

Strange Forms: Higher Space and *Flatland's* Theology of Character

JAYNE HILDEBRAND 

Barnard College, New York, United States

IN a chapter entitled “What Is a Spirit?” in his 1886 theological work *The Kernel and the Husk*, the theologian and writer Edwin A. Abbott turns speculatively to the emerging mathematical concept of the fourth dimension in order to reflect on how spirits might occupy space. “A being of Four Dimensions,” he observes, “could come into our closed rooms without opening door or window, nay, could even penetrate into, and inhabit, our bodies; . . . he would also have the power of making himself visible and invisible at pleasure; and could address words to us from an invisible position outside us, or inside our own person. Why then might not spirits be beings of the Fourth Dimension?”¹ Emphasizing the spatial strangeness of spiritual forms—their ability to appear and disappear unpredictably, their lack of solidity, their capacity to breach material boundaries between interiors and exteriors—Abbott muses that recent theories of higher dimensional space might provide a rational explanation for such beings. In entertaining this idea, he joined a growing group of religious thinkers at the British fin de siècle who found in higher-dimensional space a possible means of reconciling a scientific framework with biblical accounts of spiritual entities that inhabited space in ways that seemed to defy physical laws—a means, as historian of religion Christopher G. White explains, of providing “a more scientific way of suggesting a space *beyond* physical reality,” thus supplying a literal space for God and spirits within the secularizing framework of scientific naturalism.² For these religious thinkers anxious to find accommodations between science and religion, new forms of higher-dimensional space held out the possibility of a rational explanation for

Jayne Hildebrand is assistant professor of English at Barnard College, where her research and teaching focus on Victorian literature and science, the environmental humanities, and literature and religion in the Victorian period. She is the author of *Novel Environments: Science, Description, and Victorian Fiction* (Oxford University Press, 2023) as well as essays published in *ELH*, *Nineteenth-Century Literature*, *SEL: Studies in English Literature, 1500–1900*, *Victorian Literature and Culture*, and elsewhere.

Victorian Literature and Culture, page 1 of 29.

© The Author(s), 2024. Published by Cambridge University Press.

doi:10.1017/S1060150323000852

the elusive spiritual forms that posed a primary challenge to their intellectual project.

Given his interest in the epistemological status of immaterial beings, it is perhaps not surprising that Abbott was a novelist as well as a theologian. Indeed, the question of how immaterial entities are made spatially knowable is not only a theological problem but a literary one as well. As Colin Jager has recently argued, spirits suggestively share with fictional characters their status as ethereal and invisible entities that are treated as important (if elusive) objects of knowledge by those who attend to them; novel writers and readers thus have in common with religious thinkers an investment in our epistemological relationship to disembodied persons.³ In realist fiction, this relationship crucially hinges on specific strategies of spatialization—especially the formal construction of characterological interiority—that help structure a reader's imaginary relation to the invisible characters he or she reads about. As Catherine Gallagher explains in her now-classic essay "The Rise of Fictionality," realist techniques such as omniscience and free indirect discourse help create a three-dimensional, spatialized sense of characters as "preexisting creature[s] with multiple levels of existence, a surface and recesses, an exterior and interior."⁴ A spatialized interiority thus becomes the key to the knowability of characters, who, unlike real persons, "seem already penetrated in the very act of their construal" (356). The fiction of George Eliot, with its persistent narratorial emphasis on the spatialized contrast between characters' exteriors and their complex inner lives, is perhaps most paradigmatic of this realist mode of characterization; as one critic puts it, Eliot's "insistence on interiority . . . is the basis of her characterization and her epistemology."⁵

While character interiority has often been understood as a mimetic representation of human psychology that enables identification and sympathy, some novel theorists have suggested that interiority is better understood as a technique for managing the epistemological relation between reader and character. Deidre Lynch, for instance, has influentially argued that deep character interiority is not mimetic but is rather one of the "changing . . . contracts texts establish with readers to secure their conditions of legibility"—one of realism's "particular formal techniques that produce the relations of mutual reflection between characters and readers."⁶ For Gallagher, too, interiority's primary effect is not mimetic but epistemological: granted access to a character's interior, a reader does not seek identification with the character's human emotions, so much as an elevating sense of his or her own "ontological contrast"

with the character, as if the reader occupies a higher spatial dimension (357). “The character’s very knowability,” Gallagher explains, “produces a subtle sense of relief when we reflect on our own comparative unfathomability” (357). Ultimately, “what we seek in and through characters . . . are not surrogate selves but the contradictory sensations of *not being a character*” (361, emphasis in original). Interiority, by this account, is not so much an anthropomorphizing aspect of character but rather a spatializing strategy that establishes a consoling asymmetry between reader and character. By spatializing characters into beings with accessible interiors, realist fiction gives knowable form to character’s immaterial strangeness, laying it open to a reader’s perusing eye in a way that confirms the reader’s epistemological superiority.

