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Science and the Location of Heaven in the 19th and 20th Centuries

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The Pearly Gates of the Central Sun

Science and the Location of Heaven in the 19th and 20th Centuries

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The history of the relations that have obtained between science and religion—chiefly Western, Catholic and Protestant, Christianity—has attracted considerable attention. Oftentimes, in various 'popular' literatures, conceived as a relationship of intractable 'conflict' or antipathy, recent historical research has shown that the relationship between science and religion has been far from simple or straightforwardly amenable to pithy, off-the-peg, generalisations. The history of the perceived significance of science to the question of heaven's putative location supports this conclusion. For some 19th- and 20th-century individuals, the advancement of science precluded the possibility of a 'geographical' heaven. For others, however, specific scientific ideas—the German astronomer Johann Heinrich Mädler's theory of a 'central sun', for example—provided clues as to its nature and location. That scientific ideas could influence and inform ideas about the afterlife also suggests that the physical and the spiritual have not always been construed, in both theory and practice, as easily separable ontological opposites.

Has science banished heaven from the skies? Has astronomy toppled God from his throne beyond the clouds? Has the advancement of natural knowledge, from the 16th century onwards—with the gradual acceptance of heliocen-

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trism and the dissolution of the celestial spheres[1]—rendered belief in a locatable or tangible heaven untenable or strange? Whether or not such questions have legitimate definitive answers, over the course of the 19th and 20th centuries—centuries during which the cultural cachet of science surely grew[2]—some interested parties indeed answered them firmly in the affirmative. In the eyes of some, aided and abetted by the latest and greatest in telescopic technology and scientific thought, the heavens were made mundane. Wherever it was that one was due to meet one's maker, the science of the skies had but little, or little positive, to do with it. The American journalist and populariser of science Garrett Putnam Serviss (1851–1929),[3] for example, declared that "astronomy, penetrating farther and farther into space, drives the imagined locality of heaven before its advancing battery of lenses and mirrors, until it is forced beyond the frontier of the visible universe". "There are great stars and small stars: single stars, double stars, clustered stars and stars in spheres and garlands", Serviss argued, "but there is none among them which could, on any reasonable ground, be called the Star of God".[4]

The polyglottic English positivist and educationalist Francis Sydney Marvin (1863–1943) was of a similar mind.[5] In 1935's *Old and New,* Marvin contended that the astronomers had fashioned for heaven a pair of concrete boots. In a passage concerning the apparent secularisation and immanentisation of the medieval virtue of "Hope", Marvin noted in passing, with scant supporting argument, that "Copernicus and Galileo destroyed for ever [*sic*] the idea of a physical heaven above the clouds, and left men to frame a new one for themselves".[6]

[1] Edward Rosen, "The Dissolution of the Solid Celestial Spheres", *Journal of the History of Ideas* 46, no. 1 (1985): 13-31; W.G.L. Randles, *The Unmaking of the Medieval Christian Cosmos, 1500–1760: From Solid Heavens to Boundless Æther* (Abingdon: Routledge, 2016); Edward Grant, *Planets, Stars, and Orbs: The Medieval Cosmos, 1200–1687* (Cambridge: Cambridge UP, 1996), 677.

[2] Stephen Gaukroger, *Civilization and the Culture of Science: Science and the Shaping of Modernity, 1795–1935* (New York: Oxford UP, 2020).

[3] Clyde Fisher, "Garrett P. Serviss: One Who Loved the Stars", *Popular Astronomy* 37, no. 7 (1929): 365.

[4] "The Influence of Starry Nights", *South Bend News-Times* (IN), 26 July 1918.

[5] Cecil H. Desch, "Francis Sidney [*sic*] Marvin, 1863–1943", *Isis* 36, no. 1 (1945): 7-9; Gregory Claeys, *Imperial Sceptics: British Critics of Empire, 1850–1920* (Cambridge: Cambridge UP, 2010), 114.

[6] Francis Sydney Marvin, *Old and New: Thoughts on the Modern Study of History* (London: Ivor Nicholson and Watson Limited, 1935), 133.

Explicit disavowal of a material heaven was by no means limited to educated laymen. That Copernicus and Galileo had given the angels the old heave-ho was even ventured by the odd vociferous clergyman.

The Yorkshire-born 'gloomy dean' William Ralph Inge (1860–1954), dean of St Paul's and part owner of a Staffordshire colliery, was adamant that "[t]hose Churchmen who airily declare that there is no longer any conflict between Christianity and science are either very thoughtless or are wilfully shutting their eyes".[1] A noted controversialist and early media pundit, Inge was an enthusiastic proponent of eugenics and a theological modernist.[2] According to Inge, in his concluding contribution to a 1925 volume on the relationship between science and religion, though "Darwinism (…) inflicted no injury upon the Christian faith", early modern astronomy had the profoundest of ill effects. "There is a very serious conflict [between science and Christianity]", Inge believed, "and the challenge was presented not in the age of Darwin, but in the age of Copernicus and Galileo". For Inge, the intellectual defeat of geocentric cosmology "tore into shreds the Christian map of the universe". The new science made mischief with the directional language of the creeds. The Copernican astronomy, and all subsequent astronomy, left "no room for a geographical heaven". Like Serviss, Inge very much doubted that any specific celestial body could fruitfully be thought of as the deity's hearth and home:

> Space seems to be infinite, or as some prefer to say, boundless—a distinction not very intelligible except to the mathematicians; and among all the stars, planets, satellites, and nebulae which are sparsely scattered over its vast empty distances we can hardly imagine that one has been chosen as the abode of the Creator and the site of the heavenly Jerusalem.[3]

In early modern Europe, astronomy gave impetus and shape to theological

[1] William Ralph Inge, "Conclusion", in *Science, Religion and Reality*, ed. Joseph Needham (New York: The Macmillan Company, 1925), 357.

[2] Matthew Grimley, "Inge, William Ralph", in *Oxford Dictionary of National Biography*, eds. H.C.G. Matthew and Brian Harrison (Oxford: Oxford UP, 2004), 29:241-243. See also Peter J. Bowler, *Reconciling Science and Religion: The Debate in Early-Twentieth-Century Britain* (Chicago: University of Chicago Press, 2001), 270-277; and Paul Crook, "W.R. Inge and Cultural Crisis, 1899–1920", *The Journal of Religious History* 16, no. 4 (1991): 410-432.

[3] Inge, "Conclusion", 357-358.

controversy.[1] In the 19th and 20th centuries, there were those for whom it had managed to perform a kind of cosmic exorcism.[2] "The ideas about heaven and hell as definite places and unconnected with the earth on which we dwell", the English publisher and "Show Man of Free Thought" Richard Carlile (1790–1843) declaimed, "must be viewed as astronomical blunders". "The human eye, through the medium of the telescope, can reach no such places, although (…) it can bring innumerable orbs within its view". For Carlile, a former tinsmith who "knew more of English gaols than any other Radical", the astronomer who supported the "dogmas of the Priest" was a "corrupt and wicked hypocrite". All cosmogonies and all "tales about heaven and hell as definite places", in view of the "present state of astronomical knowledge", were but "idle fictions of the human brain".[3]

[1] Matters of scriptural interpretation, Christ's descent into hell, the Ascension, the Incarnation, and even the Immaculate Conception, were all touched, and arguably complicated, by developments in astronomy. See, e.g., Maurice A. Finocchiaro, "The Biblical Argument Against Copernicanism and the Limitation of Biblical Authority: Ingoli, Foscarini, Galileo, Campanella", in *Nature and Scripture in the Abrahamic Religions: Up to 1700*, eds. Jitse M. van der Meer and Scott Mandelbrote (Leiden: Brill, 2008), 1:627-664; Natacha Fabbri, "Threats to the Christian Cosmos: The Reckless Assault on the Heavens and the Debate over Hell", in *Copernicus Banned: The Entangled Matter of the anti-Copernican Decree of 1616*, eds. Natacha Fabbri and Federica Favino (Florence: Casa Editrice Leo S. Olschki, 2018), 29-56; Stephen J. Dick, *Plurality of Worlds: The Origins of the Extraterrestrial Life Debate from Democritus to Kant* (Cambridge: Cambridge UP, 1982), 88-105; and Markus Friedrich, *The Jesuits: A History*, trans. John Noël Dillon (Princeton [NJ]: Princeton UP, 2022), 367.

[2] Note, however, that I do not intend to discount earlier rejections of belief in a localised afterlife or, indeed, earlier rejections of belief in an afterlife simpliciter. Regarding the former, see, e.g., Peter Marshall, "'The Map of God's World': Geographies of the Afterlife in Tudor and Early Stuart England", in *The Place of the Dead: Death and Remembrance in Late Medieval and Early Modern Europe*, eds. Bruce Gordin and Peter Marshall (Cambridge: Cambridge UP, 2000), 110-130. For examples of the latter, see, e.g., Lucia Felici, "A Sixteenth-Century Libertine Priest: Francesco Calcagno", in *Cursed Blessings: Sex and Religious Radical Dissent in Early Modern Europe*, ed. Umberto Grassi (London: Routledge, 2024), 25, 28; Gianni Paganini, "The First Philosophical Atheistic Treatise: *Theophrastus redivivus* (1659)", in *Clandestine Philosophy: New Studies on Subversive Manuscripts in Early Modern Europe, 1620–1823*, eds. Gianni Paganini, Margaret C. Jacob, and John Christian Laursen (Toronto: University of Toronto Press, 2020), 42, 73-74; and Henry Kamen, *The Spanish Inquisition: A Historical Revision* (New Haven: Yale UP, 2014), 7-8.

[3] Richard Carlile, *An Address to Men of Science* (London: R. Carlile, 1821), 25, 29; E.P. Thompson, *The Making of the English Working Class* (London: Penguin Books, 1991), 791, 796, 839, 843.

