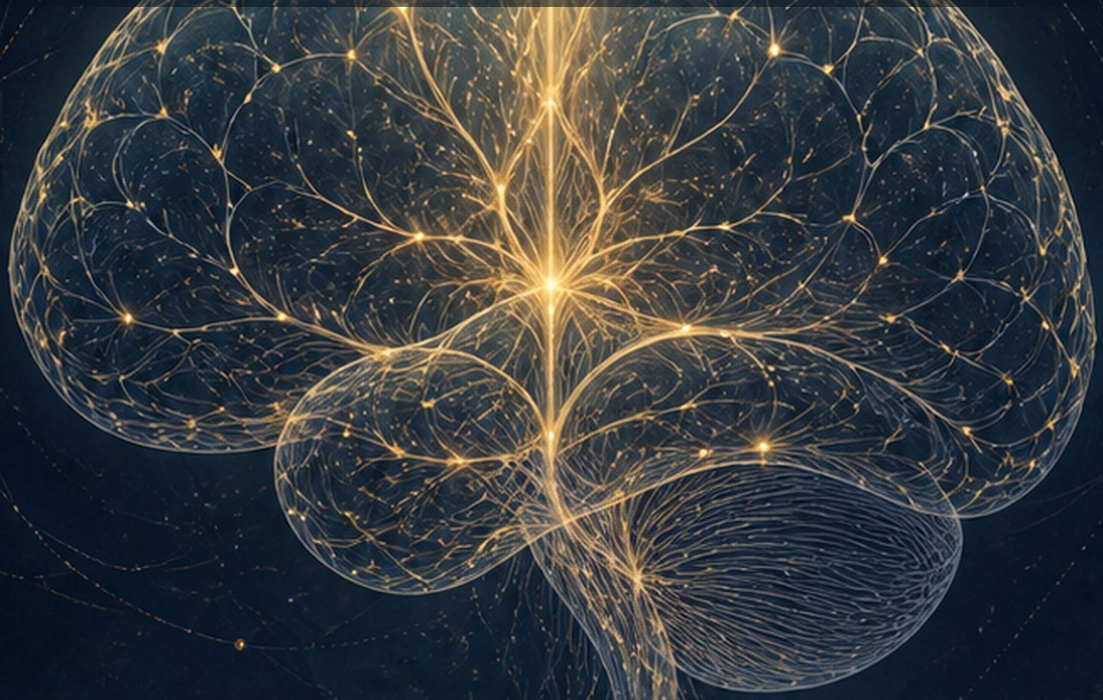
ESSAY

The Brain and the Sacred

NEUROPHYSIOLOGY · NEUROTHEOLOGY · THE HUMAN PERSON



On identity, conscience, connectedness, volition,
awareness of God, maturity, and psychological vulnerability

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Editorial Note

This essay was prompted by the document “Neuropsychology,” a Dutch summary of a lecture delivered by psychologist Jim Wilder in April 2000 and translated by Gerard Feller. The original text contains pastoral observations on attachment, trauma, identity, and faith, as well as neuroanatomical claims that contemporary research supports only partially, or not at all. It is therefore used here not as a scientific authority, but as a historical and pastoral starting point for dialogue.

The synthesis presented here draws on peer-reviewed research in neuroscience, psychiatry, and the psychology of religion, with particular attention to publications through 2025 and several already indexed studies from 2026. “Neurotheology” is used as an interdisciplinary umbrella term, not as a method for proving or disproving the existence of God. The clinical passages are informational and do not replace diagnosis, treatment, spiritual care, or emergency intervention.

Contents

Summary and Central Thesis

> *The brain is not the opposite of the soul, but the living organ through which a person experiences self, other, and the sacred.*

Neurophysiology studies how neurons, brain networks, hormones, autonomic regulation, and bodily states make human experience possible. Neurotheology asks how such knowledge relates to faith, prayer, awareness of God, moral responsibility, and spiritual growth. Its most fruitful approach seeks neither a "God spot" in the brain nor a dualism in which the spiritual has nothing to do with the body. Religious experience draws on the same dynamic systems involved in attention, self-experience, social understanding, memory, emotion, and valuation. Faith is therefore neurologically embodied, but not neurologically explained away.