No text, perhaps, engages the spatialization of the reader-character relationship with a more self-aware literalness than Abbott’s geometric romance *Flatland*, a bizarre and visionary novel that blends religious and mathematical speculation about higher dimensions with a sustained exploration of the means whereby literary characters are spatialized into knowable beings. Set in a two-dimensional plane world peopled only by polygonal shapes, the novel depicts a benighted society in which characters are consumed by the struggle to accurately perceive one another’s spatial form, straining to assess one another’s geometric configuration as they obsessively try to fit one another into Flatland’s rigid shape-based social hierarchy. The narrative follows the travails of the protagonist, A Square (a literal square), as he becomes the first inhabitant of his plane world to be initiated into the revelatory knowledge of the third dimension by a Sphere who appears, spiritlike, in his home. Physically lifting him into three-dimensional space, the Sphere places A Square in a position of near-omniscience—a place of epistemological superiority from which, like a reader looking down on a flat page, he can fully grasp the forms of his fellow characters for the first time, and from which their obsessive maintenance of a form-based hierarchy appears manifestly absurd. In drawing suggestive parallels between higher-dimensional spaces and spiritual realms that lie beyond the plane of the perceptible world, *Flatland* engages late Victorian theology’s efforts to harness higher-dimensional thought for religious purposes. Yet instead of using higher-dimensional space only to rationalize or explain spiritual forms, as other Victorian theologians did, Abbott’s novel is equally interested in using it to dramatize the literary relationship between readers and characters—the way the immaterial beings that exist only as printed figures on a flat page become animated objects of knowledge for a perceiving reader.

This essay argues that, in *Flatland*, the question of fictional character overlaps in important ways with late Victorian theological questions about spiritual entities and higher-dimensional space. In arguing this, I concur with the critical consensus that *Flatland* is a novel about the value of questioning settled doctrines, beliefs, and representations. Elliot Gilbert, for instance, suggests that A Square's exploration of higher dimensions allegorizes "the quest for new creative directions in a culture . . . committed to history and tradition," while Andrea Henderson argues that the novel engages non-Euclidean geometries and higher-dimensional thought in order to question the existence of absolute truth and the transparency of representation.⁷ Yet perhaps because of this emphasis on *Flatland*'s commitment to questioning, scholars have often downplayed the role of theology in the novel's higher-dimensional explorations. Theological discourse, it seems, aligns too easily with the epistemological closure and dogmatic certainty that the novel's dimensional conceit vehemently satirizes. Thus Henderson suggests that *Flatland* ultimately sets aside the religious quest for truth in favor of a geometrically inspired understanding that "aesthetic pleasure . . . [can] compensate for the failure of signs to provide absolute truth."⁸ Mark McGurl acknowledges *Flatland*'s religious dimension but sees it as supplying a too-easy solution to the novel's more radical social questioning: the novel finally settles for "a Christian spiritual ideal," he suggests, leaving later modernist writers and artists to explore the transgressive implications of geometric abstraction.⁹ Readers who have seriously explored *Flatland*'s theological resonances often range religion on the side of closure and synthesis, using Abbott's theology as a salutary key that neatly unlocks the novel's allegory. Most influentially, Rosemary Jann reads the novel as a fictional expression of Abbott's Christian agenda for reconciling religious faith with scientific rationalism, arguing that the novel finally offers a coherent "allegory aimed at correcting the arrogance of the materialist intellect and dogmatic faith and at demonstrating the progressive force of the imagination."¹⁰ While these scholars differ in their decisions to sideline or foreground Abbott's theology, they agree in reading *Flatland*'s theological elements as offering religious solutions to the thorny questions the novel raises about the accessibility of truth and the reliability of received knowledge.¹¹

I approach *Flatland*'s theological dimensions anew, not to argue that theology neatly resolves the novel's interrogations of knowledge and representation, but rather to show how Abbott's engagement with theology drives this interrogation. Late Victorian theological engagements with

higher-dimensional space, I will show, afford Abbott a conceptual resource that he uses not only to manage the relation between science and religious faith, but also, in so doing, to defamiliarize the representational strategies of realist fiction—specifically the spatial representation of literary characters. Whereas realist fiction often imagines fictional persons as fully knowable beings possessing a spatialized interior that is accessible to an omniscient reader, Abbott turns to theological accounts of higher-dimensional bodies to imagine alternative spatial relationships between reader and character, relationships that do not hinge on a reader's omniscient access to a character's hidden inside. Abbott's theological reimagining of character spatialization ultimately undermines, rather than ratifies, a reader's sense of epistemological superiority over the literary characters he or she reads about.