1. Murmurings of War

Whatever about Carlile,[1] though it would be wrong to portray Serviss, Marvin and Inge as simpleminded adherents of the so-called 'conflict' or 'warfare' thesis of the relationship between science and religion—a tremendously hoary notion that has been compared to a "stubbornly adaptive virus"[2]—they nonetheless appear to have believed that the waxing of scientific knowledge nigh on necessitated the waning of at least some religious ideas. This apparently inverse relationship was not, however, immediately palpable to the senses. Though Philip C. Almond is perhaps right to state that "among the theologically liberal, in the light of modern cosmology, heaven and hell were no longer conceived as *places* that could be geographically located",[3] various other 19th- and 20th-century individuals felt little friction between belief in a physical or 'geographical' heaven and the findings of modern science. Some, as it happens, were happily inspired by it. As noted by John Hedley Brooke, "scientific theories have been susceptible of both theistic and atheistic readings".[4] Indeed, scientific facts and theories have been subject to all manner of readings. Coherence and plausibility have very often been waylaid. Imagination and ingenuity have very often run amok. The cultural reception of science is large and contains multitudes. The relations that have obtained between science and religion—"two big

[1] "Carlile's version of the science-religion relationship was based upon a wishful scientistic proto-positivism aimed at *promoting* science as secular (and secularizing), and perhaps more importantly, the secular as inherently scientific". See Michael Rectenwald, *Nineteenth-Century British Secularism: Science, Religion, and Literature* (Basingstoke: Palgrave Macmillan, 2016), 35.

[2] Mark A. Noll and David N. Livingstone, "Introduction", in *The Warfare Between Science and Religion: The Idea That Wouldn't Die*, eds. Jeff Hardin, Ronald L. Numbers, and Ronald A. Binzley (Baltimore: Johns Hopkins UP, 2018), 1.

[3] Philip C. Almond, *Afterlife: A History of Life After Death* (London: I.B. Tauris, 2016), 149.

[4] John Hedley Brooke, "Science and Secularization", in *The Cambridge Companion to Science and Religion*, ed. Peter Harrison (Cambridge: Cambridge UP, 2013), 110.

messy and sometimes internally inconsistent categories of human perception and understanding"—have been, in a word, "complex".[1] In a process that one might aptly describe as dialectical, religion has influenced science, and science, in turn, has influenced religion.[2] In any case, it should also be kept in mind that whether the progress of science had any especial impact upon popular conceptions of heaven in Europe and North America was itself open to doubt. Perhaps it still is.[3]

An earlier commentator on the question of heaven's location, the Harvard-educated Unitarian minister William Rounseville Alger (1822–1905),[4] was not altogether convinced that the long march of scientific progress had completely eradicated the notion that heaven was a physical place. "The universal diffusion in civilized nations of the knowledge that the visible sky is no substantial expanse, but only an illimitable void of space hung with successive worlds", Alger

[1] Edward J. Larson and Michael Ruse, *On Faith and Science* (New Haven: Yale UP, 2017), 14; Peter Harrison, "Conflict, Complexity, and Secularization in the History of Science and Religion", in *Rethinking History, Science, and Religion: An Exploration of Conflict and the Complexity Principle*, ed. Bernard Lightman (Pittsburgh: University of Pittsburgh Press, 2019), 221-234.

[2] The exact nature of this process (and 'process' here is a mere *façon de parler*) has, *of course*, been the subject of much discussion and debate. The literature on the relationship between science and religion is vast and polyvocal. That a particular form or mode of religiosity contributed to the rise of modern science has been suggested on more than one occasion. The American sociologist Robert K. Merton (1910–2003), for example, argued that the "Puritan ethic, as an ideal-typical expression of the value-attitudes basic to ascetic Protestantism generally, so canalized the interests of seventeenth-century Englishmen as to constitute one important *element* in the enhanced cultivation of science". See Merton, *Social Theory and Social Structure* (New York: The Free Press, 1968), 628. Criticism of Merton's position has not been unforthcoming. See, regarding the reception (and misconstrual) of Merton's "thesis", Gary A. Abraham, "Misunderstanding the Merton Thesis: A Boundary Dispute between History and Sociology", *Isis* 74, no. 3 (1983): 368-387; and Steven Shapin, "Understanding the Merton Thesis", *Isis* 79, no. 4 (1988): 594-605. See also Noah J. Efron, "That Christianity Gave Birth to Modern Science", in *Galileo Goes to Jail and Other Myths about Science and Religion*, ed. Ronald L. Numbers (Cambridge [MA]: Harvard UP, 2010), 80-81; and John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge UP, 2014), 147-157.

[3] Consider, for example, that a 2003 poll found that 82 percent of American adults believed in a physical heaven. See Steven Shapin, "Science and the Modern World", in *The Handbook of Science and Technology Studies*, eds. Edward J. Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman (Cambridge [MA]: MIT Press, 2008), 436.

[4] Gary Scharnhorst, "Henry James and the Reverend William Rounseville Alger", *The Henry James Review* 8, no. 1 (1986): 71-75.

noted in his *A Critical History of the Doctrine of a Future Life*, "has by no means banished the belief, originally based on the opposite error, in a physical heaven definitely located far overhead, the destination of all ransomed souls. This is undoubtedly the most common idea at the present time". Though Alger was certain that belief in a subterranean hell had "with the growth of science and the enlightenment of reason (…) very extensively fallen and faded away", he nevertheless maintained that for most people the afterlife remained as tangible and as 'geographical' as it had ever been. "In the average faith of individuals to-day [*sic*]", Alger asserted, "heaven and hell exist as separate places located somewhere in the universe; but the notions as to the precise regions in which they lie are most vague and ineffectual when compared with what they formerly were".[1]

2. Here Comes the Sun

One of the "separate places" to which Alger could have in some detail referred was the Earth's own sun. A 'region', so to speak, about which our notions are scarce always "vague and ineffectual", to which several celestial speculators, like the planets of our solar system, found themselves attracted. One such speculator was the English theological writer and inventor Isaac Taylor (1787–1865). Taylor, whose readership included a young Marian Evans,[2] was a prolific scribbler on divers historical and religious subjects. Though initially trained as a draughtsman and engraver, Taylor joined the "regular staff" of the *Eclectic Review* in 1818 and in 1836 unsuccessfully competed for the chair of logic at the University of Edinburgh. Taylor, in philosophy, was a keen adherent of Baconian inductivism, and, in religion, though an Anglican (albeit one from a Dissenting background), a staunch and steady critic of the myriad corruptions that had supposedly so disfigured Christian doctrine and practice.[3] Taylor's sister—

[1] William Rounseville Alger, *A Critical History of the Doctrine of a Future Life, with a Complete Bibliography of the Subject* (New York: W.J. Widdleton, Publisher, 1867), 588-592.

[2] Jonathan Rée, *Witcraft: The Invention of English Philosophy* (London: Penguin Books, 2019), 317-318.

[3] Thomas Seccombe, "Taylor, Isaac (1787–1865)", in *Dictionary of National Biography*, ed. Sidney Lee (London: Smith, Elder, & Co., 1898), 55:417-419. See also "The Late Isaac Taylor, of Ongar",

Jane Taylor (1783–1824)—was the author of the poem that begins "Twinkle, twinkle, little star".[1]

In his *Physical Theory of Another Life*, which, so claimed the Edinburgh philosopher Alexander Campbell Fraser (1819–1914), was the "most elaborately conceived and executed work" of his "whole literary life",[2] Taylor set forth his views on man's posthumous estate. Following St Paul's affirmation that there was a "spiritual" as well as a "natural" body,[3] Taylor proclaimed that man was destined to transition "from one condition of corporeal existence to another".[4] Though Taylor, in line with his reading of the New Testament, did not anticipate that such a transformation would be completely effected immediately after death,[5] the question nonetheless quite naturally arose, as corporeality presupposes both locality and spatiality,[6] where it was that life in its 'spiritual' mode might be lived.

Writing in an unabashedly conjectural fashion, Taylor averred that "the supposition almost forces itself upon us" that the sun "is the abode and home of the higher and ultimate spiritual corporeity, and the centre of assembly for those who have passed their preliminary era upon the lower ranges of creation". On Taylor's account, whereas the planets were "the places of animal organization, and the schools of initiation to all rational orders", solar bodies were "apparently adapted to a much higher mode of existence".[7] To Taylor's mind, "[t]he

Chelmsford Chronicle, 3 November 1865. Colleen McDannell and Bernhard Lang, in their *Heaven: A History* (New Haven: Yale UP, 2001), 280, mistakenly assert that Taylor was Scottish.

[1] Jane Taylor and Ann Taylor, *Rhymes for the Nursery* (London: Darton & Harvey, 1806), 10-11; Daniel Hahn, *The Oxford Companion to Children's Literature* (Oxford: Oxford UP, 2015), 570-571. Whether or not the star about which Jane Taylor wondered bore any relation to the suns—see below—about which Isaac Taylor conjectured is at present a closed book. We can note, however, that Jane "possessed a genuine taste" for the "general and more interesting facts of astronomy". See Isaac Taylor, *Memoirs and Poetical Remains of the Late Jane Taylor* (London: B.J. Holdsworth, 1825), 1:45.

[2] Alexander Campbell Fraser, "The Literary Life of Isaac Taylor", *Macmillan's Magazine* 12, no. 72 (October 1865): 543.

[3] 1 Cor. 15:44 (KJV).

[4] Isaac Taylor, *Physical Theory of Another Life* (London: William Pickering, 1836), 9.

[5] Taylor, *Physical Theory*, 254-256.

[6] Taylor regarded the "occupation of place, or a relationship to space and extension" to be among those properties that belonged to "corporeity abstractedly". See Taylor, *Physical Theory*, 40.

[7] Taylor, *Physical Theory*, 208.

physical idea of solar life", commensurate with an "unintermitted intensity of light and heat", and thus unafflicted by the alternating periods of "*excitement* and *repose*" that so characterised an earthly or terrestrial existence, amounted to "little less than a conception of incorruptibility, and immortality".[1] In other words, the sun, for Taylor, might well be heaven, even if, as he freely admitted, such a vision was not likely to comport with the dreams and expectations entertained by others. In any case, whatever objections his conjectures were likely to elicit and encounter, Taylor was happy to bear them. He wore his hypotheses lightly. If one found oneself dissatisfied with his produce, one could, with the proprietor's blessing, casually dispose of it:

> Now to revert a moment to our present conjecture, concerning the construction and intention of the visible universe, there are some perhaps who, in the loftiness of their religious conceptions, would resent, as totally unworthy and grovelling, the supposition that the sun of our own system, and that each sun of each system, is a heaven to its planetary tribes, and that this solar heaven is stocked with various orders of sentient beings. Let then the supposition be discarded by those who distaste it, and assuredly the author has no fond anxiety to defend and retain it; nor does he attach any value to it, otherwise than so far as it may serve a purpose which he deems in some degree important, namely, that of tending to bring our religious conceptions into definite alliance with the real world, and with nature, and to break up, a little, those vague and powerless notions which place our religious expectations at a dim remoteness from whatever is substantial and effective. Let us try to persuade ourselves that the future and unseen world, with all its momentous transactions, is as simply natural and true, as is this world of land and water, trees and houses, with which now we have to do.[2]

In contrast to Taylor, who had those among the great and good who wondered why his literary reputation was not what it could or should have been,[3]

[1] Taylor, *Physical Theory*, 210.