The central thesis of this essay is that identity, conscience, connectedness, volition, awareness of God, and maturity are not isolated modules. They emerge from an ongoing interplay of body, brain, personal history, language, relationships, culture, and worldview. Neuroscience describes conditions, patterns, and vulnerabilities. Theology interprets questions of truth, calling, guilt, grace, hope, and destiny. The disciplines meet, but they do not answer precisely the same questions.

Mental illness likewise requires a double perspective. Faith may provide support, meaning, community, and perseverance; it may also become entangled with anxiety, compulsion, shame, despair, or psychosis. Religious content is not in itself a symptom of illness. Clinically decisive features include distress, loss of freedom, dysregulation, reality testing, and functioning. Good care respects a person's worldview, tests dangerous interpretations, and enables clinicians and spiritual caregivers to collaborate without taking over one another's roles.

1. An Encounter Between Disciplines

Neurophysiology works mainly in the third person: it measures electrical activity, blood flow, connectivity, neurotransmission, and behaviour. Theology also speaks in the first and second person: I believe, we pray, You are. Neurotheology occupies this boundary. It can investigate the processes accompanying religious practices and experiences, but a correlation between prayer and a brain network does not establish the reality or unreality of the One to whom prayer is addressed.

The term neurotheology therefore has two meanings. In its modest and scientifically useful sense, it is the study of the neural conditions and consequences of religion and spirituality. In a stronger sense, it attempts to derive theological truth claims from brain data. That stronger programme makes a category error: a scanner can show that an experience is being processed, not whether its transcendent referent exists. The same is true of love, beauty, and justice. The fact that such experiences have a physiology does not make their objects imaginary.

The 2000 lecture that preceded this essay assigned a major role to the right orbitofrontal cortex, early attachment, and "joy circuits." Its intuition that relational safety and emotion regulation are connected remains valuable. Contemporary developmental neuroscience, however, describes a distributed process involving prefrontal and cingulate regions, the amygdala, hippocampus, insula, hypothalamus, brainstem, autonomic regulation, and the social environment. A child is not born "without" an orbitofrontal cortex; the region is present but matures over a long period. Such corrections matter because neuroscientific language can otherwise create false certainty.

A sound interdisciplinary method therefore asks three questions: What was actually measured? Which interpretation is reasonable? Which normative or theological conclusion does not follow automatically? This discipline of modesty guards against both reductionism and credulous neuromythology.

2. From Brain Region to Network

Older popular explanations sought one location for complex human capacities: a centre for religion, morality, or identity. The contemporary network approach shows that functions arise through temporary cooperation among systems. Religious and spiritual experiences repeatedly involve the default mode network, the frontoparietal control network, and the salience network. The default mode network supports autobiographical memory, self-reflection, imagining the future, and understanding mental states. The salience network helps determine what is bodily or emotionally important. The frontoparietal network supports goal-directed control. Their interaction matters more than any single "religious lobe" (McNamara & Grafman, 2024).

Lesion-network research adds a different kind of evidence. Ferguson and colleagues (2022) found that brain lesions associated with changes in self-reported spirituality or religiosity were functionally connected to a circuit centred on the periaqueductal grey. This brainstem region is also involved in pain modulation, threat, attachment behaviour, and altruism. The result is intriguing, but it is not the discovery of a religious centre: the measures were limited, lesions occurred in different locations, and the connectivity map came from a reference group.

Recent syntheses therefore favour complex-systems models. Religious experience can shift through meditation, prayer, epilepsy, injury, psychedelics, social ritual, or intense stress, but always through altered interactions among perception, expectation, memory, body, and context (Jedlicka & Havenith, 2025). The brain does not construct religion from nothing; it processes learned symbols and expectations within a social world.

For neurotheology, this has an important consequence. A network model better fits the layered nature of faith: knowing, trusting, acting, remembering, hoping, and belonging can be distinguished but not separated. Neurological integration is not the same as spiritual wholeness, although each concept can illuminate the other.

Figure 1. Religious and spiritual experience arises from cooperation among distributed brain networks, not from a single "God spot."

3. Identity: Body, Story, and Relationship

Identity is both continuity and change. A person recognises the self as the same person even while body, convictions, and relationships change. Neurocognitively, this depends on several processes: interoception provides a sense of bodily presence; autobiographical memory supplies a story; social cognition reflects how others see us; executive functions organise goals; affective systems assign personal value. The medial prefrontal cortex, posterior cingulate cortex, precuneus, hippocampus, insula, and temporoparietal regions contribute in changing combinations.