To grasp how Abbott's novel reconceptualizes character, it is important first to understand how he conceived the theological relation between human and spiritual forms—a relation that, I argue, the novel sees as analogous to the reader-character relationship. The first section therefore traces how liberal Christian theologians in the late nineteenth century turned to theories of higher-dimensional space as a way of accounting for the movements of spiritual and supernatural entities, particularly the resurrected body of Jesus. While the fourth dimension proved useful to these thinkers for rationally reconciling scientific frameworks with religious accounts of spiritual phenomena, Abbott often resisted this harmonizing move in his own theological writings, opting instead to use higher-dimensional spaces to speculate about alternatives to conventional modes of spatial perception and embodiment. In the second half of the essay, I examine how *Flatland* draws on these theological debates about spiritual bodies and higher-dimensional space to rethink how fiction tends to spatialize literary character. A Square's journey to the higher-dimensional world of Spaceland, I argue, allegorizes the relationship between reader and character by dramatizing A Square's ascension from the status of a character trapped on the two-dimensional page, to the position of an omniscient reader who can look down upon the interiors of his fellow former characters. *Flatland* ultimately takes satirical aim at realism's spatialization of character. By spatializing characters as solid, three-dimensional beings with interiors into which an omniscient reader can *see*, the novel suggests, realism invites readers to adopt a position of epistemological superiority toward fictional beings—a position that Abbott sees as ethically dubious. Instead, *Flatland* envisions literary characters as resembling the mysterious spiritual beings who may hail

from another dimension—beings who defy conventional representations of how persons occupy space, and are perceptible mainly through the medium of imaginative dreams and visions. In its theological reconceptualization of characters as analogous to spiritual beings that resist integration into a rational system of knowledge, *Flatland* deploys religion not as a means of achieving closure or moral certainty but rather as a driver of the novel's epistemological questioning.

1. SPIRITUAL FORMS, HIGHER SPACES

For liberal theologians in the late nineteenth century, spiritual and immaterial forms of personhood such as angels, spirits, and resurrected persons were troubling epistemological objects. Faced with a growing pressure to render religious faith reconcilable with an increasingly dominant scientific naturalism, many theological writers sought to harmonize scientific theories of matter and causation not just with a general concept of divine intention or teleology, but also (a more difficult task) with the details of biblical text, particularly scriptural accounts of miracles.¹² Resurrections, angelic apparitions, and other supernatural occurrences described in the Bible thus needed to be either discounted as fabrications or else explained by means of some logic that would iron out the contradictions between scientific rationality and the miraculous.¹³ Often scripturally described as behaving in ways that defied physical laws governing the solidity of matter and spatial movement, beings such as spirits and resurrected persons posed a primary challenge to rational belief in an age of scientific naturalism, and as such they seemed, with increasing urgency, to require a scientific explanation.

The status of Jesus's resurrected body posed a high-stakes instance of this problem, since the resurrection lay at the very core of orthodox Christian doctrine. Religious writers accordingly scrutinized biblical descriptions of Jesus's body in an effort to harmonize it with scientific explanations.¹⁴ The account of the risen Jesus's appearance to Thomas in John 20:24–29 attracted particularly concentrated attention, because it emphasized the sensory materiality of Jesus's body while at the same time underlining its seemingly supernatural behavior.¹⁵ After the disciples report to Thomas that they have seen the resurrected Jesus, the skeptical Thomas insists that he will not believe in the resurrection “unless I see the mark of the nails in his hands, and put my finger in the mark of the nails and my hand in his side.”¹⁶ Soon afterward, Jesus appears to the disciples (including Thomas) in the room where they are hiding

