



# Editors' Introduction: Pious Technologies and Secular Designs

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The “science of spirits” that structured the taxonomy of the *Encyclopédie*. Pierre Curie and Marie Curie’s regular séance attendance. Spaceships engineered to “touch the face of God.” Modernist office furniture designed to sacralize the corporation.<sup>1</sup> In recent years, scholarship across disciplines has worked to undermine the myths of Western disenchantment and secular modernity, uncovering how the rational and the supernatural, the mundane and the divine, have interacted in more complex, symbiotic, and nonlinear ways than previously understood. Studies of the modern period have shown the religious as anything but absent from the public sphere and narratives about reason and progress as tenaciously, and at times violently, enchanted.<sup>2</sup> At the same time, postcolonial scholars have made clear how efforts to maintain a false binary between the religious and the secular have served the same colonial and imperial ends as earlier oppositions between the West and non-West, the modern and the other. “Secularism,” as Talal Asad notes, is not an entity but an ideology constantly in the process of formation.<sup>3</sup>

Asad also notes, however, that illuminating the changing contours of secularism has been a notoriously difficult project. For one, there is still no consensus on whether secularism is, by necessity, part of an imperial project of Christian hegemony or whether it might hold other, more emancipatory, possibilities.<sup>4</sup> Moreover, precisely *because* the logic of secularism denies the presence of sacred sensibilities and values in modernity, its shifting shape has been particularly hard to discern. “Because the secular is so much part of our modern life,” Asad warns, “it is not easy to grasp it directly. I think it best pursued through its shadows.” Given these challenges, he asks, “What might an anthropology of secularism look like?”<sup>5</sup>

This issue of the journal offers one answer to Asad’s provocation, grounding its exploration in the material world, in history, and, more specifically, in the pious machinations of tools, buildings, and bodies. Bringing together scholars in the history of science and technology, architectural history, and religious studies, the articles collected here scrutinize skyscrapers and algorithms, history books, automatons, and notation systems—

tools that, in their close association with the ongoing march of modernization, have often not been appreciated as religious. As our authors make clear, however, these objects, as well as the forms of modern science, technology, politics, and architecture that generated them, were sites where the sacred and the supernatural mutated into new forms, producing so-called secular cultures in the process. Computer programs were tools for creating new kinds of pious neuroscientists, steel-frame towers reconfigured the Protestant imagination, and a mechanical chess-player birthed an entirely new class of spirits.

In this focus on the material and technological, we take inspiration from scholars of media and of the material culture of religion who have demonstrated how all religions—even the most mystical—have required mediators to define and perpetuate their beliefs and practices. In studies of icons, relics, embroidery, paintings, and rituals, as well radio waves and television screens, this work has shown how beliefs are produced in part through such artifacts.<sup>6</sup> Historians of technology and architecture, too, have recognized the agency of objects, the ways in which changing material formations embody and produce novel social relationships, politics, and ideologies—including religious ones. Recent analyses, for example, have revealed the ways in which the loudspeaker translated Islam into the soundscape of Nigerian cities and how Orthodox Jewish families negotiated the development of novel household tools for “keeping the Sabbath holy.”<sup>7</sup> A small but growing body of scholarship has also begun to think about how the divine and the technological have interacted beyond the boundaries of traditional religious institutions. David Nye, for example, has followed nineteenth-century efforts to transform the American frontier into a new Eden with the aid of mills, railroads, and canals. Richard Wittman has revealed how architectural theories of structural rationalism drew on the “rekindling of interest in myth, the occult, and the sacred” during the French Enlightenment.<sup>8</sup>

The following essays draw on this scholarship to further explore how these kinds of “pious technologies”—ones that traveled beyond the walls of mosques, churches, or temples—functioned. In doing so, they help us better see the gods in the machines, buildings, and debates where the religious has dwelled in secularism’s shadows, difficult to recognize. The issue’s focus on Christian contexts, primarily in North America and Western Europe in the late nineteenth and twentieth centuries, is purposeful. As Josephson-Storm recently argued, “While many of the old master narratives have been unraveling, it is still widely supposed that the defining feature of modernity is the departure of the supernatural.” In keeping with this commonly held assumption, he contends that “if there

is one thing we've been taught to take for granted, it is that the contemporary industrial, capitalist societies of Western Europe and North America have lost their magic, and that it is this absence that makes them modern."<sup>9</sup> These articles challenge this perspective. Just as important, however, they also demonstrate the instability of "religion" itself. They show a wide variety of ways in which the supernatural and spiritual appeared in new spaces, used new mediators, and served new ends, from the ongoing march of industrial progress to the construction of new cityscapes and professional disciplines. They reveal that efforts to promote technological innovation, scientific reason, and material progress were often simultaneously projects of evangelization and redemption. In effect, these essays show not merely how the religious has persisted in these specific contexts but how the technological helped it not only to operate in new realms but also, at times, to abandon its former boundaries in favor of novel spiritual forms.

