

The Contemplative Bridge: Reimagining Collaboration between Religion and Bioclimate Science

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Abstract

In a time of climate upheaval and rapid biodiversity loss, theoretical collaborations between religion and science may already be too late. The time of ecological transition is upon us. Scientists recognize that to make measurable impacts, approaches to the practice of science require new vision. Today, conservation ecologists are beginning to integrate contemplative principles into scientific practices and policies, such as mindfulness, empathy, and deep listening. Research suggests that contemplative approaches can improve scientific processes, enrich cross-cultural dialogue, and facilitate measuring environmental outcomes. Contemplative encounters can also obscure normative boundaries between scientific discovery and theological inquiry, evoking questions about Divine Nature beyond name and form. Drawing on conservation research and theological scholarship, this paper presents contemplation as a constructive bridge between religion and science, one that holds great promise for meaningful collaboration.

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If religion and science could be united on the common ground of biological conservation, the problem would soon be solved. – E.O. Wilson

In a time of climate upheaval and rapid biodiversity loss, theoretical collaborations between religion and science may already be too late. The age of ecological transition is upon us. But this crucible moment presents an opportunity to bridge the divide between religion and science in practical and measurable ways. Scientists are the first to witness and record ecological losses, often experiencing profound grief and despair. They recognize that to make a measurable impact, approaches to the practice of science require new vision. One potential pathway may be found in the idea of a “contemplative science”, a practical method that orients itself outside the religion-science divide, where the two disciplines instead challenge, inform, and collaborate with one another. Research suggests that contemplative approaches can improve scientific processes, enrich cross-cultural dialogue, and facilitate measurable environmental outcomes. Drawing on theological scholarship and scientific case studies, this paper explores the emergence of contemplation in the practice of bioclimate¹ science and its implications for both religion and science. Contemplative approaches can obscure normative boundaries between scientific discovery and religious inquiry, evoking questions about Divine Nature beyond name and form. Drawing on liberation theology’s understandings of the Divine as relational and inclusive, this paper concludes with reflections on contemplation as a constructive bridge between religion and

¹ Sandro Fiore et al., “BioClimate: A Science Gateway for Climate Change and Biodiversity Research in the EU Brazil Cloud Connect Project.” *Future Generation Computer Systems* 94 (May 2019), 895.

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environmental science, one that holds great promise for meaningful dialogue, mutual enrichment, and productive collaboration.

Contemplation

Widening our perception and being fully present in the place where we are lies at the heart of contemplative practice. In Latin, *contemplatio* means to observe, or to be attentive to what is before us. Early writings of Aristotle and Aquinas describe contemplation as theological *telos* – an awareness of Divine Nature in the material world that leads the contemplative to greater knowledge of self, others and the Divine.² In recent years, scholars have begun to engage with contemplative processes and methods to “enhance, deepen, and broaden academic thought and praxis across disciplines.”³ These practices include mindfulness; suspension of assumptions and judgments; discernment; a deeper sense of connection with self, others, and one’s surroundings; empathy and compassion; engagement and participation with the greater world.⁴ The practice is grounded in a “contemplative way of being”⁵ rather than a specific technique or tradition; it is understood as an “orientation, process, and mode.”⁶ But contemplation is more than just that. Its capacity to suspend assumptions, to locate human awareness beyond dualities, gives contemplation practitioners unique agency to bridge the religion-science divide. In contemplation, one’s disciplinary approach or cosmology is understood not as ultimate truth, but as a symbolic language pointing beyond pairs of opposites to a broader truth. This openness allows for creative vision and new modes of dialogue between disciplines. One possible new mode may be found in Douglas Christie’s call for “the idea of a contemplative science.”⁷ This

²Jonathan Lear, *Aristotle: The Desire to Understand* (Cambridge University Press, 1988), 297-298. (Aquinas *ST* 2-2.180.4)

³Olen Gunnlaugson et al., “An Introduction to Contemplative Learning and Inquiry across Disciplines” in *Contemplative Learning and Inquiry across Disciplines*, ed. Olen Gunnlaugson, et al. (New York: State U. of New York Press, 2014), 3.

⁴Ibid, 42.

⁵Charles Scott, “Buberian Dialogue as an Intersubjective Contemplative Praxis.” In *Contemplative Learning and Inquiry Across Disciplines*, ed. Olen Gunnlaugson et al. (Albany: SUNY Press, 2014), 51.