“although the doors were shut,” inviting Thomas to verify his body’s physical reality by means of tactile recognition: “Put your finger here and see my hands. Reach out your hand and put it in my side.”¹⁷ Victorian religious thinkers struggled to rationalize the tension between the seeming physicality of Jesus’s body and its evidently spiritlike spatial behavior, appearing out of thin air in locked rooms. In his influential *Life of Jesus* (1835), David Friedrich Strauss flatly evaluated this passage as evidence that the gospel account was historically unreliable: “If the body of Jesus was capable of being felt, and presented perceptible flesh and bones, it thus exhibited the impenetrability of matter, proper to it as solid: if on the other hand he was able to pass into closed houses and rooms, unhindered by the interposition of walls and doors, he thus proved that the impenetrability of solid matter did not belong to him. . . . [T]he evangelical representation of the corporeality of Jesus after the resurrection is manifested to be contradictory.”¹⁸ Other writers developed elaborate systems of reasoning that reimagined the resurrected body as a complex perceptual object whose contradictory behavior attested, not to its unreality, but rather to science’s incomplete understanding of natural laws. Thus the Broad Church theologian Brooke Foss Westcott argued that Jesus’s body “was not bound by the material laws to which its action [prior to the resurrection] was generally conformed”: “It is vain for us to speculate on the nature of that transformed human Body. We can form no clear positive conception which is not shaped by the present laws of thought.”¹⁹ Where Strauss interpreted the unusual spatial movement and inconsistent solidity of Jesus’s body as evidence of the speciousness of the biblical text, Westcott sees it instead as evidence of the epistemological limitations of current scientific understandings of physical reality.

In the last decades of the nineteenth century and the first years of the twentieth, some liberal theologians sought to make sense of their epistemological relationship to spirits by turning to emerging mathematical theories of the fourth dimension. The concept of higher dimensions had been initially deployed in the mid-nineteenth century by mathematicians including Gustav Fechner, George Salmon, and Arthur Cayley as a way of resolving problems within symbolic algebra that seemed to require hypothetical higher dimensions.²⁰ One of the most troubling implications of this new idea of higher-dimensional space was that it seemed to challenge the seemingly universal—and, for some thinkers, even divine—truth of geometry as a descriptive science. As historian of mathematics Joan Richards explains, many Victorian mathematicians and

religious thinkers prized the idea “that knowledge of the divine partook of the same transcendental necessity as knowledge of mathematics.”²¹ By exposing the contingency of three-dimensional space, the possibility of non-Euclidean and higher-dimensional geometries thus spelled “the destruction of human hopes for the kind of universal knowledge in *any* area which had been initially claimed in geometry.”²² At midcentury, mathematicians were usually careful to contain this epistemological threat by clarifying that their references to higher dimensions were purely hypothetical, a speculative thought-experiment intended only to solve algebraic problems that otherwise brooked no solution. In the later decades of the nineteenth century, however, some British mathematicians began to propose more boldly that higher dimensions might exist as real, transcendental spaces.²³ In his 1884 essay “What Is the Fourth Dimension?”, mathematician Charles Howard Hinton articulated an influential explanation of the fourth dimension by using an analogy to extrapolate it from the relationship between two and three dimensions:

If there is a straight line before us two inches long, its length is expressed by the number 2. Suppose a square to be described on the line . . . this figure is expressed by the number 4, *i.e.* 2×2 . . . generally written 2^2 . . . If on the same line a cube be constructed, the number of cubic inches in the figure so made is 8, *i.e.*, $2 \times 2 \times 2$ or 2^3 . . . The question naturally occurs, looking at these numbers 2, 2^2 , 2^3 , by what figure shall we represent 2^4 . . .²⁴

If we can transform a two-dimensional figure into a three-dimensional figure by extending it in a new direction, Hinton reasoned, we can use analogy to imagine the spatial relation that a fourth dimension would bear to the third.²⁵ Hinton’s essay goes on to imply that the fourth dimension might provide an explanation for how seemingly supernatural entities such as ghosts move through space in ways that defy the laws of three-dimensional space.

While for some mathematicians and religious writers, this “giddy multiplication of possible realities and spaces” threatened to “interfer[e] with the apodictic certainties of mathematics and theology,” others found in higher dimensions a consoling scientific bulwark for religious belief.²⁶ For these thinkers, the fourth dimension offered just the theological solution they were seeking, opening up not only conceptual but also physical room for the idea of invisible spaces and beings that lay beyond the empirical realm of sensory experience but which were still amenable to rational explanation. In providing a conceptual framework for imagining new spatial directions beyond the rational world, higher

dimensions furnished, as Mark Blacklock puts it, “a legitimate space in which to locate the spiritual forms . . . that were increasingly purified from the scientific worldview of the late nineteenth century.”²⁷ Angels, spirits, and other beings that seemed to fall outside the boundaries of scientific inquiry could be accommodated within a rational framework by means of a higher-dimensional space that offered to house them.²⁸ In this sense, these religious efforts to deploy higher-dimensional thought as a theological aid were motivated by what Rosemary Jann identifies as “the persistence of that Victorian quest for a comprehensive order under law, and for proof of the ultimate harmony of the physical and the spiritual.”²⁹ Both the mystery of the spirit realm and the alienating materialism of modern science could be neutralized via the reassuring realignment of the two realms in a system of total explanation.