[2] Taylor, *Physical Theory*, 217-218.

[3] Fraser complained of the "inadequacy of the contemporary recognition which his [Taylor's] endeavours have received in proportion to the genius which they display". James Stephen alluded to what he perceived as Taylor's stylistic weakness. "Felicitous expression is an excellent thing in its season", Stephen remarked of Taylor's prose, "but serve up a whole octavo full of exquisite sentences, and neither the guest nor the cook himself can clearly tell what the repast is made of". See Fraser, "Literary Life", 536; and James Stephen, *Essays in Ecclesiastical History* (London: Longman, Brown, Green, and Longmans, 1850), 448.

certain other supporters of the notion of a solar heaven cerebrated in comparative obscurity—only now and then, here and there, poking their heads above the parapet of the opposite of renown. The Dr Mortimore whose ideas came to the attention of the *Scientific American* early in the autumn of 1869 was, for instance, one such one. David Mortimore (c. 1814-1885) was a somewhat peripatetic Memphis-based medical man. Long active throughout much of the American South, Mortimore was a specialist in "various diseases of the Lungs and Throat",[1] the inventor of a "justly celebrated" rheumatic compound,[2] and an erstwhile business associate of the marvellously monikered Lycurgus Leonidas Lurton.[3] Mortimore, as somewhat mockingly told by the *Scientific American*, fancied the sun to be the place where the saved would live forever. "[T]here is a vast globe or world far *within* from the surrounding photosphere of ethereal fire, which all denominate the sun", Mortimore is reported to have claimed, "which globe is estimated to be at least five hundred thousand miles in diameter". "[T]he globe thus discerned", Mortimore is said to have determined, "is the Heavenly Empire wherein the righteous from this earth find their future home".[4]

In broad outline, the *Scientific American*'s synopsis of Mortimore's views was accurate. In the preface to his *The Spirit of God as Fire; the Globe Within the Sun Our Heaven*, Mortimore, who was a Methodist, plainly hypothesised "that within what we denominate our sun, *is our heaven*".[5] This proposition, which he garlanded and buttressed with the sureties of scripture,[6] Mortimore presumed to be supported by the findings of astronomy: "the mighty revelations of the wondrous works of God as now revealed to us by the aid of the *telescope*".[7] Though the bulk of his scientific information was drawn from George Chaplin Child's *Benedicite: or the Song of the Three Children*,[8] the work of John Herschel,

[1] "Memphis Advertisements", *Oxford Falcon* (MS), 30 January 1869.
[2] "Life, Health and Happiness", *Glasgow Weekly Times* (MO), 5 February 1852.
[3] "Interesting to the Afflicted", *Clarksville Chronicle*, 13 December 1861.
[4] "Location of Heaven", *Scientific American*, 11 September 1869, 170.
[5] David Mortimore, *The Spirit of God as Fire; the Globe within the Sun Our Heaven* (New York: Published by the Author, 1869), ix.
[6] Mortimore, *The Spirit of God as Fire*, 28, 105, 118-120, 141-144, 231-232.
[7] Mortimore, *The Spirit of God as Fire*, 28-29.
[8] Mortimore, *The Spirit of God as Fire*, 36.

in particular, no matter how constructively or confusedly it was construed, appears to have given Mortimore plenty of succour and inspiration:

Sir John Herschel, the most profound philosopher in the science of astronomy the world has ever known (…) tells us that from his investigations and discoveries in regard to the Sun, there appears to be *a vast globe within* the surrounding *photosphere of fire*, shielded by a void or non-luminous atmosphere, thus apparently protecting it from the surrounding flame of fire, and rendering it possible that the vast globe within is susceptible of animated life, which may exist there in some form. This, with the general corroboration of other astronomers, as to the two encircling volumes of atmosphere—the outer a luminous, and the inner a non-luminous one—is strong evidence confirmative of our hypothesis of the existence of that immense inner globe, or world, which is doubtless in reality the *Heavenly world;* the Saviour's empire, and the abode of the righteous.[1]

Though he harboured a belief in the proselytical potential of his theory of heaven's location,[2] Mortimore declared himself "fully aware of the incredulity with which it [his volume] may meet in many literary minds".[3] This expectation did not go unmet. In what was an age of great religious creativity—of "metaphysical religion", the "village Enlightenment", and the eager intermingling of popular science and popular religion[4]—Mortimore's ideas were in nowise especially aberrant. Nevertheless, the critical reception of *The Spirit of God as Fire* was scarcely invariably positive. The reviewer in the Cincinnati-based literary

[1] Mortimore, *The Spirit of God as Fire*, 92-93. Cf. George Chaplin Child, *Benedicite: or the Song of the Three Children* (London: John Murray, 1866), 1:38-40. It is not obvious that Mortimore ever read Herschel directly. He could have. The American South was "a place into which torrents of print poured". See Michael O'Brien, *Intellectual Life and the American South, 1810–1860* (Chapel Hill: University of North Carolina Press, 2010), 118. In the United States, in any case, astronomical knowledge, and knowledge of astronomers, was widely—however deeply or shallowly—diffused via newspapers and itinerant lecturers. See, e.g., Donald Zochert, "Science and the Common Man in Ante-Bellum America", *Isis* 65, no. 4 (1974): 448-473.

[2] Mortimore, *The Spirit of God as Fire*, 13, 235-236,

[3] Mortimore, *The Spirit of God as Fire*, vii.

[4] Catherine L. Albanese, *A Republic of Mind and Spirit: A Cultural History of American Metaphysical Religion* (New Haven: Yale UP, 2007); Craig James Hazen, *The Village Enlightenment in America: Popular Religion and Science in the Nineteenth Century* (Urbana: University of Illinois Press, 2000), 5-8; Fred Nadis, *Wonder Shows: Performing Science, Magic, and Religion in America* (New Brunswick [NJ]: Rutgers University Press, 2005), 10

and religious periodical *Our Monthly*—a family-friendly Presbyterian journal[1]—was, it seems, genuinely appalled by the standard of Mortimore's argumentation. "Who Dr. Mortimore is we do not know", they wrote, "perhaps we would not be any better for knowing. If he treats his physical subjects, as he treated his literary victim, they will likely die under his hands while his mind goes wool-gathering". "We can only say", the reviewer concluded, "*Physician heal thyself*".[2]

The slaveholding Christian Schultz Jr (1774–1830), a New York-born Virginia landowner,[3] was another comparatively obscure proponent of the idea of a solar heaven. Of German descent, Schultz, who possessed a capacity for prickliness, had a rather varied career. A former political underling of the prominent Democratic-Republican DeWitt Clinton, Schultz, at one point or another, was a supercargo, a grocer, an avocational ophiologist,[4] and a justice for the seventh ward of the city and county of New York.[5] A member of the New-York Historical Society,[6] and best remembered as a travel writer,[7] Schultz was originally destined for the manse, but "by some strange fatality", as a friend of his put it, cultivated a reputation for religious heterodoxy, "fell into the delusions of misguided intellect", and "became a zealous opposer of Christianity".[8] He was not, however, contrary to sundry rumours that apparently circulated among

[1] "Literary Intelligence", *The Biblical Repertory and Princeton Review* 42 (1870): 340; "Our Monthly", *Central Presbyterian* (Richmond), 15 December 1869.

[2] "Book Notices", *Our Monthly: A Religious and Literary Magazine, for the Family* 1 (1870): 71.

[3] Ann Clymer Bigelow, "An Affair of Class: Western Virginia Eccentric versus New York Tobacco Magnate", *West Virginia History* 10, no. 2 (2016): 93-109.

[4] "Serpents", *Public Ledger and Daily Advertiser* (London), 5 May 1819.

[5] "Justices", *New-York Evening Post*, 22 March 1808; "Appointments by the Council for the City of N. York Feb. 19", *Observer* (NY), 24 February 1811.

[6] *Collections of the New-York Historical Society, for the Year 1814* (New York: Van Winkle and Wiley, 1814), 2:xvii.

[7] See Christian Schultz Jr, *Travels on an Inland Voyage through the States of New-York, Pennsylvania, Virginia, Ohio, Kentucky and Tennessee, and through the Territories of Indiana, Louisiana, Mississippi and New Orleans; Performed in the Years 1807 and 1808; Including a Tour of Nearly Six Thousand Miles* (New York: Isaac Riley, 1810). Peter G. Beidler thinks it possible that Schultz's *Travels* was known to Mark Twain. See Beidler, "Christian Schultz's *Travels*: A New Source for *Huckleberry Finn*?", *English Language Notes* 28 (1990): 51-61.

[8] "Communicated", *Troy Sentinel*, 28 May 1830.

his Virginian neighbours, an atheist.[1] Unless, perhaps, he was a strange sort of atheist who believed in God.

Schultz's faith, in any case, was a minimalistic one. In an unpublished manuscript entitled "Theism the religion of heaven—all others the offspring of earth", extracts of which he sent enclosed with a letter to Thomas Jefferson on the 30th of December 1821,[2] Schultz ventriloquised a fictional rabbi named Nathan Ben Hassan and put meat on the bones of his theological conceptions. For Schultz, "Theism", which he believed to be the faith of the "antient [*sic*] patriarchs", was a very simple thing. "[T]he whole essence of Theism, and the whole duty of man", he declared, could be encapsulated in a single sentence: "There's but one God—Love Him first—Thy fellows next". The innumerable rituals and observances that, over the millennia, had attached themselves to the bare belief in a benevolent deity, added nothing but obfuscation. "The creation itself" was the best revelation, and "the only acceptable worship" that God could be offered consisted of "simple silent adoration" and "sacred vocal and instrumental praise". Schultz was opposed to prayer. "Prayers and petitions of every kind" were, in his opinion, "presumptuous insults to the Deity". The creator, if one's notions were sufficiently elevated, had no need of chidings and reminders from those whom he had created.