The relational insight of the earlier lecture remains important. Secure attachment supports emotion regulation, exploration, and a coherent self-image. Identity, however, is not fully fixed before the age of four. Plasticity continues, though its speed and limits change. New relationships, psychotherapy, faith community, bereavement, migration, illness, and conversion can reorganise the story of the self. The possibility of recovery must not become a promise that every injury disappears through enough joy or faith.

Theologically, identity is often understood as both received and answered: humanity as gift, dignity independent of achievement, and a calling that asks for action. Such language can limit shame and offer continuity when mood or memory falters. It can also become oppressive when a community imposes a "true identity" that may not be contradicted by experience, body, sexuality, or doubt. Mature neurotheology therefore protects both relational belonging and personal agency.

Careful language is essential in dissociation and trauma. Dissociative identity disorder does not mean that "personalities are stored in the back of the brain." Research points instead to disruptions in memory integration, self-states, threat processing, and control, without a simple anatomical boundary. The aim of care is not a metaphysical battle inside the brain, but greater safety, continuity, functioning, and freedom of choice.

Figure 2. Identity is embodied, autobiographical, and relational: memory and self-experience are partly formed in encounters with others.

4. Conscience and Moral Cognition

Conscience is more than an internal alarm. It includes recognising good and evil, empathy, guilt, shame, knowledge of norms, motivation, and the ability to accept responsibility after wrongdoing. Relevant systems include the ventromedial and dorsolateral prefrontal cortex, amygdala, insula, anterior cingulate cortex, and temporoparietal junction. These regions support valuation, conflict monitoring, perspective taking, and sensitivity to harm; they do not constitute a separate "organ of conscience."

Moral judgements vary with context, group attachment, bodily state, time pressure, and framing. This demonstrates that conscience is fallible and trainable. It does not mean morality is merely arbitrary brain activity. Neural data can describe how a judgement arises, but not fully determine which norm is right. The movement from "this is how the brain responds" to "this is how one ought to act" remains a normative step.

Theologically, conscience stands between command and freedom. Guilt can be truthful when it names a concrete violation and moves toward repair. Toxic shame instead declares the entire person bad and closes the path to restoration. In depression or obsessive-compulsive disorder, guilt may be intense without proportionate wrongdoing. Pastoral care that treats every feeling of guilt as God's voice may intensify illness; clinical care that dismisses all religious guilt as a symptom may miss moral meaning.

A practical criterion is the fruit of the process. Healthy moral insight becomes more specific, tolerates examination, acknowledges consequences, allows proportionate responsibility, and opens a path toward repair. Pathological guilt is often absolute, repetitive, resistant to correction, and tied to rituals or self-punishment. Neuropsychology, ethics, and theology meet here in a shared task: truth without humiliation and responsibility without destruction.

5. Connectedness, Attachment, and Community

Connectedness is biologically grounded. Social proximity influences stress systems, pain perception, autonomic regulation, and immune processes. Eye contact, prosody, touch, and shared rhythms communicate safety, but their meaning is cultural and personal. Attachment grows through repeated, contingent care and the repair of inevitable misattunement, not simply through warmth or physical contact.

Religion organises connectedness through ritual, song, shared narratives, care, and an experienced relationship with God. Joint attention and synchronised action can strengthen a sense of unity. Reward, prediction, social cognition, and autonomic attunement all participate. These mechanisms do not make community unreal; they help explain why rituals have sustaining power. The same mechanisms can also increase conformity, in-group hostility, and dependence.

Images of God often bear traces of attachment without being reducible to parental projection. God may be experienced as near and reliable, or as controlling, absent, or unpredictable. Under stress these representations can harden. Positive religious coping—trust, meaning, and seeking support—is more often associated with recovery. Negative coping—feeling punished or abandoned by God—is more often associated with symptoms. These are group-level associations, not judgements about the authenticity of faith.

Pastoral care can offer a “secure base” when it remains close without becoming possessive, tolerates doubt, respects boundaries, and refers when necessary. A faith community is not a substitute for therapy, but it can support sleep, daily rhythm, practical assistance, hope, and social belonging.

6. Volition, Freedom, and Responsibility

Since Libet, it has often been claimed that the brain decides before “we” decide. For a spontaneous finger movement, the readiness potential does begin before the reported moment of intention. Recent analyses, however, emphasise that both the onset of this potential and the introspectively dated W-time are problematic measures (Triggiani et al., 2023; Bredikhin et al., 2023). The readiness potential may partly reflect accumulating fluctuations and does not predict a complete, meaningful life decision.

