. During wakefulness, neurons in the mid- and hind-brain release various neurotransmitters (e.g. serotonin, acetylcholine, dopamine, norepinephrine) throughout the cortex and other regions, thereby influencing states of activity throughout the brain. Slight imbalances in these activity states give rise to narcolepsy. Thus, interfering with, or changing, these states of activity would interfere with decision-making since it would cause one to become unconscious. And one obviously does not make decisions while unconscious. So, research indicates that a balanced state of activity throughout one’s nervous system is required when one makes decisions, and is part of the physical makeup of one (i.e. a human being) capable of these activities. Nevertheless, as McNamara argues well, individuals with abnormalities particularly in the anterior temporal and prefrontal cortices are not fully functional, and do not have abilities like decision-making, that individual’s typically have (cf. 64-79).

The points outlined above at least bring into question McNamara’s concept of “the Self” and his identification of “the executive Self” with a discrete “neuroanatomical network”. They suggest that McNamara uses “the Self” in, at best, a contentious, theoretical way (which, as we will see, is not crucial for his central points) and, at worst, in a way in which it cannot be properly used. Either way it adds an unneeded layer of complication to his work. But, putting aside this theoretical qualm, McNamara makes a significant contribution to the study of neurophysiological activity involved in a certain kind of religious experience and its role in certain expressions of religiosity.

McNamara argues that, according to most forms of religion, not only is the individual of utmost importance but she is also “conflicted”, or inconsistent, and in need of “salvation” (cf. 1-2, 21-24). As he notes, we often have a “divided Will” (22-3). To illustrate, McNamara quotes Paul’s famous statement: “For the good that I would I do not: but the evil which I would not, that I do” (21-2; cf. Rom. 7.15). McNamara is referring to a phenomenon that—though not mentioned by him—has been extensively discussed in literature on freewill; or, specifically, on weakness of will (akrasia). Often we find that what we desire in the

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12 To inductively correlate is to draw a relationship between occurrences on the basis of observing certain facts; in this case, that when an individual makes a decision certain brain activities occur.

moment (our first-order wants) is not what we reason to be best or what we value most (our second-order wants). As an example of this, someone who is an alcoholic may want nothing more than to quit drinking in order to save their marriage. At the same time, they may have an intense desire to have a drink, and, in the end, may act on that desire.

Religion, then, is a way for one to be saved from inconsistency. It is a way of being transformed so that one’s first- and second-order wants are aligned instead of at odds (cf. 146-8; 152-66). McNama is particularly interested in one way in which religion can form, or transform, an individual; namely, as we have seen, through a certain type of religious experience. His central argument is that during this type of religious experience “the agentive or executive Self” is momentarily “decentered” (cf. 5-6, 15-8, 80-4, 145-52). And, though he discusses “decentering” at length in chapter 3, he provides a first approximation of it as “the decoupling of the Self from its control over… cognitive functions and a search for some more effective controlling agency” (5). It is a “transient, trance-like state that promotes healing” (6).

This is where his ideas get—in our view—unnecessarily weighted down by his controversial theory of “the Self”. We cannot see how being “decentered” refers to anything other than being in a state of suggestibility, malleability or surrender; a state that a human being is in when they are open to change and to new insights from others. In McNamara’s terms, the “decentered Self” is “receptive”, and is better able to integrate, new ideas, experiences and patterns of conduct (5); and depending upon the influences, including religious influences (cf. 152-66), this vulnerability opens one up to either (a) being enriched, healed or transformed in ways that allow one’s first- and second-order wants to be aligned (45), or (b) shaped in negative ways (cf. 53-57). Extending and supporting this idea—and tying it to neurophysiological events—is McNamara’s chief aim for the remainder of the book.

To this end, in chapter 4, McNamara provides a detailed discussion of some neural correlates of voluntary action and various abnormalities of “control” such as alien hand syndrome, delusions of control, schizophrenia and multiple personality disorder. (No brain diagrams are provided so the non-specialist should come equipped with their own brain atlas.) Then, in chapter 5, McNamara discusses some neural correlates of the kind of religious experience he is interested in using clinical cases of TLE, scrupulosity (a subtype of obsessive-compulsive disorder), frontotemporal dementia, “hyperreligiosity”, and healthy, religious individuals. From these discussions, McNamara concludes that “the circuit that mediates religiousness involves primarily limbic, temporal and frontal regions on the right” (129; cf. 246) and corresponds with the circuit that mediates “the Self” (cf. 90, 246).