⁶Louis Komjathy, *Introducing Contemplative Studies* (Somerset: John Wiley & Sons Ltd., 2018), 55.

⁷Douglas Christie, *The Blue Sapphire of the Mind: Notes for a Contemplative Ecology*, (New York: Oxford University Press,

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paper presents a *contemplative science* that orients itself in processes where religion and science are understood not as being at odds but, rather, as disciplines that mutually inform and advance one another.

Fuzzy Edges in the Religion-Science Divide

From a contemplative stance, the religion-science divide is a matter of perception. The two disciplines may appear to be in contention because they do not remain neatly in their own spheres – they have “fuzzy edges.”⁸ The definition of religion, for example, has been in contention since its emergence, and is often considered today not as a distinct category but as an “historical product of discursive processes” that change across time.⁹ For theologian Charles Long, religion is not a fixed idea but, rather, it is an *orientation* - how we come to understand the significance of our place in the world¹⁰ - shifting and adjusting as culture necessitates. Likewise, the definition of science can be equally enigmatic. The American Physical Society defines science as a “disciplined quest to understand” nature, requiring “an attitude of skepticism about its own tenets.”¹¹ Science is a particular way of imagining the world that allows for uncertainty. According to theoretical physicist Tom McLeish, science is a quasi-metaphysical endeavor that helps humanity look beyond surface observations to see what is actually there. Scientific discoveries are an “act of sustained contemplation, the exercise of imaginative *poiesis*, and a recurrent teleological thread: to make peace between the human mind and the world.”¹² To adequately achieve this task, contemplative processes can help scientists remain open to uncertainty, which is fundamental to the practice of science. Richard Feynman

2013), 162.

⁸ Robert Wuthnow, “No Contradictions Here: Science, Religion, and the Culture of All Reasonable,” in *The Religion and Science Debate: Why Does It Continue?*, ed. Harold W. Attridge (Cambridge, MA: Yale University Press, 2009), 165.

⁹ Talal Asad, “The Construction of Religion as an Anthropological Category,” in *Genealogies of Religion Discipline and Reasons of Power in Christianity and Islam* (Baltimore: John Hopkins University Press, 1993), 29.

¹⁰ Charles Long, *Significations: Signs, Symbols and Images in the Interpretation of Religion* (Aurora, CO: Davies Group Publishers, 1999), 7.

¹¹ Colin MacLwain. “Physicists seek definition of ‘science’”, *Nature*, Vol 392 (April 1998), 849.

¹² Tom McLeish, “The Re-Discovery of Contemplation through Science: Boyle Lecture 2021”, *Zygon* 56, no. 3 (September 2021): 769-771.

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suggests that both faith and science are not about what is true or not true, but rather “what is known to different degrees of certainty.” Feynman reminds us that without uncertainty, neither faith nor scientific inquiry can properly develop.¹³

Contemplative practices provides secure ground for both religion and science to operate comfortably in realms of ambiguity (while also recognizing the paradox just stated). The contemplative space is an unbounded one and it is precisely there, where conceptual structures fail, that richer understandings can develop.¹⁴ In exploring contemplative approaches to the practice of bioclimate science, the idea of a contemplative science emerges as a place where scientific and theological processes both enrich each other and facilitate measurable ecological outcomes.

Contemplative Science in Practice

Today, scientists are applying new methodologies in bioclimate science, including those grounded in contemplative wisdom traditions. The most prominent practices are empathy, deep listening and mindfulness. When considering the idea of a contemplative science, these practices are not merely theoretical; they instead aim toward a praxeological and actionable science. Environmental systems are complex, uncertain, and difficult to predict or control. Managing ecosystems and addressing multi-scale bioclimate challenges requires complex thinking, adaptability, and openness to change.¹⁵ By employing an integrative approach, such as “strategic interdisciplinarity”, a contemplative science can address complex problems collaboratively through both scientific and theological processes.¹⁶ For example, when scientists engage in contemplative practices, they are more inclined to have a higher tolerance for uncertainty and

¹³ Richard P. Feynman, *The Pleasure of Finding Things Out. The Best Short Works of Richard P. Feynman*, ed. J. Robbins (Cambridge, MA: Perseus Books, 1999), 245-257.

¹⁴ Christie, *Blue Sapphire*, 234.

¹⁵ Fikret Berkes, *Sacred Ecology*, (Taylor & Francis Group, 2008), 181.