Volition operates on different timescales. The immediate impulse to move differs from the intention to raise a child, remain faithful, or seek forgiveness. Long-term intentions are shaped by values, habits, social expectations, and self-control. Conscious reflection need not be the first cause of every neural event in order to play a genuine organising role. The person is not a tiny driver alongside the brain; the person acts partly through the brain.

Freedom is therefore better understood as gradual than magical. Sleep deprivation, addiction, psychosis, compulsion, brain injury, and threat can narrow the space for action. Practice, support, treatment, and meaning can enlarge it. Legal and moral responsibility consequently require more than a scan: they involve understanding consequences, capacity for control, intention, context, and proportionality.

Theological language about will, sin, and grace becomes more precise when it takes such gradations seriously. Responsibility does not mean that every symptom is chosen. Grace does not erase consequences. Spiritual formation can be understood as training attention, desire, and action within a community—a process in which plasticity and habit formation participate without exhausting its meaning.

7. Awareness of God and Religious Experience

Awareness of God ranges from quiet familiarity to awe, proximity, calling, or absence. Experiments usually employ narrower constructs: reasoning about God's intentions, retrieving doctrinal statements, mystical unity, or self-transcendence. Theory-of-mind regions, semantic networks, reward systems, the default mode network, and the salience network are involved. The same neural resources also support secular social and existential experiences.

That religious cognition uses ordinary networks is not theologically surprising: an embodied human being needs no extra organ in order to believe. The distinction between ordinary and religious experience lies partly in content, context, interpretation, and consequences for life. A psalm, silence, or Eucharist activates memories and expectations formed over years of participation.

Predictive-processing models describe perception as an interaction between sensory information and expectation. They can help explain why ritual, prayer, stress, sleep deprivation, or psychedelics influence the sensed presence of an acting Other. Yet "partly shaped by expectations" does not mean "invented." All perception is inferential. The epistemic question remains which experiences, interpretations, and communities offer reliable correction.

Neurotheology should therefore ask not where God is located in the brain, but how people experience receptivity, meaning, and relationship; how that experience is tested; and what fruit it bears. An intense experience can be life-changing, culturally learned, neurologically evoked, and theologically meaningful at the same time. These descriptions do not necessarily exclude one another.

8. Prayer, Meditation, and Bodily Regulation

Prayer and meditation are not uniform interventions. Contemplative prayer, liturgical prayer, petition, glossolalia, differ in attention, language, breathing, and relational meaning. Studies often find changes in attention, self-referential processing, and autonomic regulation, but effects depend on expertise, method, and control task. Small samples and publication bias limit strong claims.

Slow breathing, rhythm, and repetition may support parasympathetic regulation. Shared singing and responsive liturgy may increase social synchrony. Personal prayer may offer cognitive reappraisal, hope, and experienced support. These are plausible pathways, not proof that all prayer relaxes. Petition in crisis may increase arousal; silence may evoke intrusions in trauma; religious meditation may intensify dysregulation in mania or psychosis.

The question “Does prayer work?” therefore requires an outcome measure. Does it reduce tension, deepen trust, change behaviour, or cure disease? Neuroscience can partly study the first three, but it cannot validate a promise of supernatural healing. Clinically, prayer can be integrated when the patient desires it, when it does not replace necessary care, and when no result is guaranteed.

Prayer’s meaning also exceeds its effects. Theologically, prayer is response, protest, praise, surrender, and community. Reducing it to a technique for lowering cortisol misses precisely this relational dimension.

9. Maturity as Integrated Development

Maturity is not a single neurological endpoint. Prefrontal systems continue to mature into young adulthood, but adult conduct remains dependent on context, experience, and social support. Cognitive control may increase while empathy or wisdom lags behind. Conversely, a person with cognitive limitations may display relational fidelity and moral sensitivity.

Psychological maturity includes affect tolerance, realistic self-knowledge, mentalising, reciprocity, postponement of gratification, repair after conflict, and tolerance of ambiguity. Spiritual maturity adds no measurable brain part, but names a direction: love, truthfulness, hope, justice, and openness to correction. It is recognised through patterns over time, not through the intensity of experiences.