While the fourth dimension functioned broadly as a means of reconciling supernatural phenomena with a scientific framework, it also worked more specifically as a spatializing strategy that helped theologians to envision their relationship with spiritual entities as one between beings occupying the same empirical universe, the same spatial world. But what exactly was the nature of this spatialized relationship between humans and spirits? On one hand, envisioning spirits as four-dimensional beings seemed to place them in an epistemologically superior position with respect to humans. To imagine a spirit inhabiting a higher dimension might help humans imagine how they were seen by spiritual beings but couldn't help humans see those beings themselves, since the fourth dimension remained inaccessible to the human senses. On the other hand, Victorian theologians often seemed on the verge of actually imagining themselves into the perspectival position of a four-dimensional being, a position from which it might be possible to epistemologically grasp a spirit as an equal. In his 1893 theological treatise *The World of the Unseen*, religious writer Arthur Willink suggested that Christian believers might expect to be granted insight into higher dimensions that would fully enable them to cognitively grasp the evanescent forms of spirits and resurrected bodies: “[I]f we bring the theory of Higher Space to bear . . . we can understand that it was not the Body of the Lord that underwent a change [after the resurrection], but that the change was effected by an additional power given to those who saw It; their eyes were opened, and the power of seeing into the Higher Space . . . was given to them for a special purpose.”³⁰ In other words, Jesus's body was not miraculously translated into a higher supernatural state at his resurrection; rather, it had been four-dimensional all along, and it was only after the

resurrection that the disciples were granted a kind of perceptual equality with the risen Jesus, an ability to see his spiritual form in its entirety. For religious thinkers such as Willink, the fourth dimension thus provided a crucial means of ironing out the wrinkles not only in the relationship between scientific and religious thought but also in the perceptual relationship between human and spirit.³¹ The fourth dimension thus acted as a kind of epistemological trump card, something that guaranteed, as Deanna Kreisel puts it, “knowledge of the spirit world and a deep understanding of the universe as replete.”³² It turned immaterial spiritual forms into knowable objects, and it did so by affording theologians the fantasy of a higher spatial perspective from which they could fully grasp such forms, rationalizing away their strangeness.

As a theologian, Abbott had much in common with thinkers such as Willink. His major theological works, most notably *Through Nature to Christ* (1877) and *The Kernel and the Husk* (1886), developed a version of rational Christianity that aimed to preserve the viability of religious faith in the face of newly dominant scientific understandings of the cosmos.³³ Yet Abbott also crucially distanced himself from fellow liberal theologians’ efforts to bring spiritual forms within the domain of material explanation, often satirizing the absurdity of the logical contortions such explanations required. Commenting on one fellow theologian’s agonized parsing of the question of whether Jesus’s body transformed into a spirit in order to ascend to heaven, Abbott writes: “if the material body of Jesus (only in some way dematerialized) literally ascended to heaven, then, since we must suppose that the figure of the ascending Jesus was clothed, the question arises, are we to suppose that the clothing dematerialized, or that actual material clothing accompanied Jesus from earth to heaven? . . . [S]urely it is . . . absurd to suppose that an ordinary cloak should be dematerialized by a special divinely wrought miracle in order that Jesus might appear to his disciples as clothed!”³⁴

While other liberal theologians thus engaged theories of higher-dimensional space to resolve immaterial and supernatural forms of personhood into physically knowable objects, Abbott more often emphasized that higher-dimensional space should make us rethink how we spatially imagine persons to begin with.³⁵ Musing about what it would be like to interact with the resurrected spirit of a dead friend, Abbott urges his reader to think beyond the limitations of ordinary space and sensory perception. To meet a loved one in the afterlife might not require an ordinary solid body that occupies three-dimensional space but might be something altogether stranger: “Provided that I know and

love and interchange thought and affection with my friend, is it absolutely necessary that I should ‘see’ him, or that I should be within a limited number of inches or feet from him, in other words ‘meet’ him? Are ‘seeing’ and ‘meeting’ any more necessary than ‘touching,’ in order that one friend may love, and hold converse with, another in celestial regions? Surely not. . . . [T]here need be in that. . . life beyond the grave no restriction of time or space or sense.”³⁶ Abbott’s description of the after-life evokes higher-dimensional speculation in imagining an alternate space that defies ordinarily embodied modes of sense-perception (“seeing” and “touching”) and resists reduction to conventional methods of measuring distance between bodies (“a limited number of inches or feet”). If other theologians had used alternative geometries to domesticate spirits within the familiarly rational universe, Abbott does the opposite, reconceiving higher dimensions as an otherworldly habitat for previously unimaginable forms of personhood.