¹⁶ Russell Butkus and Steven A. Kolmes, *Environmental Science and Theology in Dialogue* (Maryknoll: Orbis Books, 2011), 42-43.

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greater openness to new ideas, thereby improving scientific reasoning.¹⁷ Contemplative approaches can also shape “new research questions, methodologies (deep listening, cross-hybrid learning) and, ultimately, knowledge production.”¹⁸ Recent studies also indicate that contemplative approaches, such as empathy and deep listening, can improve scientific outcomes by helping build trust between conservation scientists and local communities.¹⁹ This aspect of contemplation, building one’s capacity to develop trusting and collaborative relationships, is where the contemplative approach can perhaps make the most significant contribution to bioclimate solutions.

In fieldwork, conservation scientists often interact with local knowledge producers from diverse cultural backgrounds. Successful ecological stewardship requires open dialogue, respect, and trust between multiple stakeholders.²⁰ In contemplative traditions, this relational approach is called “inclusive embracing.”²¹ Climate anxiety, however, can sometimes cause scientists to become more rigid and contentious in their scientific endeavors. They may have difficulty working productively with local communities on the ground.²² By engaging with others contemplatively, scientists are more likely to be open to other worldviews, including ecological methods that lie outside mainstream scientific models²³ such as indigenous traditional ecological knowledge (ITEK). Conservation scientists themselves report that the contemplative ability to empathize – to understand and accept different perspectives – allows researchers to learn from those who hold valuable ecological knowledge that can benefit conservation outcomes.

¹⁷ Megan P. Cuzzolino, “‘The Awe is In the Process’: The Nature and Impact of Professional Scientists’ Experiences of Awe”, *Science Education* 105, no. 4 (July 2021): 685.

¹⁸ Christine Wamsler, “Mind the gap: the role of mindfulness in adapting to increasing risk and climate change” *Sustainability Science* 13, no. 1 (January 2018): 1131.

¹⁹ Leah Gerber et al., “Producing Actionable Science in Conservation: Best Practices for Organizations and Individuals.” *Conservation Science and Practice* 2, no. 12 (December 2020): 8.

²⁰ Ibid.

²¹ Scott, “Buberian Dialogue”, 45.

²² Richard J Hobbs, “Grieving for the Past and Hoping for the Future: Balancing Polarizing Perspectives in Conservation and Restoration: Grief and Hope in Restoration.” *Restoration Ecology* 21, no. 2 (March 2013): 148.

²³ Wamsler, “Mind the gap”, 1130.

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Scientists also note that contemplative approaches, such as empathy, are essential in resolving conflicts and finding common ground with decision-makers.²⁴ Contemplative practices can also shift scientific object/subject dualisms to principles of “dependent origination” (interdependence and interpenetration), which recognize that all beings are deeply connected with other beings and the world.²⁵

Contemplation not only brings great value to the practice of science, it also improves the well-being of scientists themselves. Aldo Leopold writes, “One of the penalties of an ecological education is that one lives alone in a world of wounds.”²⁶ Today, conservation and climate scientists often experience grief, exhaustion, and despair when facing ongoing environmental devastation.²⁷ Integrating contemplation into the practice of science through mindfulness has been shown to alter the way scientists perceive social and ecological crises. Contemplation can lower stress and anxiety, fostering a greater sense of meaning and purpose in scientific endeavors. It may also support fundamental shifts in the way science considers – and acts on – ecological challenges.²⁸ Further, contemplation provides scientists with opportunities to consider approaches beyond the rational – beyond familiar ideas of science, nature, and even themselves.

Theological Implications of a Contemplative Science

Contemplative experiences can sometimes obscure normative boundaries between theology and scientific discovery. In a recent study, most scientists report experiences of transcendence in nature – a sense of an unknowable “presence” beyond the self. These encounters can be deeply visceral and emotional, arising from quiet moments witnessing a

²⁴ Gerber et al., “Producing Actionable Science”, 6.

²⁵ Ibid., 1128.

²⁶ Aldo Leopold. *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1966 [1949]), 197.

²⁷ Hobbs, 147-148.

²⁸ Christine Wamsler and Ebba Brink, “Mindsets for Sustainability: Exploring the Link Between Mindfulness and Sustainable Climate Adaptation”, *Ecological Economics* 151 (April 2018): 56.