In chapter 6, McNamara presents some neurobiochemical effects of Hallucinogens/Entheogens that induce “religious experiences” as evidence of the neurobiochemical activities likely correlated with the kind of religious experience he has focused on. He pays particular attention to dopaminergic and serotonergic activity in the frontotemporal regions (139-44) and suggests that religious experience involves an increase in the activity of the serotonin receptor 5-HT2A, which inhibits prefrontal cortical activity and increases dopaminergic activity in the limbic system (144). Here, it helps to have noted that McNamara has focused on a particular type of religious experience. It would be interesting to further study patterns of dopaminergic and serotonergic activities correlated with very different experiences (e.g. one euphoric, the other of despair), each endowed with

religious significance, and each involved in transforming an individual. They are likely to be substantially different.

Finally, throughout chapters 8-13, McNamara, first, discusses various aspects of religion that may function to transform the individual once “decentered”. These include ideas about God (or divine characteristics), religious language and aspects of religious ritual. He, then, closes his book by: (a) integrating his theory into work on human religious development; and (b) arguing that religion, through the process of “decentering”, functions “to construct an executive Self – an autonomous, self-regulating, mature individual” (246). This leads to his concluding suggestion that “religion was one of the forces (indeed a primary force) that [through evolutionary processes] created the executive Self” (258).

We are changed by the activities we engage in, and the experiences we have. Neuroscience only reaffirms this by showing that long-term neurophysiological changes occur as a result of both. The neurophysiological activity involved when one engages in an activity can be different from one instance to the next as a result of how the past has changed them.\(^\text{15}\) And certain long-term changes are required for the development of motor skills as well as for the ability to remember the past.\(^\text{16}\) There is no doubt that neurophysiological changes are also required for habit formation and, in that case, character formation, since when asking about character we are asking about how an individual typically acts.\(^\text{17}\) We can be safe in assuming that these changes (a) result from participating in spiritual practices (e.g. regular worship, religious rituals, thoughts or meditations, prayer, readings, scriptural memorization; cf. 154-66), and (b) result in spiritual transformation (i.e. the transformation of one’s character to be more in line with religious ideals or exemplars).

If the above is correct, when considering what shapes us, everyday experiences and conduct are typically as important as exceptional experiences, if not in some cases more so. However, as well documented by McNamara, sometimes exceptional experiences (e.g. TLE experiences, spiritual possession) may have more influence than other kinds of experiences. Nevertheless, as Aristotle noticed several millennia ago, conduct of a kind produces character of the same kind.\(^\text{18}\) And, as William James observes (as does McNamara), the way to tell if a religious experience is genuine is by its “fruits” (James, 1902); or, that is, by how one lives one’s life. So it seems that the criteria for religiosity may not be a kind of experience but an enduring disposition manifested by how one lives in relation to others and God throughout one’s years. And, perhaps, only sometimes is this disposition more a product of exceptional experiences than anything else. This is not to minimize exceptional experiences in religious life, only to put them in context.

Being voluntarily surrendered to God—including to His perspective on whatever we undergo or experience—is crucial in the Judeo-Christian tradition (and there are, no doubt, parallel positions in other religious traditions; e.g. 152-56). As Albrecht Dihle points out, “in the Biblical texts, even before their content was made explicit in philosophical terms”, there is clearly a “voluntaristic approach towards cosmology and ethics”.\(^\text{19}\) In fact, more than

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18 Aristotle, *Nicomachen Ethics*, II.1, 11103\(^\text{a-b}\).
being associated with intellectual attainment, interaction with God is associated with giving oneself over to, or resisting, God. So God’s commandments are to be obeyed (e.g. Deut. 9.23; 2 Kings 17.14), not proved (Isa. 55.8). It is certainly true—and well argued by McNamara—that this surrender, and the resulting transformation, may stem from a kind of experience during which (or after which) volitional control has either been relinquished or stripped from an individual (one can’t help but think of Paul on the Damascus road). Thus, McNamara has impressively investigated, and synthesized, experimental research into the neurophysiological activities involved in certain cases of spiritual transformation; i.e.—those involving a certain kind of experience. And our own thoughts on the subject have been stimulated and shaped by him.

Anyone interested in the relationship between religiosity and contemporary neuroscience research in the near future will certainly need to be in dialogue with this work. However, in doing so, one should at least consider whether transformation by God may be influenced by ordinary experiences (e.g. the day-to-day love of another), and may involve one’s own choices, over a lifetime, as much as a certain kind of episode. This would seem to be in line with certain enduring traditions (cf. Matt. 5.13-48; 7.24-27; 25.14-30). And whether this is the case cannot be resolved by neuroscience but, rather, by the “fruits”.

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