Abbott’s theology also appealed to higher-dimensional space to rethink the spatialized notion of interiority—the idea that what is essential about an individual, whether understood as their mind, their spirit, or their soul, dwells within or below the visible surface of the body. In *The Kernel and the Husk*, Abbott questions conventional spatializations that imagine the bodily interior as the location of the essential self:

The popular belief is that a man’s spirit is inside him, like his qualities; the latter like peas in a box, the former like gas in a bladder. Drive a hole through a man’s left side or the middle of his head, and—out goes the spirit. . . . Now I have a strong desire to declare that this creed is ridiculously false. . . . My spirit may possibly be inside me; but it may possibly be outside me; say at a point six feet, or six miles, above me; or away in Jupiter, or Saturn, or down at the earth’s centre; or it may be incapable of occupying space. (255)

Abbott theologically interrogates the orthodox geometry of the self, according to which the essence of selfhood lives within the three-dimensional space of the body. Whereas theologians like Willink turned to higher dimensions to establish omniscient certainty about supernatural forms of personhood such as souls and spirits, Abbott’s appeal to alternative spatial models instead works to loosen the reader’s grasp on such omniscience. The value of imagining the soul “in Jupiter,” “down at the earth’s centre,” or even as “incapable of occupying space” is not to neatly reconcile science and religion, but rather to estrange the reader from conventional understandings of the relationship between body and

soul, interior and exterior. In declining to express a preference for one spatial possibility over another, Abbott allows spirits to remain epistemologically elusive objects.

Abbott's theological questioning of spiritual interiority carries over into a literary questioning of characterological interiority. If the nineteenth-century theologians with whom Abbott argued used specific techniques of spatialization to render spirits knowable, so too did Victorian novelists use dimensional spatialization as a way of making characters into penetrable and tangible objects of knowledge. In the next section of this essay, then, I turn to *Flatland* to suggest how Abbott extends this theological inquiry to the spatial aesthetics of literary character. Pursuing an analogy between spirits and characters as immaterial forms of personhood that present parallel epistemological challenges, Abbott's novel uses higher-dimensional space to reflect on—and ultimately to reject—realism's methods of spatializing characters into knowable, three-dimensional objects of knowledge.

2. SPATIALIZING CHARACTER IN *FLATLAND*

Like the spiritual forms that haunted liberal Victorian theology, the polygonal characters of *Flatland* occupy space in unorthodox ways that elude conventional modes of perception. Confined to the infinitesimally thin plane of the second dimension, they teeter on the very edge of material existence, vanishing into nothing when viewed from the side. Since they cannot see above their plane of existence, the Flatlanders' colorless perceptual world consists only of a straight line, and this highly limited visual field is itself pervaded by a ghostlike fog that further limits perception. Within this straitened and blinkered world, *Flatland's* plot comes into focus as a story about grappling with characters themselves as elusive objects of knowledge—as immaterial or quasimaterial forms that, like spirits or ghosts, evade perception and rationalization.

The novel's social universe is shaped by a problem analogous to the one that troubled late Victorian theological debates about spirits: it is a world in which persons take anomalous and elusive spatial forms, but also one structured by a pressing imperative to organize these elusive forms into a totalizing system of knowledge. *Flatland's* social structure is a rigid class hierarchy based exclusively on spatial form; the more sides a polygon possesses, the higher it ranks on the social ladder, with circles occupying the highest rung. The seeming transparency of this system is undercut, however, by the extreme difficulty that attends

Flatlander efforts to perceive one another's spatial forms. Since no character can view a fellow polygon from above in his or her physical entirety, the Flatlander body is an object extraordinarily difficult to recognize. A Square describes how the Flatlanders must use either "Recognition by Feeling" or "Recognition by Sight" to ascertain one another's identities.³⁷ To recognize by touch, a Flatlander must identify the other person through an arduous practice that involves mathematically extrapolating the other polygon's shape based on having "felt" the width of a single angle of their body. Recognition by sight is still more difficult, requiring the perceiver to assess the width of another shape's angle based only on the rate at which the two sides adjoining the angle shade away into the pervasive fog that suffuses the atmosphere of Flatland. The very premise of this identificatory process, as Henderson points out, is flawed: the ability to extrapolate a complete polygon based on the width of one angle hinges on the assumption that all polygons are "idealized, regular—and therefore perfectly legible—geometric shapes"—an assumption that, as A Square sheepishly admits, is not in fact true of most Flatlanders.³⁸ The novel's worldmaking thus establishes as one of its primary problems the difficulty of grappling epistemologically with forms of personhood that evade empirical modes of knowledge.