Evidently, Schultz had no kind words for orthopraxy or orthodoxy, but he did maintain a belief in the immortality of the soul and a "future state of rewards and punishments: where the good and virtuous of all religions will be rewarded, and the wicked punished". Schultz, despite this relative concession to a more conventional religiosity, rejected the idea of eternal punishment as "altogether incompatible with the Beneficient [*sic*] character of God". As to where such rewards as those that awaited the virtuous were to be found, Schultz refrained from belabouring his point:

With respect to the places of future rewards and punishments, we think it probable that

[1] Robert L. Pemberton, *A History of Pleasants County, West Virginia* (St. Mary's [WV]: The Oracle Press, 1929), 36.

[2] See J. Jefferson Looney, ed., *The Papers of Thomas Jefferson, Retirement Series* (Princeton [NJ]: Princeton UP, 2022), 18:88. Schultz wrote to Jefferson under the pseudonym "X.Y.Z [*sic*] Cosmopolite"—an apparent reference to the Franco-American diplomatic incident known as the XYZ Affair. See, regarding the affair, e.g., Jerald A. Combs, "XYZ Affair", in *The Oxford Companion to United States History*, ed. Paul S. Boyer (New York: Oxford UP, 2001), 853.

the various suns, will prove to be so many heavens for the virtuous of each solar system: and as hell is to be a place of misery for the wicked, either a hot or cold planet, or a deprivation of all happiness will answer equally well for that purpose.[1]

Schultz's thoughts on the location of heaven were also shared in the pages of *The Free Enquirer*—a radical New York-based weekly of which Robert Dale Owen (1801–1877) and Frances 'Fanny' Wright (1795–1852) were editors.[2] Though its publication was effected in a somewhat convoluted manner (involving a "Theological Challenge" and the crossing of wires),[3] "Mr. Schulz's [*sic*] Arguments in Favor [*sic*] of the Existence of a God and the Immortality of the Soul" appeared in the *Free Enquirer* on the 16th of January 1830. Therein, in addition to advancing a very Paleyite form of natural theology, Schultz argued that the "principal reason" that "atheistical philosophers deny the existence of a God, is because it cannot be proved or demonstrated according to the rules of philosophy". Philosophy (very much inclusive of natural science), however, Schultz seemed to imply, was not an infallible standard by which to assess existential propositions. After all, had not "our ablest philosophers" shown things to be true that later turned out to be false? The Herschelian sun, which could well be heaven (as Dr Mortimore, nearly forty years later, also contended), was not Newton's. Schultz, with a smidgen of creativity, pressed something not unlike what philosophers of science call the pessimistic induction into the service of his religious idiosyncrasy:

> have not all the world believed from the beginning that the sun was proved to be an immense sphere of glowing fire thousands of times hotter than redhot [*sic*] iron? Have not all the world believed including Atheists and Deists that it was fully proved that comets were created in order to serve as fuel for the sun? Have not all the world believed including Atheists and Deists that some of our comets on account of their nearness to the sun, had been proved to be so hot as to be uninhabitable? Have not all the world believed that it was proved that some of our comets have passed so near to the sun as to acquire a heat almost equal to that of the sun? Nay did not Newton that prince of philosophers, make a calculation and prove how many thousand times hotter than redhot iron, one of

[1] Looney, ed., *Papers of Thomas Jefferson*, 92-93.
[2] Christopher Grasso, *Skepticism and American Faith: From the Revolution to the Civil War* (New York: Oxford UP, 2018), 279-293.
[3] "A Theological Challenge, to Mr. Ro. Owen & Co.", *Daily National Intelligencer*, 10 July 1829.

our comets had become in consequence of its near approach to the sun, and also how many hundreds of years it would require before it became as cool again as it was before? And were not all these facts proved to be true by all our philosophers as well as learned clergy, and yet Herchel [*sic*] has so far overturned the whole of this burning or fiery system, that we have ventured to locate our future heaven if any there be in this very hellfire cooking sun. In addition to these we will add the following: Has not Newton proved that his theory of the tides was true, and yet has not St. Pierre demonstrated that he was absolutely wrong?[1]

As for Schultʒ's more general grounds for thinking that heaven was likely to be in or on the sun, his reasoning was as follows:

After viewing all the works of God, we have imbibed the opinion that all our planets are endowed with the means of affording rational happiness to their inhabitants according to their *magnitude* alone, and not according to their distance from the sun, as all the world has hitherto believed. And as the sun is not only the greatest, but most glorious of all our spheres, *we have therefore concluded*, that the longest life and most perfect state of happiness attainable within our system will be found in our heavenly sun (…) It is highly probable that the souls of all the good and virtuous will find their heaven in our sun.[2]

In Schultʒ's 'simple' faith, a faith in which frippery and miracles were roundly depreciated,[3] the location of heaven could be settled with a single quantity. Here

[1] "Mr. Schulz's [*sic*] Arguments", *Free Enquirer*, 16 January 1830, 93-94. "St. Pierre"—the French botanist and novelist Jacques-Henri Bernardin de Saint-Pierre (1737–1814)—argued that the tides were better accounted for by seasonal fluctuations in the amount of ice at the poles than by universal gravitation. As is surely unlikely to elicit much surprise, not everyone was as convinced as Schultʒ that Saint-Pierre had routed Newton from the field. The Scottish chemist Thomas Thomson (1773–1852) wrote that if Saint-Pierre understood that tidal phenomena were undulatory, and not like a current, "he never would have proposed his explanation of the tides by the melting of the ice at the North Pole". See Thomas Thomson, *History of the Royal Society, from its Institution to the End of the Eighteenth Century*. (London: Robert Baldwin, 1812), 426.

[2] Robert Dale Owen, "C. Schulz [*sic*]", *Free Enquirer*, 9 January 1830, 88.

[3] According to Schultʒ, it was a fact that "some of Christ's 'miracles' were actually performed, while others were fabricated altogether". Christ's "walking on the water", for example, was "nothing more than a little straining of the truth; for, by means of a girdle of cork, or even of fish bladders, which were plenty enough, he would be enabled to walk *in* the water, and pretty high above the surface". See Schultʒ, "Triumph of Truth", *The Correspondent*, 13 October 1827, 184. Various of Schultʒ's re-

and elsewhere, *perhaps*, Schultz evinced the influence of the deistical Theistical Society of New York—an early 19th-century body with which DeWitt Clinton, so swore the Scottish cartographer and conspiracist John Wood (d. 1822), enjoyed a "mutual affection and sympathy".[1]

3. The Herschelian Sun

In making their heavenly contentions, both David Mortimore and Christian Schultz, and Michael J. Crowe suspects Isaac Taylor too,[2] were influenced by a very particular picture of the sun. Said picture, that painted by the eminent astronomer William Herschel (1738–1822), and subsequently retouched by his even more eminent son John (1792–1871), gave license to the notion that the Christian hope, and the "Theist" hope too, would be fulfilled within the compass of what is now known to be a giant ball of gas. Though no part of the combined Herschelian corpus is just quite as startling as Mortimore's ringing declaration that the risen Christ ruled over "His people" upon a "VAST WORLD" far within the "circling photosphere of ethereal fire which we see and realize as the *Sun*",[3] it nonetheless contains much that might surprise their disciplinary descendants. Neither Herschel may have entertained the thought that heaven was in or on the solar sphere, but they did believe that it was habitable, and that its physical structure was radically different to how the relevant scientific authorities conceive of it today.

ligious opinions, it seems clear, much resembled those of 18th-century deists. Cf., e.g., Roy Porter, *Enlightenment: Britain and the Creation of the Modern World* (London: Penguin Books, 2001), 111-122. On deism in the United States, see, e.g., David L. Holmes, *The Faiths of the Founding Fathers* (New York: Oxford UP, 2006), 39-51; and Mark A. Noll, *America's God: From Jonathan Edwards to Abraham Lincoln* (New York: Oxford UP, 2002), 143-145.

[1] John Wood, *A Full Exposition of the Clintonian Faction, and the Society of the Columbian Illuminati* (Newark: Printed for the Author, 1802), 48. See also Grasso, *Skepticism and American Faith*, 120-121, 127-130; Evan Cornog, *The Birth of Empire: DeWitt Clinton and the American Experience, 1769–1828* (New York: Oxford UP, 1998), 41-42; Eric R. Schlereth, *An Age of Infidels: The Politics of Religious Controversy in the Early United States* (Philadelphia: University of Pennsylvania Press, 2013), 71-72, 130-137; and Kirsten Fischer, *Freethinker: Elihu Palmer and the Struggle for Religious Freedom in the New Nation* (Philadelphia: University of Pennsylvania Press, 2021), 210-214.

[2] Michael J. Crowe, *The Extraterrestrial Life Debate, 1750–1900* (Mineola [NY]: Dover Publications, 1999), 230.

[3] Mortimore, *The Spirit of God as Fire*, 165.

In a paper read before the Royal Society on the 18th of December 1794, William Herschel argued that the sun was very much akin to the other "great bodies of the solar system".[1] On Herschel's account, the sun was like the Earth writ ginormous. It had an opaque and solid body and a "luminous atmosphere" consisting of "elastic fluids" and "lucid clouds".[2] Its "similarity to the other globes of the solar system with regard to its solidity, its atmosphere, and its diversified surface", led Herschel to suppose that it was most probably inhabited, "like the rest of the planets", by beings well adapted to its local peculiarities. In anticipation of the objection that the sun's rays, considering their effect upon the fardistant Earth, would leave the surface of its globe "scorched up beyond all conception"—thus rendering it unsuitable for animate habitation—Herschel adverted to a version of the caloric theory of heat. A sunbeam was not hot in and of itself: "heat is produced by the sun's rays only when they act upon a calorific medium".[3] "[W]e need not hesitate to admit", Herschel concluded, "that the sun is richly stored with inhabitants".[4]

Though John Herschel was not as obvious an advocate of solar life as his father was, he nevertheless supplied "provisions" to those who would propose it.[5] In his *Treatise on Astronomy* of 1833, and in his *Outlines of Astronomy* of 1849,[6] John followed William in maintaining that the sun had a solid nucleus and that sunspots were the "dark, or at least comparatively dark, solid body of the sun itself, laid bare to our view by those immense fluctuations in the luminous regions of its atmosphere, to which it appears to be subject".[7] John

[1] William Herschel, "On the Nature and Construction of the Sun and fixed Stars", *Philosophical Transactions of the Royal Society* 85 (1795): 63.

[2] William Herschel, "Construction of the Sun", 58-62.

[3] William Herschel, "Construction of the Sun", 63-64.