Doubt can serve a developmental function. An image of God that once provided safety may fail in crisis. Integration may then require not a return to the same certainty, but a faith capable of bearing loss, science, and multiple voices. Neurocognitively this requires flexibility and regulation; theologically it may be understood as purification, grief, or deepening. Neither vocabulary possesses the whole.

A useful criterion of maturity is differentiation within connectedness: a person can belong to a community without surrendering critical thought, and think independently without denying all dependence. Authority becomes accountable; conscience is less governed by panic; intention and action become more congruent; failure can be admitted without the collapse of identity.

10. Trauma, Dissociation, and Spiritual Interpretation

Trauma affects threat detection, memory, attention, sleep, autonomic regulation, and the sense of time and self. Memories may be fragmented, sensory, and cue-driven. This supports the pastoral intuition that safety and relationship matter, but not the older division in which the right hemisphere stores experience and the left supplies explanation. Both hemispheres and multiple networks cooperate.

Dissociation may create distance from feeling, body, or autobiographical continuity. In dissociative identity disorder, identity states and memory barriers are clinically real, but they are not independent persons located in fixed brain regions. Suggestive techniques and confident claims about hidden abuse can cause iatrogenic harm. Trauma treatment requires stabilisation, informed consent, careful handling of memory, and evidence-based methods.

Spiritual language can sustain trauma or worsen it. Psalms of lament give words to protest; community may break shame. Conversely, explanations involving demonic influence, insufficient faith, or compulsory forgiveness can deepen powerlessness. Spiritual interpretation must never replace safety assessment, medical diagnosis, or reporting when there is immediate danger.

Theologically, room is also needed for unresolved memory. Healing need not mean that all pain disappears or every narrative closes. It may consist in greater freedom of choice, less avoidance, restored relationships, and an identity no longer governed entirely by what happened.

11. Depression, Anxiety, and Religious Coping

Depression alters mood, motivation, sleep, attention, reward, and self-worth. Anxiety disorders intensify threat expectation and avoidance. Religion can offer structure, hope, community, and language for suffering. Systematic reviews find generally favourable associations for spiritual well-being and positive coping, but unfavourable ones for religious struggle and punitive or absent images of God (Aggarwal et al., 2023; Okan & Şahin, 2026).

These relationships are bidirectional. Depression can obscure the experienced presence of God, while a community that defines symptoms as unbelief can deepen depression. Religious struggle is not necessarily unhealthy; it may be a phase of grief and reorientation. It becomes clinically concerning when despair, isolation, self-condemnation, or suicidality increase.

Average protective effects of religion do not guarantee safety for an individual. Prohibitions may create a barrier to suicide, but shame and fear of judgement can prevent help-seeking. The meta-analysis by Van den Brink and colleagues (2024) shows that different dimensions of religion have different relationships with suicidality in psychiatric populations. Any expression of a wish to die requires direct professional risk assessment.

Religiously integrated therapy may be appropriate when it fits the patient, retains evidence-based techniques, and leaves room for doubt. The therapist need not share the same faith, but requires enough religious literacy to distinguish support, conflict, and pathology.

12. Compulsion, Guilt, and Scrupulosity

Scrupulosity is obsessive-compulsive difficulty with religious or moral content. A person experiences intrusive doubt—Have I sinned? Was my prayer pure? Did I harm someone?—and seeks certainty through repetition, confession, checking, or reassurance. The subject matter may be orthodox; the form becomes pathological through loss of freedom, time consumption, distress, and an endless demand for certainty.

Neuroscientifically, scrupulosity fits the familiar cortico-striato-thalamo-cortical dynamics of OCD, including error monitoring and habit formation. Religion is generally not the cause; it provides the language in which the compulsion is expressed. Greenberg and Huppert (2010) stressed that religiosity alone is insufficient evidence of increased OCD risk.

The preferred treatment remains exposure with response prevention, sometimes combined with medication and other cognitive-behavioural methods. Spiritual caregivers can help clarify what a tradition reasonably expects, but should not provide endless reassurance. Treatment asks the person to tolerate uncertainty without neutralising it through ritual.

Theologically, the distinction between repentance and compulsion is crucial. Repentance can lead to concrete change and renewed relationship; scrupulosity never closes the case. A theology of grace may support recovery, but becomes another compulsion when it must produce perfect inner certainty.