In setting up its plot, the novel directly references the gospel passages at the center of theological debates about higher dimensionality and spiritual forms. On the eve of the new millennium in Flatland, A Square is relaxing with his wife in their pentagonal house. When their evening is disturbed by the sudden appearance of a three-dimensional Sphere within the enclosed space of their home, A Square describes the apparition in supernatural terms that echo Victorian theological discussions of Jesus's scientifically perplexing postresurrection appearances. A Square reports that he suddenly "became conscious of a Presence in the room, and a chilling breath thrilled through my very being" (81). Its body, he notes, behaves in anomalous ways that defy the usual Flatlander modes of perception and recognition: "I should have thought it a Circle, only that it seemed to change its size in a manner impossible for a Circle or for any Regular Figure of which I had had experience" (82). In a seeming parody of Thomas's demand to touch Christ's body, A Square's wife asks to touch the Sphere, insisting that "Feeling is believing" (82). The novel later makes still more explicit this scene's parallels to the gospel account of Christ's postresurrection appearances. Abbott has A Square suggest to the Sphere the possibility of dimensions even higher than the third, pointing out that even in the three-dimensional world,

“your countrymen . . . have witnessed the descent of Beings of a higher order than their own, entering closed rooms, even as your Lordship entered mine, without the opening of doors or windows, and appearing and vanishing at will” (105). In alluding to the details of this particular gospel story, Abbott signals the novel’s engagement with contemporary theological debates about the role of higher dimensions in rationalizing the form of immaterial beings.

From the start, A Square’s transdimensional journey out of his planar world and into the third dimension (or “Spaceland”) is framed as a potential solution to the epistemological problems that face A Square and his countrymen in their efforts to grasp the spatial forms of their fellow beings. As such, it is also analogous to late Victorian theologians’ efforts to turn to higher dimensions as a way of epistemologically grasping the spatial forms of spirits and other immaterial entities. After several unsuccessful attempts to verbally convince A Square of the existence of Spaceland, the Sphere seizes the unbelieving square from his two-dimensional plane and bodily lifts him into three-dimensional space. Gazing down upon the flat plane of his former world, A Square can, for the first time in his life, perceive the complete forms of his fellow Flatlanders moving around on the pagelike surface:

I looked below, and saw with my physical eye all that domestic individuality which I had hitherto merely inferred with the understanding. And how poor and shadowy was the inferred conjecture in comparison with the reality which I now beheld! My four Sons calmly asleep in the North-Western rooms, my two orphan Grandsons to the South; the Servants, the Butler, my Daughter, all in their several apartments. Only my affectionate Wife, alarmed by my continued absence, had quitted her room and was roving up and down in the Hall, anxiously awaiting my return. (96)

As White observes, a primary appeal of higher-dimensional thought to religious thinkers was the fact that it made it “possible to . . . see all sides of a thing at once, so that ‘every particle in the interior of a solid body is as fully and clearly visible as those on the outside,’” thus offering “a way of empirically verifying hitherto invisible realities.”³⁹ Just as theologians imagined the fourth dimension as a space from which spiritual bodies could be rationally grasped, so too does A Square’s access to a higher-dimensional viewpoint in this passage afford him a position from which he can visually comprehend the previously unknowable forms of his fellow Flatlanders, fully seeing for the first time the spatial configuration of entities whose shape he had only been able to vaguely

infer. This newfound access to knowledge of quasi-immaterial beings is underscored by the illustration that depicts A Square's view as he gazes down on his pentagonal home (fig. 1). Although this is not the first illustration in the novel, it is the first image that depicts the bodies of Flatlanders *from A Square's point of view*—it offers a complete vantage that, up until this point, only the omniscient three-dimensional reader would be able to see.

Yet notwithstanding its overtly religious framing, A Square's ascension into Spaceland dramatizes more than A Square's overcoming of the epistemological disparity between mortals and spirits. In journeying to a plane of perception from which he can look down on his former fellow characters, he also traverses the "ontological contrast" between character and reader that Gallagher suggests is essential to the epistemological and formal structure of realist fiction (357). Previously confined to the position of a character trapped within the plane of the novel's page, A Square has now graduated to the position of an all-seeing reader. Crucially, the affirmation of his comprehensive and stabilizing knowledge of reality is his newfound ability to view the interiors of other beings—a sense that the characters he views are "already penetrated in the very act of their construal" (Gallagher 356). Elevated to a high vantage point above the planar page of his former fictional world, A Square exults in his new knowledge of Flatlanders' interiors: "The further we receded from the object we beheld," he explains, "the larger became the field of vision. My native city, with the interior of every house and every creature therein, lay open to my view in miniature" (96). As Deanna Kreisel has argued, a primary concern of Victorian texts about the fourth dimension is an interest in the exposure of interiors enabled by higher-space perspectives. But while Kreisel suggests that this interest manifested primarily as "anxiety about the effects that higher-dimensional space would have on the integrity and privacy of three-dimensional human bodies," the emotion A Square expresses here is not so much anxiety as a sense of epistemological superiority—the same superiority that obtains between readers and the fictional characters whose interior spaces the reader penetrates.⁴⁰ Instead of expressing consternation over being able to view the insides of Flatlander homes and bodies, A Square's response is closer to divine hubris: "Awestruck at the sight of the mysteries of the earth, thus unveiled before my unworthy eye, I said to my Companion, 'Behold, I am become as a God. For the wise men in our country say that to see all things, or as they express it, *omniscience*, is the attribute of God alone" (96–97, emphasis in original).