[4] William Herschel, "Construction of the Sun", 68. See also Simon Schaffer, "['The Great Laboratories of the Universe']: William Herschel on Matter Theory and Planetary Life", *Journal for the History of Astronomy* 11, no. 2 (1980): 90-96; and George Basalla, *Civilized Life in the Universe: Scientists on Intelligent Extraterrestrials* (New York: Oxford UP, 2006), 51-53.

[5] Crowe, *Extraterrestrial Life Debate*, 217-218.

[6] Michael J. Crowe, "The Surprising History of Claims for Life on the Sun", *Journal of Astronomical History and Heritage* 14, no. 3 (2011): 174.

[7] John Herschel, *Treatise on Astronomy* (London: Longman, Rees, Orme, Brown, Green & Longman, 1833), 208. Cf. William Herschel, "Construction of the Sun", 54. See also John Herschel, *Results of Astronomical Observations Made During the Years 1834, 5, 6, 7, 8, at the Cape of Good Hope* (London: Smith, Elder and Co., 1847), 434.

also held that it was "physically possible" that the sun's solid core, though it "*may* (…) be in a state of most intense ignition", might in fact, very much to the contrary, be comparatively cool. "A *perfectly reflective* canopy would effectually defend it from the radiation of the luminous regions above its atmosphere", John wrote, "and no heat would be conducted downwards through a gaseous medium increasing rapidly in density".[1] Though he later devised an alternative to his father's theory of the nature and origin of sunspots—in which he conjectured that they might be caused by the periodic penetration of the sun's "envelopes" by an "elliptic ring of vaporous, nebulous, or small planetary matter"—John, at least publicly, never wholly abandoned the idea that the sun had an "enclosed" or "interior" globe.[2]

On the one occasion upon which John publicly speculated about possible inhabitants of the sun, he did so in a truly fantastic fashion. In an 1861 lecture on the sun that was originally delivered before a "village audience, in the schoolhouse of the parish of Hawkhurst, in Kent",[3] John mused that the overlapping willow leaf-like structures that the Scottish engineer James Nasmyth (1808–1890) purported to have observed across the "photosphere" or "brilliant surface" of the sun might be "*organisms* of some peculiar and amazing kind".[4] These "sheets, flakes, or scales", each of which could "hardly be less than a thousand miles in length, and two or three hundred in breadth", whatever they were (or weren't),[5] John asserted to be "evidently the *immediate sources of the solar light*

[1] John Herschel, *Treatise*, 210.

[2] John Herschel, "The Solar Spots", *The Quarterly Journal of Science* 1, no. 2 (1864): 222-223, 231-235. See also David W. Hughes, "Sir John F. Herschel, Meteoroid Streams and the Solar Cycle", *Vistas in Astronomy* 39, no. 3 (1995): 335-346; and Alan H. Batten, "From the Death of the Solarians to the Birth of Astrophysics", *Journal of Astronomical History and Heritage* 16, no. 3 (2013): 287-294.

[3] John Herschel, *Familiar Lectures on Scientific Subjects* (London: Alexander Strahan, Publisher, 1867), ix.

[4] John Herschel, *Familiar Lectures*, 82-85. For Nasmyth and his observations, see C.F. Bartholomew, "The Discovery of the Solar Granulation", *Quarterly Journal of the Royal Astronomical Society* 17 (1976): 263-289.

[5] In a letter to Nasmyth, dated the 21st of May 1861, Herschel, in relation to his correspondent's "willow-leaf shaped objects", queried: "What can they be? Are they huge phosphorised fishes? If so, what monsters! Or are they crystals? a kind of igneous snow-flakes [*sic*]?" See *James Nasmyth, Engineer: An Autobiography*, ed. Samuel Smiles (London: John Murray, 1883), 383-385. Notably, insofar that it suggests that he seriously entertained the existence of solar 'fishes', Herschel later used nigh identical language in a letter, dated the 14th of July 1861, to Augustus De Morgan: "Are

and heat". "[T]hough it would be too daring to speak of such organization as partaking of the nature of life", Herschel, a mite contradictorily, admitted, "we do know that vital action is competent to develop both [*sic*] heat, light, and electricity".[1] It might tickle some to learn that Herschel, whose contribution to 19th-century science cannot be gainsaid, towards the end of his lecture declared that "it will be perceived that I have been more anxious to dwell upon facts than theories".[2]

4. Another Star is Born

The sun was not the only star to be regarded as the potential site of heaven. Alcyone—one of the Pleiades—also had its advocates as heaven's 'geographical' location. Unlike the sun, however, the importance of which to human culture tout court is hard to overrate, Alcyone's passing notoriety was a creature of 19th-century science.

At the close of a meeting of the Royal Irish Academy in Dublin on the 14th of December 1846, a time during which much of Ireland was being ravaged by the blight, the mathematician William Rowan Hamilton delivered some "extraordinary and exciting" news—the "presumed discovery of a Central Sun". Before "several members of the academy", Hamilton stated the results contained within Professor Mädler of Dorpat's *Die Centralsonne*, a text in which it was contended that the "Pleiades form the central group of our whole astral or sidereal system, including the Milky Way". "By an extensive and laborious comparison of the quantities and directions of the proper motions of the stars in the various parts

they huge phosphorescent fishes of white hot [*sic*] platina or what in the world else?" See Michael J. Crowe, "William and John Herschel's Quest for Extraterrestrial Life", in *The Scientific Legacy of William Herschel*, ed. Clifford J. Cunningham (Cham [Switzerland]: Springer International, 2018), 273.

[1] John Herschel, *Familiar Lectures*, 83-84.

[2] John Herschel, *Familiar Lectures*, 90.

of the Heavens", Mädler, so Hamilton related, came to the conclusion that the "centre of gravity" around which our solar system orbited was positioned near the star Alcyone or Eta Tauri, the brightest of the Pleiades, which, therefore, was "entitled to be called the Central Sun".[1]

Mädler's theory, which was not the first post-Newtonian theory to posit the existence of a universal or galactic centre,[2] never ceased to be ambiguous in its scientific standing. As late as 1895, the English barrister and astronomer George Frederick Chambers (1841–1915) averred that it was "difficult to pronounce dogmatically for or against" the idea that Alcyone enjoyed such an exalted status.[3] More contemporaneously, the Scottish autodidact Robert Grant (1814–1892) wrote that it was "manifest that all such speculations are far in advance of practical astronomy".[4] Such luminaries as John Herschel and Alexander von Humboldt made similar noises. For Herschel, speculations of the kind entertained by Mädler were to a "certain extent premature, though by no means to be discouraged as forerunners of something more decisive",[5] and for Humboldt, whatever the probability or improbability of his hypothesis, praise was due to the "eminently active director of the Observatory at Dorpat" for exciting "investigations which, if they do not lead to the solution of the great problem itself, are nevertheless calculated to throw light on kindred questions of physical astronomy".[6]

[1] "The Central Sun", *Dublin Evening Post*, 2 January 1847. See also Johann Heinrich Mädler, "Die Centralsonne", *Astronomische Nachrichten* 24, nos. 15–16 (1846): 213-240; and Mädler, *Die Centralsonne* (Dorpat [Tartu]: 1846). For an English translation of Mädler's argument, see "Maedler [*sic*] on the Central Sun", *Sidereal Messenger* 1, nos. 3–5 (1846): 17-18, 32-38.

[2] See, e.g., Michael Hoskin, "The Cosmology of Thomas Wright of Durham", *Journal for the History of Astronomy* 1, no. 1 (1970): 44-52. N. B. For Mädler, it was probable that there were various other *Weltinseln*, i.e., "world islands", with "independent centres of gravity"—*selbstständigen Schwerpunkten*—in addition to our own. See Johann Heinrich Mädler, *Untersuchungen über die Fixstern-Systeme. Zweiter Theil. Das allgemeine System.* (Mitau [Jelgava]: G.A. Reyher, 1848), 200-201.

[3] George Frederick Chambers, *The Story of the Stars, Simply Told for General Readers* (New York: D. Appleton & Co., 1895), 75.

[4] Robert Grant, *History of Physical Astronomy, from the Earliest Ages to the Middle of the Nineteenth Century* (London: Henry G. Bohn, 1852), 558.

[5] John Herschel, *Outlines of Astronomy* (London: Longman, Brown, Green, and Longmans, 1849), 589.

[6] Alexander von Humboldt, *Cosmos: A Sketch of a Physical Description of the Universe*, trans. Elise Charlotte Otté (London: Henry G. Bohn, 1851), 3:270.

That the scholarly response to Mädler's theory was not, in the long run, characterised by unqualified enthusiasm, did not, however, prevent it from having quite a significant cultural impact. The idea that there was, so to speak, a sun of suns, in a world in which the book of books still very much held sway over myriad imaginations, did not require too much in the way of spit and polish in order to obtain a theological sheen. May not that star round which our sun goes, it was asked, be the star of God? Somewhat less remarkably, Mädler's Alcyone also enjoyed a brief vogue as a subject for poetry and song.[1] Sometimes life is long, and art is short.

Who the first person to suggest that Alcyone might be the location of heaven was isn't known. What we do know, however, is that within a year of Mädler's theory going public a connection between Alcyone and the hereafter was already being made. A book reviewer in *MacPhail's Edinburgh Ecclesiastical Journal*, in surveying the opinions of "different dreamers" who held to the "doctrine of the materialism of a future state", wrote that if Coleridge were still living, given that for him a central position was a "requisite condition" of heaven's heavenliness, "he would point triumphantly to the star Alcyone, which Professor Maedler [*sic*] has, it is said, demonstrated to be our central sun".[2] In the same year, the English poet Martin Farquhar Tupper (1810–1889), for whose poetry Karl Marx had a particular distaste, made mention of the "central sun" in a brief discussion concerning the "localities and other characteristics of what we call heaven and hell".[3] According to Tupper, whom Thomas Carlyle once described as an "innocent" and "volubly stupid man",[4] that heaven must be somewhere was manifest. "Enoch and Elijah and our Risen Lord" did not "waste away to intangible spiritualities as they rose above the world"; "they went up somewhither". For Tupper, whether or not what Mädler claimed of Alcyone was true,

[1] See, e.g., Clifford J. Cunningham and Barbara Bacik Case, "The Seven Sisters: A Pleiades Cantata", *Journal of Astronomical History and Heritage* 24, no. 2 (2021): 345-362. See also Frances Rolleston, *Mazzaroth; or, the Constellations. Third Part* (London: Rivingtons, 1862), 13.