13. Psychosis, Mania, and Religious Content

Religious experiences and psychotic symptoms may look similar from the outside: voices, visions, calling, or supernatural significance. Assessment therefore cannot rely on content alone. Cultural sharedness, flexibility, reality testing, disorganisation, sleep, risk, distress, and functioning all matter. A belief recognised within a tradition may still be experienced psychotically; an exceptional experience may also occur without disorder.

A systematic review of psychosis found a double pattern: highly individualised religious practice and intense religious preoccupation could accompany more severe positive symptoms, while positive religious coping could support well-being, treatment expectations, and medication adherence. Negative coping was associated with more symptoms and suicidality (Westhead & Georgiades, 2025). Association is not simple causation; more severe illness may itself increase religious preoccupation.

In mania, grandiosity, reduced sleep, accelerated thought, and a sense of special mission may take religious form. Communities risk affirming this as exceptional anointing. Warning signs include a sudden rise in intensity, several days with little sleep, impulsivity, financial or sexual disinhibition, resistance to correction, and dangerous commands. Prompt psychiatric assessment is then required.

Good care does not argue with the person on metaphysical ground during acute dysregulation. It acknowledges meaning, limits danger, and treats sleep, mood, psychosis, and substance use. After stabilisation, the person and a spiritual caregiver can explore which elements retain enduring religious meaning and which belonged to the episode.

14. Neurology, Epilepsy, and Altered Religiosity

Neurological disorders can change personality, impulse control, emotion, and religious interest. Temporal-lobe epilepsy has historically been linked to stories of ecstasy and hyperreligiosity, but classic descriptions are not universal, and retrospective diagnoses of religious figures are speculative. A seizure with religious content neither proves nor disproves the content of religion as a whole.

Brain lesions provide stronger causal insight than ordinary imaging, but remain complex. Ferguson and colleagues showed that dispersed lesions can influence a common circuit through functional connectivity. That circuit also overlaps with lesions associated with delusions or alien-limb phenomena. Self-transcendence, agency, and meaning-making are therefore vulnerable to biological change.

Neurodegeneration may likewise alter images of God, rituals, and moral behaviour. Frontotemporal dementia may reduce empathy or social restraint; Alzheimer's disease may weaken explicit faith memory while familiar music and ritual still resonate. Human dignity must not depend on the ability to perform intact religious cognition.

Theologically, this raises the question of what carries continuity when memory or self-control recedes. Neurophysiology reveals vulnerability; theology and ethics can respond with relational identity, the faithfulness of community, and dignity not reserved for intact cognition.

15. Clinical and Pastoral Collaboration

Collaboration begins with a spiritual history: What gives meaning? To which community does the person belong? Which practices help? Where is conflict, and which interpretations increase risk? The patient determines how much space religion receives. A short assessment prevents both neglect and overinterpretation.

The clinician diagnoses, assesses safety, and provides evidence-based care. The chaplain or pastor supports meaning, ritual, moral reflection, and community. Roles must remain clear. Prayer must not be a condition for treatment; medication must not be framed as a lack of faith; a pastor should not advise stopping antipsychotics; a clinician should not make final theological pronouncements on the basis of symptoms.

When views differ, a shared criterion helps: Does the approach increase safety, truthfulness, freedom, connection, and functioning? Red flags include commanding voices that urge harm, demonological explanations that conceal abuse, coercive exorcism, suicidality, severe sleep deprivation, physically dangerous fasting, and financial or sexual abuse by spiritual authority.

Trauma-informed and culturally humble care requires consent, transparency, and correction. The patient may involve a spiritual caregiver but retains a right to privacy. With children, impaired capacity, or immediate danger, legal and professional duties of protection apply.