We will learn, for instance, how the discipline of the history of science was—in ways not yet fully appreciated—shaped by efforts to reimagine the history of religion. As Lorraine Daston reveals, many of the founding figures of the field rooted their work in the presumption of *a* mentality driving modernity, a framework they drew from the contemporaneous study of systems of religious belief. In so doing, Daston shows how religion and science were, to contemporaries, analogous realms of reasoning and action. Tracing an expansive historical arc, John Modern shows how efforts to define and regulate the loci of religious beliefs have long been at the center of the brain sciences, mathematics, and cybernetics. Training his attention, for example, on Warren McCulloch's mechanics of mind and Kenneth Mark Colby's PARRY algorithm, Modern shows how these tools helped engineer new religious ideologies while also playing a crucial role in professional self-definition. The relationship between modern work and religion is also central to Whitney Laemmler, who turns to the labor not of scientists but of factory workers. In unpacking the history of Industrial Notation, a recording system devised to control workers' movements in mid-century Britain, she shows how the tool was intended to redeem Taylorism, turning the mechanistic movements of the factory workers into a kind of embodied religious ritual.

Expanding this history of Christianity and modernization into architecture, Courtney Bender illuminates how the skyscraper was not only central to the North American urban landscape but also to the universalist aspirations of Protestantism in the first decades of the twentieth century. To others, the new typology relocated and redefined spiritual fulfillment, situating it in the view of the world from above rather than in the otherworldly beyond. Similarly, in nineteenth-century Brazil,

a technological assemblage that at first appears as anything but godly—Ajeeb, a chess-playing automaton—inspired new beliefs about the relationship between electricity, audio media, and spiritualism. In addition, as Paul Johnson shows, the secrecy of Ajeeb’s mechanical workings provided an opportunity for imagining the Christian ethnic other in the wake of widespread immigration to Latin America from Syria and Lebanon.

As the diversity of these examples should make clear, these kinds of stories are not historical aberrations, religious atavisms in an increasingly secular age. Much work, however, remains to be done. Though many scholars of technology, media, and architecture would agree with the general principle that religion and technology have interacted dynamically in the modern era, these relationships have yet to be studied with the historical specificity that their importance warrants, particularly when it comes to the nineteenth and twentieth century “West.” We hope, therefore, that these articles will serve as a spur for those in our own fields to more regularly engage the religious as well as the secular as fundamental categories of historical analysis, alongside more familiar analytics like race, gender, and class.<sup>10</sup> The historical actors chronicled here—from Warren McCulloch to Ajeeb to the industrial notators—did not neglect the gods in their modernizing schemes. For historians to do so not only replicates faulty binaries between divine and mundane; it profoundly misconstrues the history and politics of modernity, foreclosing analyses that help us understand the true aims and full impact of these powerful tools.

## Notes

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1. Jason A. Josephson-Storm, *The Myth of Disenchantment: Magic, Modernity, and the Birth of the Human Sciences* (Chicago: University of Chicago Press, 2017); Kendrick Oliver, *To Touch the Face of God: The Sacred, the Profane, and the American Space Program* (Baltimore: Johns Hopkins University Press, 2013); and Kathryn Lofton, “The Spirit in the Cubicle: A Religious History of the American Office,” in *Sensational Religion: Sensory Cultures in Material Practice*, ed. Sally Promey (New Haven: Yale University Press, 2014), 135–159.

2. For theoretical approaches to the subject, see, for example, Jürgen Habermas, “Religion in the Public Sphere,” *European Journal of Philosophy* 14 (2006): 1–25; José Casanova, *Public Religions in the Modern World* (Chicago: University of Chicago Press, 1994); Bruno Latour, *On the Modern Cult of the Factish Gods* (Durham, NC: Duke University Press, 2010); and Jonathan Skolnik and Peter Eli Gordon, eds., “Secularization and Disenchantment,” special issue, *New German Critique*, no. 94 (Winter 2005). For examples of recent historical scholarship, see William Inboden, *Religion and American Foreign Policy 1945–1960: The Soul of Containment* (Cambridge, UK: Cambridge University Press, 2008); Bethany Moreton, *To Serve God and Wal-Mart: The Making of Christian Free Enterprise* (Cambridge: Harvard University Press, 2009); and Jenna Supp-Montgomery, *When the Medium Was the Mission: The Atlantic Telegraph and the Religious Origins of Network Culture* (New York: New York University Press, 2021).