[2] "Cochrane on the World to Come", *MacPhail's Edinburgh Ecclesiastical Journal* 3, no. 16 (May 1847): 287-288. The same reviewer described Isaac Taylor's *Physical Theory* as a "work replete with ingenious thought, combined with wild absurdities".

[3] Martin Farquhar Tupper, *Probabilities: An Aid to Faith* (New York: Wiley & Putnam, 1847), 97.

[4] Thomas Carlyle to John A. Carlyle, Chelsea, 12 April 1873. *Carlyle Letters Online*. Accessed 17 September 2022. `https://carlyleletters.dukeupress.edu/volume/48/lt-18730412-TC-JAC-01?term=Tupper`.

that "happy Sabbaths" were celebrated by such "bodily saints as Enoch is", with the "angels and archangels and the whole company of heaven", in "some glorious orb akin or superior" to it was something that he could not help but suppose. After quoting a thoroughly inaccurate newspaper report on Mädler's results—in which the German astronomer is credited as Alcyone's 'discoverer'—Tupper terminated his musings upon the "Blest Estate" in a manner betwixt poetry and prose:

> To some such globe we may let our fancies float, and anchor there our yearnings after heaven. It is a glorious thought, such as imagination loves: and a probable thought, that commends itself to reason. Behold the great eye of all our guessed [*sic*] creation: the focus of its brightness, and the fountain of its peace.[1]

The Cornish writer Nicholas Michell (1807–1880) was another versifier for whom Alcyone possibly lay beyond our earthly vale of tears. Born and educated in Truro,[2] Michell was encouraged in his artistic pursuits by the Scottish poet Thomas Campbell (1777–1844), and his first volume, an erudite poetical survey of "nearly all the existing remains of ancient peoples in all parts of the world", entitled *Ruins of Many Lands* and published in 1849, "attracted considerable attention".[3] The "most imaginative of all the author's productions", however, was, it has been said, his *The Immortals; or, Glimpses of Paradise*, in which Michell, much impressed by Mädler's astronomy, ruminated upon the firmament, "angelic intelligences", and the "soul and its destiny".[4] Following David Brewster, Michell believed that "every planet", with perhaps a few exceptions, had its "rational human population"—"beings endowed like ourselves with an immortal principle". He also believed that Mädler's "discovery of a central sun" was "[o]ne of the greatest and most astounding discoveries in the physical universe, since that of universal gravitation by Newton". The "great astronomical fact" of Alcyone's centrality, "proved, almost with mathematical certainty", was the foundation upon which the "hypothesis" of, or the "chief theory propounded" within, Michell's poem was based.[5]

[1] Tupper, *Probabilities*, 97-100.
[2] *Part 4., Men of the West: Nicholas Michell* (Plymouth: Jenkin Thomas, 1877), 17.
[3] W.H. Kearley Wright, *West-Country Poets: Their Lives and Works* (London: Elliot Stock, 1896), 331.
[4] Wright, *West-Country Poets*, 331.
[5] Nicholas Michell, *The Immortals; or, Glimpses of Paradise. A Poem* (London: William Tegg, 1871),

In short, Michell, in *The Immortals*, poetically hypothesised that our "blessèd Eden-home" was not itself literally in or on Alcyone (here dubbed the "monarch globe"), but rather in its general vicinity.[1] Or, more accurately, very likely to be so. Michell, having perhaps been mindful of the ambiguities of poesy, clarified his position on heaven's locality in his appendix and notes. Though he found himself unable to "proceed so far" as Thomas Dick did in positively asserting that a "Central Sun" may indeed be the spot "appointed by God for the dwelling-place of beatified spirits",[2] Michell nevertheless ventured to suggest, "without presuming to specify any particular world actually *visible* in the heavens", that it was extremely probable that the "*centre* of the Almighty's universe would be chosen by Him as the fitting seat of the celestial Eden". Due to the 'fact' that Mädler had "proved" that the Pleiades occupied such a centre, it therefore followed, so Michell reasoned, that "*near these glorious worlds, or among them*, the happy region may be situated". Certain "vast masses" or "opaque terraqueous globes", in close proximity to Alcyone and its allies, and obscured from our view by the unimaginable vastness of space, may well be the place, or places, to which the justified may one day depart. "[P]aradise must", after all, "if the Bible be true, have some location in space", Michell remarked, "and can any spot more august, more suitable, than the region named, be conceived by the finite mind?"[3]

Unlike Tupper and Michell, the Irish Presbyterian minister and educational administrator Thomas Hamilton (1842–1926) did not much traffic with the denizens of Mount Helicon, but he too looked for heaven, under Mädler's far-flung influence, amidst "yon Pleiad orbs on high".[4] Belfast born and reared, and educated at the Royal Belfast Academical Institution, Hamilton was the first vice-

iv-vi.

[1] Michell, *Immortals*, 44-56.

[2] Cf. Thomas Dick, *The Philosophy of a Future State, a New Edition* (Glasgow: William Collins, s.a. [c. 1847]), 241-244. Dick (1774–1857), a defrocked Presbyterian minister and a populariser of astronomy, wrote that "it is reasonable to conclude (…) that all the starry systems of the universe revolve round one common centre, whose bulk and attractive influence are proportionable to the size and number of bodies which perform their revolutions around it". Such a "grand central body" or "glorious centre", Dick thought, granting its existence, "may be considered as the *Capital* of the universe", "*the throne of God*", or "*the heaven of heavens*".

[3] Michell, *Immortals*, 207-208.

[4] Michell, *Immortals*, 55.

chancellor of Queen's University Belfast.[1] From 1865 to 1889, the minister of the York Street Presbyterian Church, Hamilton was a man with an "active, cultured brain".[2] He made numerous contributions to the *Dictionary of National Biography*,[3] served as an honorary secretary of the Royal Victoria Hospital during its move from Frederick Street to the Grosvenor Road,[4] and regularly attended the meetings of the Belfast Natural History and Philosophical Society.[5] In 1888, his views on where one shuffled off to when one shuffled off one's mortal coil were published in his *Beyond the Stars*, which book, perhaps, can be usefully thought of as an atypically ethereal *Lonely Planet Guide*.

Originating in a series of Sunday-evening lectures—though at times beset by sectarian violence, Victorian Belfast did not lack arenas for bourgeois sociability[6]—Hamilton's *Beyond the Stars* was declaredly geared towards that most mythical of creatures, the 'common' reader. It was a "book for the people, and not a disquisition for the learned". According to Hamilton, there was a "great hunger for information about the other world", and, given the gift of scripture, what God had in store for us need not be completely mysterious. The Bible was a "guide-book" to heaven, and if "by studying our Murray or Baedeker, we prepare ourselves in advance for the foreign land to which we are going on business or pleasure, so as not to be altogether strangers to it or its ways when we arrive", Hamilton proposed, "we ought surely to make the same use of this other better volume, not only for the purpose of knowing the way to the heavenly country, but of learning all that may be learned regarding the land itself". "Whatever God has seen right to tell us about the celestial country", Hamil-

[1] "Royal Academical Institution", *Northern Whig*, 23 June 1926; *Thom's Irish Who's Who* (Dublin: Alexander Thom & Co., 1923), 102; Diarmid Ferriter, "Hamilton, Thomas", *Dictionary of Irish Biography*, October 2009, accessed 11 August 2022. `https://www.dib.ie/biography/hamilton-thomas-a3763`; "Death of Rev. Dr. Hamilton", *Belfast Telegraph*, 18 May 1926.

[2] "Late Rev. Dr. Thomas Hamilton", *Northern Whig*, 21 May 1926.

[3] See, e.g., Thomas Hamilton, "McCracken, Henry Joy", in *Dictionary of National Biography*, ed. Sidney Lee (London: Smith, Elder, & Co., 1893), 35:11-12.

[4] "Royal Victoria Hospital", *Northern Whig*, 20 May 1926.

[5] "Obituary", *Northern Whig*, 27 May 1926.

[6] Mark Doyle, *Fighting like the Devil for the Sake of God: Protestants, Catholics and the Origins of Violence in Victorian Belfast* (Manchester: Manchester University Press, 2009); Alice Johnson, *Middle-Class Life in Victorian Belfast* (Liverpool: Liverpool UP, 2020), 92-139.

ton wrote, "we ought surely to try to know".[1] One of the things that Hamilton thought we ought to know, or ought to try to know, was that heaven was a real material place. To suggest that it was "only a state", as some seemed to teach, was, for Hamilton, "to do away with heaven altogether".[2] No, heaven, as the Bible affirmed and reason commended, was a definite locality: "[t]he soul is an entity. It must have a dwelling-place".[3] "If words mean anything", Hamilton declared, referring to those parts of scripture in which heaven is "*expressly called a place*",

> there is only one conclusion to be drawn from such statements as these, and that conclusion is that somewhere in the universe of God there is a place called heaven, a material place fitted for the occupation of material bodies, a place as real as this earth on which we now dwell. We may not be able to tell precisely where this place is. Our telescopes, which search so far into the starry depths, cannot discover it to us, and all our reasoning may not be able to indicate its exact locality. But as to the fact that somewhere this bright spot does exist (…) we need entertain no more doubt than we do of the existence of this earth on which we now walk.[4]

Though here Hamilton dismissed the notion that telescopes could play any role in ascertaining heaven's location, he didn't long refuse the stellar inducements of astronomy. To his mind, verses eight through ten of the fourth chapter of St Paul's letter to the Ephesians comprised the "key-text" in the Bible as to heaven's 'geographical' situation—a text that, if properly understood, disconfirmed various of the theories entertained by others regarding the whereabouts of the abode of the angels and the saints. That Christ was said to have "ascended up far above all heavens, that he might fill all things"[5] showed that the "true heaven" was "not to be sought on earth, nor in any of the visible regions round about the earth, nor in any of the nearer heavenly bodies". It was, Hamilton argued, "far beyond all these".[6] Where then could it possibly be found?

[1] Thomas Hamilton, *Beyond the Stars: or, Heaven, its Inhabitants, Occupations, and Life* (Edinburgh: T. & T. Clark, 1888), 7-10, 22-23.
[2] Hamilton, *Beyond the Stars*, 27-28.
[3] Hamilton, *Beyond the Stars*, 31.
[4] Hamilton, *Beyond the Stars*, 32-34.
[5] Eph. 4:10 (KJV).
[6] Hamilton, *Beyond the Stars*, 46.