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brehtaking landscape or encountering wildlife. In many cases, scientists report awakening to a sense of connection to a potency greater than themselves.²⁹ These phenomenological experiences recall humanity's earliest theological questions about the incomprehensibility and mystery of Divine Presence, or what it means to exist as persons in communion. Theologians Catherine LaCugna and Peter Phan suggest that the Divine is by nature relational and inclusive, so that living in communion means *all* of humanity, beyond the boundaries of the visible church. Phan affirms that the doctrine of God as Absolute Mystery can never be represented by any theological system, or any religious claim of universality.³⁰ If the human being is meant to grow in relationship with God, humanity will continue to generate an ever-expansive view of *who God is* in Creation, with each part integral to the whole. For Peter Phan, this “brings about not merely an illumination of the intellect but a total liberation and transformation of the human person.”³¹ LaCugna further suggests that communion with the Divine, with one another, and with creation can simply be considered part of what it means to be a human being.³²

William James, the apophatic tradition, negative theology, and many contemplatives recognize mystical or religious experience as existing beyond name and form, dwelling both inside and outside religious or scientific categories. Yet this wisdom has not guided religion to recalibrate the boundaries it has drawn between the scientist and the person of faith. It is exactly here where the contemplative approach can be most useful. In contemplation, categories of thought are understood as symbolic forms pointing to a broader awareness that lies beyond dualities. Martin Buber's philosophy of dialogue describes this as “existential trust: of self and others, of the present and unfolding moment, of the unknown and unknowable. One refuses the

²⁹ Cuzzolino, “The Awe is In the Process”, 687-688.

³⁰ Peter Phan, *Being Religious Interreligiously: Asian Perspectives on Interfaith Dialogue* (Maryknoll: Orbis, 2004), 88.

³¹ *Ibid*, 129.

³² Catherine LaCugna, *God for Us: The Trinity and Christian Life* (San Francisco: Harper Collins, 1973), 302.

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security of either-or for the uncertain possibilities of both-and.”³³ Contemplative knowing, therefore, remains comfortable in realms that cannot be named, allowing the ineffable to simply be *what it is*. From this center – this contemplative bridge between known and unknown categories, beyond this or that – contemplation becomes a means by which religion and science are able to narrow the disciplinary divide. For it is in the realm of ambiguity, in curiosity, and openness to the other where constructive dialogue and collaborative action become possible.

In the Romantic era, many scientists and naturalists were influenced by the voices of artists and poets who shared their curiosity and attentiveness to nature.³⁴ “The process of exploring the natural world’s intricate beauty was understood as a whole, inclusive work—one with a deep contemplative character—in which scientists and poets were engaged together.”³⁵ Yet early-modern changes in the social framing of science led to modern misconceptions of science as separate from contemplative practices.³⁶ Today, contemplative methods are once again inspiring new processes wherein religion and science can collaborate with each other to address the world’s most pressing ecological challenges.

Conclusion

In an era of uncertainty, where the systems we rely on – social, political, ecological – feel poised on unsteady ground, both scientific and theological processes are being called to reimagine a new path forward. Can we step outside known categories of thought? Can we let go of outcomes and trust in the process of discovery? Contemplation responds by cultivating attentiveness, deep listening and compassion – the first steps known to effectively address

³³ Scott, “Buberian Dialogue”, 331.

³⁴ Richard Holmes, *The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science* (New York: Pantheon, 2008), 249.

³⁵ Christie, *Blue Sapphire of the Mind*, 163.

³⁶ McLeish, “The Re-Discovery of Contemplation through Science”, 766.

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ecological challenges³⁷ and a sure path grounded in ancient wisdom. Richard Feynman once asked, “How can we draw inspiration to support these two pillars [religion and science] so that they may stand together in full vigor, mutually unafraid?”³⁸ Contemplative modes of being – mindfulness, empathy and deep listening – both in science and religion, are the bridge and meeting place where the two disciplines *can* stand together. It is the place where they are able to remain open to the other while still persisting in their own methods, pointing together toward a more inclusive and promising future. A contemplative science, then, would perhaps do more than simply recognize the value of these practices; it would orient itself in the knowledge that there will always be truths we cannot yet see, places where we are called to trust in the mystery unfolding.

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³⁷ Wamsler et al., “Mindfulness in Sustainability Science”, 143.

³⁸ Feynman, *The Pleasure of Finding Things Out*, 257.

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