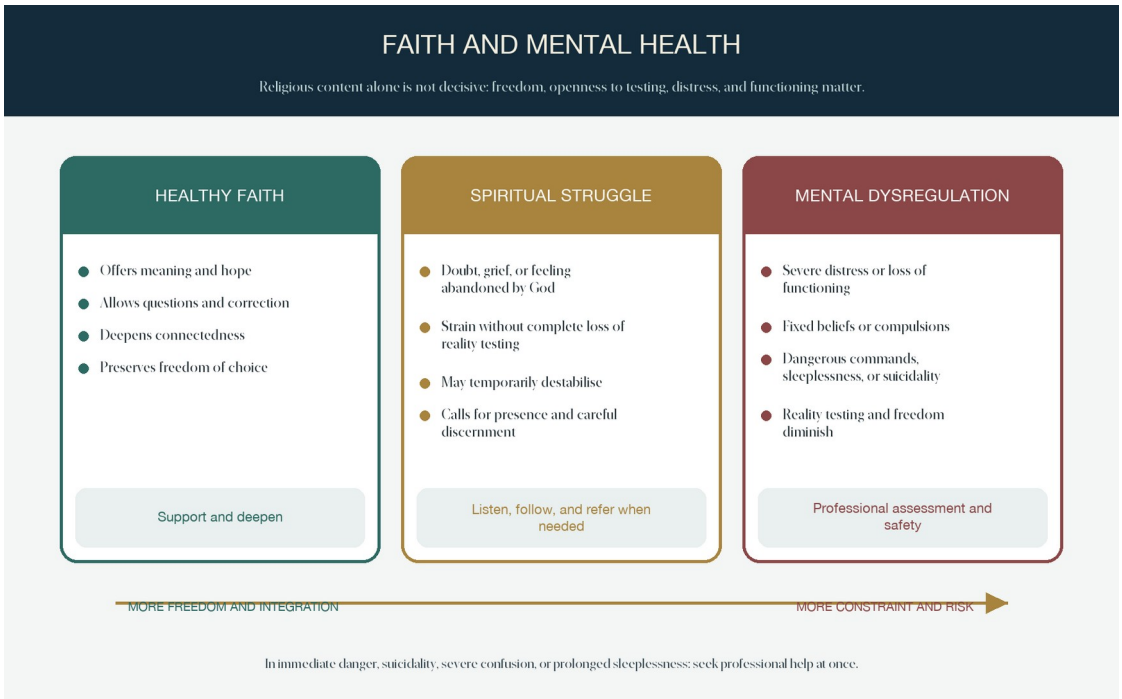

Figure 3. A practical framework for discernment. The categories form a continuum and do not replace professional diagnosis.

16. Limits, Ethics, and the Future

The field is constrained by small samples, inconsistent definitions, and predominantly Western measures. “Spirituality” may mean self-transcendence, worship attendance, well-being, or mystical experience. Without precise operationalisation, studies may appear to confirm one another while measuring different things. Reverse inference—a region activates, therefore the person experiences God—remains a major risk.

Ethical restraint is also necessary. Neuromodulation, psychedelics, and brain stimulation can alter religious experience. This does not make such experiences worthless, but it raises questions about consent, suggestibility, integration, and commercial misuse. Recent psychedelic research points both to possible therapeutic value and to conceptual bias in measuring “mystical experience” (Mosurinjohn, Roseman, & Girn, 2023; Rosenblat et al., 2024).

Future research needs longitudinal, preregistered, and culturally diverse designs. Important directions include ecological measurement during everyday practice, better control conditions, connections between physiology and first-person reports, and collaboration with theologians, scholars of religion, and people with lived experience. Network and dynamical models are promising, provided they are not sold as total explanations.

Neurotheology’s greatest contribution may be not a map of the sacred, but a better vocabulary for embodied vulnerability. It can show why rhythm, relationship, memory, and expectation matter—while preserving the distinction between truth, goodness, God, and a coloured patch on a scan.

Conclusion

> *Mature neurotheology neither explains the sacred away nor turns the brain into an oracle; it learns to listen more carefully to the whole person.*

The latest findings do not support a simple scheme in which identity resides in the right orbitofrontal cortex, morality in the prefrontal cortex, and God in a spiritual circuit. They point to dynamic networks that integrate bodily signals, autobiographical memory, social understanding, valuation, and control. Identity is embodied and narrative; conscience is affective and normative; connectedness is biological and cultural; volition is gradual and multilayered; awareness of God uses general human capacities without being exhausted by them; maturity is integration over time.

For mental illness, this yields a principled double insight. Religion and spirituality may be protective resources through meaning, community, hope, and positive coping. They may also provide the content of compulsion, delusion, shame, or spiritual struggle. The boundary is not between belief and unbelief, but between forms that foster freedom, reality testing, and connection and forms that intensify constraint, danger, and isolation.

Neurophysiology corrects theology when bodily vulnerability is moralised. Theology corrects neuroscience when description is confused with meaning or norm. Their best relationship is therefore critical and cooperative: not a competition for the whole person, but mutual limitation in the service of careful knowledge and humane care.