Most people know the Pleiades (…) In that remarkable group of stars is one named Alcyone, its principal member, and this distant orb is declared to be the central sun about which the universe of stars comprising our whole astral system revolves. So distant is Alcyone from the sun that it takes a ray of his light over five hundred years to reach it, and over eighteen millions of years are required to perform one revolution round it. The figures are bewildering in their immensity. The whole conception indeed is so stupendous,—the conception of all the suns and all the systems of the universe governed by this great central sun, and sweeping silently and continually round it, through long cycles of years, is such as all our efforts can scarcely grasp. Now, this great central sun is, as it were, the capital of the universe. It governs all the rest, and it is a beautiful theory that it is the seat of heaven. What if here be erected, so far as locality can be supposed to be connected therewith, the throne of God? What if in this magnificent world, which is indeed [']far, far away[',] to a degree unconceived when we sing of the [']happy land['] in our childish hymn,[1] be the place of which our Master made on our behalf the memorable request—[']Father, I will that they also[,] whom [t]hou hast given me[,] be with me where I am[;] that they may behold my glory[,] which [t]hou hast given me![']²

Though Hamilton did not claim for his speculations any high degree of certainty and stated that to dogmatise on the "subject would, of course, be folly", that heaven was on Alcyone was, for him, a genuine possibility.[3]

Commenting from the vantage point of a new century, Garrett Putnam Serviss wrote of the notion that Alcyone had some measure of theological significance as if it were a long-dead fad. "The fancy of Maedler [*sic*] that Alcyone was the central sun of the universe, and the inference, so popular at one time, that it might be the very seat of the Almighty", he remarked, "have vanished in the limbo of baseless traditions".[4] In and around 1910, said "fancy" and said "inference", however, had hardly vanished altogether. A good baseless tradition, all humanity can attest, is rather hard to beat. The Virginia-born Presbyterian

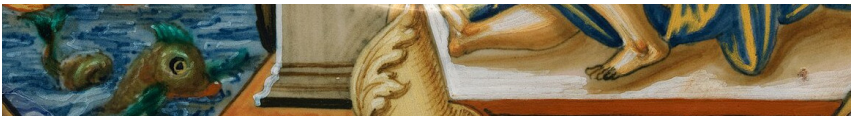
[1] The Scottish schoolmaster Andrew Young's "There is a Happy Land". See, e.g., *The Scottish Hymnal* (London: T. Nelson and Sons, 1898), 543.

[2] Hamilton, *Beyond the Stars*, 50-51. The "memorable request", quoted by Hamilton, comes from John 17:24 (KJV). The exclamation mark is Hamilton's own.

[3] Hamilton, *Beyond the Stars*, 51.

[4] Garret P. Serviss, *Round the Year with the Stars: The Chief Beauties of the Starry Heavens as Seen with the Naked Eye* (New York: Harper & Brothers, 1910), 110.

minister and erstwhile schoolteacher Zedekiah 'Zed' Hetzel Copp (c. 1864-1952), for example, kept faith in Alcyone's superlative centrality. Reputedly a relative of the Copps of Copp's Hill in Boston, Massachusetts, Copp was the son of a wealthy and "enterprising" farmer.[1] A former "Tunker" or German Baptist,[2] and at one stage the probation officer of the District of Columbia's Board of Children's Guardians,[3] Copp was verily gung-ho for moral and social reform.



Once described as the "general utility man where the betterment of Washington is concerned",[4] Copp was for some years a ubiquitous presence in the American capital's civil society. He was also, granting the veracity of the American press, preternaturally opinionated.[5] From the pulpit of the Bethany Presbyterian Chapel on the 7th of July 1907—one week after he had informed his congregation that hell was on the sun[6]—Copp, as was quite widely reported, preached that Alcyone was God's "resting place from which He rules the universe and directs the destinies of men".[7] As told by the *Washington Herald*, Copp held that it was a "scientific fact" that Alcyone was the "central planet of all known space, around which all planets are revolving". Furthermore, it was Copp's belief, "founded on research covering a period of fourteen years", that the "throne of God" was in Alcyone much as the "habitation of the evil one" was in the sun. According to Copp, on Alcyone there were "fireproof and transparent" houses made of "stone and glass". In heaven "[t]here is no room for wickedness and

[1] "Enters Presbyterian Ministry", *Shenandoah Herald*, 6 May 1910; "Mr. Zed H. Copp", *Shenandoah Herald*, 27 April 1906; "Golden Wedding", *Shenandoah Herald*, 19 January 1906; "Improved Stock", *Shenandoah Herald*, 16 April 1879.

[2] See Frank Leslie Cross and Elizabeth Anne Livingstone, *The Oxford Dictionary of the Christian Church*, s.v. "Tunkers" (New York: Oxford UP, 1997), 1646.

[3] "Probation System", *Evening Star* (DC), 2 April 1905.

[4] "Zed Copp Holds a Secret", *Washington Herald*, 26 April 1910.

[5] See, e.g., "Doesn't Like Billikin [*sic*]", *Evening Star*, 28 November 1910.

[6] "Hell, and How to Get There", *Washington Herald*, 1 July 1907.

[7] "Locates Heaven", *Evening Star*, 8 July 1907.

dark deeds", he related, for in heaven "[e]verything and everybody" was quite literally "transparent".[1]

Later in July and into August, more detailed accounts of Copp's conceptions could be found in various American and certain other newspapers. In a story that was carried by several organs in several locations, it was announced that Copp had followed up "his startling discovery that the sun is the home of the Imp of [D]arkness, by the declaration that Alcyone (…) is the footstool of the Creator". Alcyone was the star from which the "Almighty" shaped the "destinies of man and womankind", and the "multitudes of planets" which revolved around it were so many "magnificent gardens, wherein dwell angels and those over whom they preside". Copp's cosmology, invoking the Pauline reference to a "third heaven",[2] included a tripartite conception of heaven. "There are three heavens", he said, "[f]irst, the natural heaven, the canopy above the earth; second, paradise; third, the heaven of heavens, or abiding place of Jehovah". This last, Copp averred, was Alcyone—which, departing quite significantly from Mädler, he conceived of as a sphere that was "thousands of times larger than any other known body".[3] The deity's preferences, Copp believed, were not of a type utterly alien to his creatures. Even God followed the old dictum of 'location, location, location':

> God, the creator and law giver, naturally and religiously might be expected to have his abode in a central place from which to rule the rest of his creation. Alcyone is the greatest of his handiworks. It is no violence to suppose that the Deity is so nearly like his creature man as to show a preference for the greatest of his works, and make that his abiding place.[4]

However many people happened upon the idea that Alcyone and the Pleiades had something to do with God or heaven via the words of Tupper, Michell, Hamilton, and Copp (among others),[5] Mädler's greatest theological legacy was

[1] "Locates Heaven in Alcyone", *Washington Herald*, 8 July 1907.

[2] 2 Cor. 12:2 (KJV).

[3] "Heaven and Hell Fixed", *Times-Republican* (IO), 12 July 1907; "Says Heaven", *Canton Morning News* (OH), 16 July 1907; "Heaven and Hell are Located", *Hartford Republican* (KY), 2 August 1907; "Sun to be Home of the Wicked", *Ottawa Free Press*, 20 July 1907.

[4] "God's Abiding Place", *Lamar Register* (CO), 24 July 1907.

[5] For example, the Scottish eschatologist John Cumming (1807–1881). Cumming aired the possi-

probably to be found among the followers of the Pennsylvanian premillennialist Charles Taze Russell (1852–1916). For the Jehovah's Witnesses, Alcyone and the Pleiades enjoyed some significance until at least 1953, at which date the *Watchtower* explained that "it would be unwise for us to try to fix God's throne as being at a particular spot in the universe".[1] Various earlier references to Alcyone and its companions in 'Bible Student' literature, however, matter-of-factly associated them with God's celestial home. In 1896, in response to a question concerning whether heaven was a place or a condition, the *Watchtower* answered that "it must (…) be a place, just as surely as the earth is a place" and that the "most reasonable suggestion we know of" regarding its location was that it is "located in or in connection with the heavenly group, *Pleiades*".[2] Joseph Franklin Rutherford (1869–1942), president of the Watch Tower Bible and Tract Society from 1917, noted that "[i]t has been suggested, and with much weight, that one of the stars of that group is the dwelling-place of Jehovah and the place of the highest heavens". "[T]he Pleiades", Rutherford professed, "is the place of the eternal throne of God".[3]

bility that the resurrected Jesus, "with the marks of the nails on his hands" and the "traces of the thorns about His brow", resides on Alcyone in his *The Millennial Rest; Or, the World as It Will Be* (London: Richard Bentley, 1862), 184-185; and his *Behold, The Bridegroom Cometh. The Last Warning Cry* (London: James Nisbet & Co., 1865), 319-320. Alcyone also features in Cumming's *Moses Right, and Bishop Colenso Wrong* (London: John F. Shaw and Co., 1863), 148-149. "Who knows but there [Alcyone], throned in majesty, magnificence, and glory", Cumming wondered, "may be He who made all, and without whom nothing was made that was made".

[1] "Questions from Readers", *The Watchtower Announcing Jehovah's Kingdom*, 15 November 1953, 703.

[2] "Questions of General Interest", *Zion's Watch Tower and Herald of Christ's Presence*, 1 December 1896, 2075.

[3] Joseph Franklin Rutherford, *Reconciliation* (Brooklyn: Watch Tower Bible and Tract Society, 1928), 14.

5. Conclusion

For some 19th- and 20th-century persons with skin in the theological game, science debarred the possibility of a physical or 'geographical' heaven. William Ralph Inge was adamant that Christendom had yet to come to terms with the post-Copernican dispensation. For others, however, science was a support and an inspiration for speculations about the location of our eternal posthumous abode.[1] David Mortimore and Christian Schultz placed heaven within the Herschelian sun. Thomas Hamilton and Zedekiah Copp followed Mädler into the Pleiades and there found the "happy land" and even the "throne of God". Heaven, for them, was a real material place—massy and extended in space like Belfast or Timbuktu.