3. See, especially, Talal Asad, *Formations of the Secular: Christianity, Islam, Modernity* (Stanford, CA: Stanford University Press, 2003); and Talal Asad, *Secular Translation: Nation-State, Modern Self, and Calculative Reason* (New York, NY: Columbia University Press, 2018). From the perspective of decolonial studies, see Nelson Maldonado-Torres, “Secularism and Religion in the Modern/Colonial World System: From Secular Postcoloniality to Postsecular Transmodernity,” in *Coloniality at Large: Latin America and the Postcolonial Debate*, ed. Mabel Moraña, Enrique Dussel, and Carlos Jauregui (Durham, NC: Duke University Press, 2008), 360–387.

4. Maldonado-Torres, “Secularism and Religion,” 370; and Etienne Balibar, *Secularism and Cosmopolitanism: Critical Hypothesis on Religion and Politics* (New York: Columbia University Press, 2020). An early version of the argument in the latter first appeared in this journal as “Cosmopolitanism and Secularism: Controversial Legacies and Prospective Interrogations,” *Grey Room*, no. 44 (Summer 2011): 6–25.

5. Asad, *Formations of the Secular*, 16, 21.

6. The most recent and comprehensive efforts to place the material world and its analysis at the center of religious studies include Birgit Meyer, ed., *Things: Religion and the Question of Materiality* (New York: Fordham University Press, 2012); Sally Promey, ed., *Sensational Religion: Sensory Cultures in Material Practice* (New Haven: Yale University Press, 2014); Jeremy Stolow and Birgit Meyer, eds., “Light Mediations,” special issue, *Material Religion: The Journal of Objects, Art, and Belief* 16, no. 1 (2020); Brian Larkin and Charles Hirschkind, eds., “Media and the Political Forms

of Religion,” special issue, *Social Text* 26, no. 3 (2008); and Richard Kieckhefer, *Theology in Stone: Church Architecture from Byzantium to Berkeley* (New York: Oxford University Press, 2004).

7. Brian Larkin, “Techniques of Inattention: The Mediality of Loudspeakers in Nigeria,” *Anthropological Quarterly* 87, no. 4 (Fall 2014): 989–1,015; and Amy Sue Bix, “Remember the Sabbath’: A History of Technological Decisions and Innovation in Orthodox Jewish Communities,” *History and Technology* 36, no. 2 (2020): 205–239.

8. David Nye, *America as Second Creation: Technology and Narratives of New Beginnings* (Cambridge: MIT Press, 2004); and Richard Wittman, “The Church and the Altar: Architectural Origins and the Public Sphere in Eighteenth-Century France,” *Studies in Eighteenth Century Culture* 36, no. 1 (2007): 235–259. For other examples of this type of work, see David Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin Books, 1999); James Stollow, ed., *Deus in Machina: Religion, Technology, and the Things in Between* (New York: Fordham University Press, 2013); Projit Bihari Mukharji, “Occulted Materialities,” *History and Technology* 34, no. 1 (2018): 31–40; Jennifer Alexander, “Introduction: The Entanglement of Technology and Religion,” *History and Technology* 36, no. 2 (2020); Bernard Dionysius Geoghegan, ed., “The Spirt of Media,” special issue, *Critical Inquiry* 42, no. 4 (Summer 2016); R. John Williams, *The Buddha in the Machine: Art, Technology, and the Meeting of East and West* (New Haven: Yale University Press, 2014); Fritz Neumeyer, *The Artless Word: Mies van der Rohe on the Building Art*, trans. Mark Jarzombek (Cambridge: MIT Press, 1991); Renata Hejduk and Jim Williamson, eds., *The Religious Imagination in Modern and Contemporary Architecture* (New York: Routledge, 2011); Jorge Otero-Pailos, *Architecture’s Historical Turn: Phenomenology and the Rise of the Postmodern* (Minneapolis: University of Minnesota Press, 2010); and María González Pendás, “Enchanted Transfers: MoMA’s Japanese Exhibition House and the Secular Occlusion of Modernism,” in *Rethinking Global Modernism: Architectural Historiography and the Postcolonial*, ed. Vikramaditya Prakash, Maristela Casciato, and Daniel E. Coslett (New York: Routledge, 2022), 47–69. See also endnote 1.

9. Josephson-Storm, 4.

10. As models for this kind of rethinking, see, for example, Joan W. Scott, “Gender: A Useful Category of Historical Analysis,” *The American Historical Review* 91, no. 5 (1986): 1,053–1,075; and Irene Cheng, Charles L. Davis II, and Mabel O. Wilson, eds., *Race and Modern Architecture: A Critical History from the Enlightenment to the Present* (Pittsburgh: University of Pittsburgh Press, 2020). See also Kathryn Lofton, “Why Religion Is Hard for Historians (and How It Can Be Easier),” *Modern American History* 3, no. 1 (2020): 69–86.