The pastoral core of the 2000 document can thus be retained in a more precise form: people often recover in trustworthy relationships, joy and hope can have regulatory value, and identity cannot be reduced to trauma. Yet this core requires contemporary safeguards, scientific modesty, and room for treatment. Faith need not deny biology in order to speak of grace; biology need not adjudicate transcendence in order to investigate its human reality seriously.

References

Aggarwal, S., Wright, J., Morgan, A., Patton, G., & Reavley, N. (2023). Religiosity and spirituality in the prevention and management of depression and anxiety in young people: A systematic review and meta-analysis. BMC Psychiatry, 23, 729. https://doi.org/10.1186/s12 888-023-05 091-2

Bredikhin, D., Germanova, K., Nikulin, V., & Klucharev, V. (2023). (Non)-experiencing the intention to move: On comparisons between readiness-potential onset and Libet's W-time. Neuropsychologia, 185, 108 570. https://doi.org/10.1016/j.neuropsychologia.2023.108570

Ferguson, M. A., et al. (2022). A neural circuit for spirituality and religiosity derived from patients with brain lesions. Biological Psychiatry, 91(4), 380–388. https://doi.org/10.1016/j.biopsych.2021.06.016

Greenberg, D., & Huppert, J. D. (2010). Scrupulosity: A unique subtype of obsessive-compulsive disorder. Current Psychiatry Reports, 12(4), 282–289. https://doi.org/10.1007/s11 920-010-0127-5

Houle, S. A., et al. (2024). Measuring moral distress and moral injury: A systematic review and content analysis of existing scales. Clinical Psychology Review, 108, 102 377. https://doi.org/10.1016/j.cpr.2023.102377

Jedlicka, P., & Havenith, M. N. (2025). Religious and spiritual experiences from a neuroscientific and complex systems perspective. Neuroscience & Biobehavioral Reviews, 177, 106 319. https://doi.org/10.1016/j.neubiorev.2025.106319

McNamara, P., & Grafman, J. (2024). Advances in brain and religion studies: A review and synthesis of recent representative studies. Frontiers in Human Neuroscience, 18, 1 495 565. https://doi.org/10.3389/fnhum.2024.1495565

Mosurinjohn, S., Roseman, L., & Girn, M. (2023). Psychedelic-induced mystical experiences: An interdisciplinary discussion and critique. Frontiers in Psychiatry, 14, 1 077 311. https://doi.org/10.3389/fpsyt.2023.1077311

Okan, N., & Şahin, Y. (2026). The effects of spirituality on depression, anxiety, and post-traumatic stress disorder: A systematic review. Journal of Religion and Health. Advance online publication. https://doi.org/10.1007/s10 943-026-02 671-w

Rosmarin, D. H., et al. (2022). The neuroscience of spirituality, religion, and mental health: A systematic review and synthesis. Journal of Psychiatric Research, 156, 100–113. https://doi.org/10.1016/j.jpsychires.2022.10.003

Rosenblat, J. D., et al. (2024). The psychopharmacology of psychedelics: Where the brain meets spirituality. Journal of Psychiatry & Neuroscience, 49(5), E301–E318. https://doi.org/10.1503/jpn.240037

Triggiani, A. I., et al. (2023). What is the intention to move and when does it occur? Neuroscience & Biobehavioral Reviews, 151, 105 199. https://doi.org/10.1016/j.neubiorev.2023.105199

Van den Brink, B., et al. (2024). Religiosity, spirituality, meaning-making, and suicidality in psychiatric patients and suicide attempters: A systematic review and meta-analysis. Harvard Review of Psychiatry, 32(6), 195–206. https://doi.org/10.1097/HRP.0000 000 000 000 409

Westhead, M., & Georgiades, A. (2025). The role of spirituality and religiosity in the maintenance and recovery of psychosis: A systematic review. Early Intervention in Psychiatry, 19, e70 061. https://doi.org/10.1111/eip.70061

Wilder, J. (2000). Neuropsychology [Lecture summary, translated by G. Feller]. Unpublished source document.

Additional research base: literature on attachment, the default mode, salience, and frontoparietal networks, religious coping, OCD, psychosis, trauma, and moral cognition has been integrated through the recent systematic reviews listed above. Where evidence is preliminary or indirect, this is explicitly qualified in the text.