In this respect—that is, in its retention of a corporeal bearing—heaven has hardly differed from the other iconic 'locales' of Christian tradition. Its opposite number—*hell*—has likewise never totally surrendered its dread materiality.[2] Though Augustine conceived that the "situation in the world or the universe" of the "lake of fire" into which the damned would be deposited was, in the absence of special revelation, "known to no one",[3] many later figures were not afraid to guess. The mathematician William Whiston (1667–1752), for whom "Sacred Accounts" of the "*Place of Torment*" accorded well with the "true System of the World", placed hell on a comet,[4] and Martin Farquhar Tupper—"shallow punsters" notwithstanding—hazarded that it might be on the moon. "Why should not the Earth's own satellite, void, as yet, be on the resurrection of all flesh, the

[1] Therefore, pace John Casey, if I read him aright, it should be difficult for one to give assent to the notion that "developments of ideas about heaven" are autonomous with respect to "social change". See John Casey, *After Lives: A Guide to Heaven, Hell, and Purgatory* (New York: Oxford University Press, 2013), 246.

[2] See, e.g., Peter Marshall, "Catholic and Protestant Hells in Later Reformation England", in *Hell and its Afterlife: Historical and Contemporary Perspectives*, eds. Isabel Moreira and Margaret Toscano (Farnham: Ashgate, 2010), 94-97. Marshall notes that Catholic authors held to the tradition of a subterranean hell "much more resolutely than did Protestants". Cf. Fabbri, "Threats to the Christian Cosmos", 39.

[3] Augustine, *City of God*, trans. Henry Bettenson (Harmondsworth: Penguin Books, 1984), 927.

[4] William Whiston, *Astronomical Principles of Religion, Natural and Reveal'd* (London: J. Senex, 1717), 155-156; Philip C. Almond, *Heaven and Hell in Enlightenment England* (Cambridge: Cambridge UP, 2008), 126-130.

raft whereon to float away Earth's evil?", the much-maligned poet earnestly inquired.[1] The Garden of Eden has also proven difficult to uproot. Though subject to a variety of interpretations over the millennia,[2] there have always been those who have maintained that the earthly paradise was in fact just that: earthly. Faced with the challenge of new knowledge and observations, certain Renaissance savants argued that the paradise of Genesis once encompassed the whole globe.[3] In 1878, the Irish-born New Jerseyan machinist Alexander Skelton (c. 1816-1884) contended that the Garden of Eden, complete with the "original tree of life", possibly still existed and was located at the North Pole. Religious disputation has never been the sole preserve of theological sophisticates. According to Skelton, the "repeated failure of so many experienced Arctic explorers to reach the North Pole" was perhaps "in consequence of something more subtle than common, natural causes".[4] In apparent continuity with medieval exegesis and cartography,[5] Eden, for Skelton, was simultaneously part of and apart from 'quotidian' geography.

The spiritual and the physical have not necessarily been antonymic or diametrically opposed. For Isaac Taylor, Christianity and philosophical materi-

[1] Tupper, *Probabilities*, 101. There is perhaps an echo here of John Donne's *Ignatius His Conclave* (1611).

[2] See, e.g., Alessandro Scafi, "Mapping Eden: Cartographies of the Earthly Paradise", in *Mappings*, ed. Denis Cosgrove (London: Reaktion Books, 1999), 50-70; Scafi, "Epilogue: a Heaven on Earth", in *Paradise in Antiquity: Jewish and Christian Views*, eds. Markus Bockmuehl and Guy G. Stroumsa (Cambridge: Cambridge UP, 2010), 210-220; and, in the same volume as the last, Markus Bockmuehl, "Locating Paradise", 192-209. See also Jorge Magasich-Airola and Jean-Marc de Beer, *America Magica: When Renaissance Europe Thought it had Conquered Paradise*, trans. Monica Sandor (London: Anthem Press, 2007), 15-34; Charles W.J. Withers, "Geography, Enlightenment, and the Paradise Question", in *Geography and Enlightenment*, eds. David N. Livingstone and Charles W.J. Withers (Chicago: University of Chicago Press, 1999), 67-92; and Jean Delumeau, *History of Paradise: The Garden of Eden in Myth and Tradition*, trans. Matthew O'Connell (Urbana: University of Illinois Press, 2000).

[3] Joseph E. Duncan, "Paradise as the Whole Earth", *Journal of the History of Ideas* 30, no. 2 (1969): 171-186; Scafi, "Epilogue", 219; Delumeau, *History of Paradise*, 150-151 (this view, he writes, was "rejected in the sixteenth and seventeenth centuries by the majority of commentators on Genesis").

[4] "The Site of Paradise", *New-York Daily Tribune*, 27 July 1878; William F. Warren, *Paradise Found: The Cradle of the Human Race at the North Pole* (Boston: Houghton, Mifflin & Co., 1885), 303.

[5] Scafi, "Mapping Eden", 58-63; Veronica della Dora, "Gardens of Eden and Ladders to Heaven: Holy Mountain Geographies in Byzantium", in *Mapping Medieval Geographies: Geographical Encounters in the Latin West and Beyond, 300–1600*, ed. Keith D. Lilley (Cambridge: Cambridge UP, 2013), 273.

alism were not *completely* at odds. The doctrine of an "absolute incorporeity" was not required by the "foremost principle of [C]hristianity"—the resurrection of the dead.[1] If a materialist admitted the "divine existence and the pure spirituality of the divine nature", and if by their materialism they meant "nothing more than that created minds are *in fact* always embodied", then materialism, "in this sense understood", consisted "well enough with what is affirmed in the scriptures concerning the immortality of man, the resurrection, the intermediate state, and the existence and agency of invisible orders".[2] Among those who were ostensibly opposed to materialism during the 19th and 20th centuries, one can find implicit or inadvertent materialists. The American philosopher and evolutionist John Fiske (1842–1901), in his review of the Scottish physicists Balfour Stewart and Peter Guthrie Tait's *Unseen Universe*—a book which, on at least one occasion, was compared to Taylor's *Physical Theory*[3]—made this point well. "Why should the luminiferous ether, or any primordial medium in which it may have been generated, be regarded as in any way ['']spiritual['']?" Fiske queried. "In our authors' theory (…) the putting on of immortality is in no wise the passage from a material to a spiritual state. It is the passage from one kind of materially conditioned state to another".[4]

That, in the 19th and 20th centuries, the spiritual and the physical were not always construed as being in essence contradictory should not, I think, elicit much surprise: the spiritual has long been conceived in resolutely physical terms. The 'big man' conception of God is not as much of a strawman as some might sometimes imagine.[5] "The opposition between body and soul", Philip C. Almond has stated, was, and I would say still is, "intellectually difficult to sustain".[6] Irrespec-

[1] Taylor, *Physical Theory*, 9-10.

[2] Taylor, *Physical Theory*, 16. Cf. Michelle Pfeffer, "Christian Materialism and the Prospect of Immortality", in *Science without God? Rethinking the History of Scientific Naturalism*, eds. Peter Harrison and Jon H. Roberts (Oxford: Oxford UP, 2019), 148-161.

[3] "From Our London Correspondent", *Bradford Daily Telegraph*, 4 June 1875.

[4] John Fiske, *The Unseen World and Other Essays* (Boston: Houghton, Mifflin & Co., 1902), 49-50.

[5] See, e.g., Aviad Kleinberg, *The Sensual God: How the Senses Make the Almighty Senseless* (New York: Columbia UP, 2015), 47-60, 122-135; Francesca Stavrakopoulou, *God: An Anatomy* (London: Picador, 2021); and Philip C. Almond, *God: A New Biography* (London: I.B. Tauris, 2018), 13-18.

[6] Almond, *Afterlife*, 3. See also Caroline Walker Bynum, *The Resurrection of the Body in Western Christianity, 200–1336* (New York: Columbia UP, 2017), xxxii. Bynum notes "how imprecise is the boundary between spiritual and material in most Christian writing and how psychosomatic is the

tive of such considerations, however, what should be indicated by the foregoing is the capaciousness and fruitfulness of natural science as a cultural resource for seemingly extra-scientific purposes. Evidently, what, for some, it gave, for others it took away. Scientific theories, and the odd putative 'fact', when released into the wider world very often, though perhaps not invariably, exhibit a marked tendency towards polyvalence and polysemy. The geography of science illustrates this exceptionally well.[1] As does, I think, the physico-religious appropriation of Mädler and the Herschels.

Regarding Europe, the theologian David Fergusson has written that the "long nineteenth century can be considered one of the most diverse and fruitful periods for theological work".[2] Indeed, the diversity of religious thought produced during the long 19th century is difficult to overstate. Discourse informed by science as to the location of heaven formed part of said diversity.

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medieval understanding of self".

[1] See, e.g., David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2003), 4, 12, 113, 116-123, 181.

[2] David Fergusson, "History, Tradition, and Skepticism: The Patterns of Nineteenth-Century Theology", in *The Cambridge History of Modern European Thought*, eds. Warren Breckman and Peter E. Gordon (Cambridge: Cambridge UP, 2019), 1:65.

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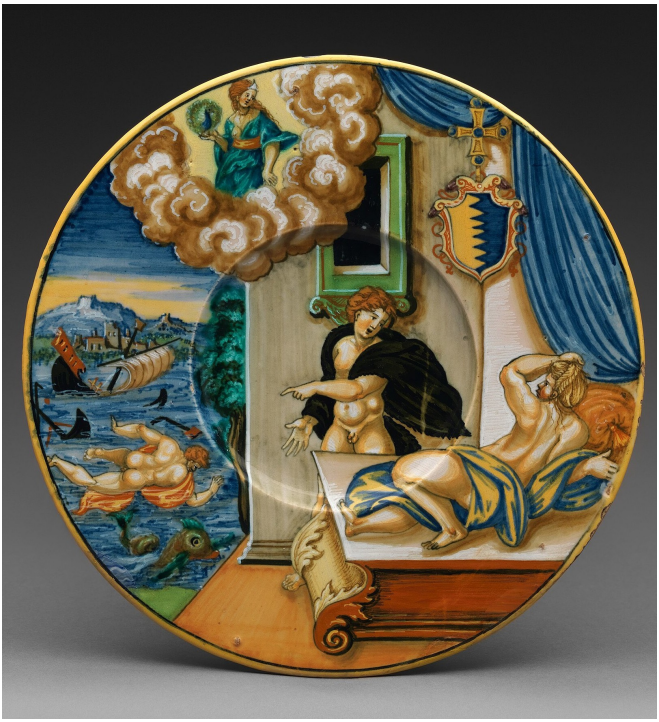

Fra Xanto Avelli da Rovigo, The Vision of Alcyone, 1535, The MET (`https://www.metmuseum.org/art/collection/search/201447`).