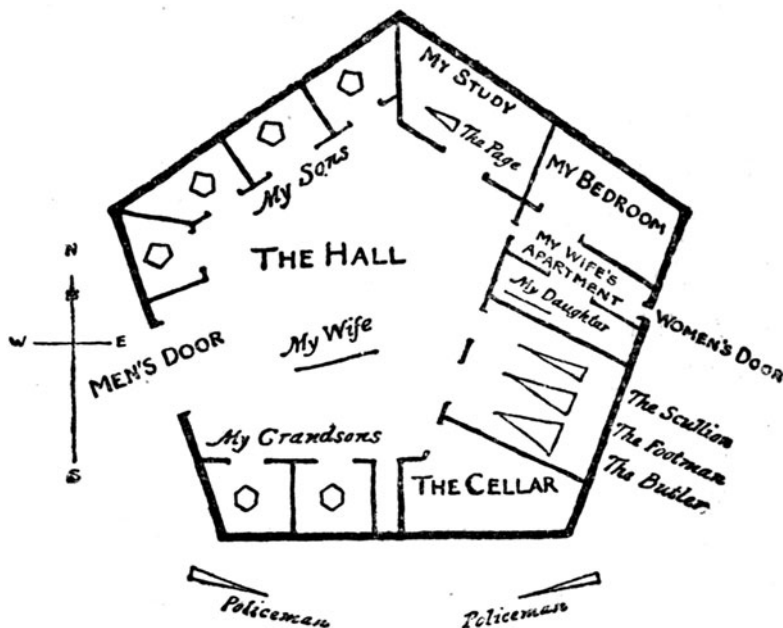


Figure 1. A Square's home, as seen by A Square from Spaceland. Illustration from Abbott's *Flatland* (97).

Articulating in theological terms his new ability to comprehend the spatial forms of his fellow characters, A Square imagines his new, readerly position as one of divine knowledge; he enjoys for the first time “the contradictory sensations of *not being a character*” (Gallagher, 361; emphasis in original). In so doing, he equates readerly and theological omniscience as related qualities, both enabled by the ability to cognitively grasp epistemologically elusive forms.

Yet if the novel appears to directly dramatize realism's omniscient reader-character relationship, it also ultimately discards it, shifting into a theological register to satirize the arrogance of a reader who would assume a stable epistemological superiority with respect to the characters about whom she reads. While A Square's higher-dimensional journey seems to put him in the godlike position of both an omniscient novel-reader and a theologian, reveling in his full knowledge of the spatial forms of immaterial and invisible beings, the novel ultimately punctures this epistemological fantasy. Echoing A Square's theological language, the Sphere scornfully repudiates his exultant suggestion that being able to see into another character grants divine wisdom: “Is it so indeed? Then the very pickpockets and cut-throats of my country are to be worshipped by your wise men as being Gods: for there is not one of them

that does not see as much as you see now” (97). The mere condition of inhabiting the more complete perceptual world of a higher dimension, the Sphere suggests, by no means translates into a higher degree of moral knowledge. In suggesting this, the Sphere interrogates not only the connection between knowledge and moral wisdom but also the ethical value often attached to the literary idea of omniscience—the notion that accessing a character’s interiority correlates in some way to moral amelioration, usually through sympathy. “This omnividence, as you call it,” the Sphere asks rhetorically, “does it make you more just, more merciful, less selfish, more loving? Not in the least. Then how does it make you more divine?” (97). While Victorian articulations of a realist aesthetic often imagined omniscient access to other minds as a starting point for the cultivation of moral sympathy, the Sphere’s admonition uses theological language to cast into question realism’s conventional linkages between characterological interiority, omniscience, and moral virtue.

A Square, however, does not learn his lesson. Dissatisfied with the third dimension, he fantasizes about attaining a still higher dimensional position that will render accessible the interiors of even more complex characterological forms. At the climax of his tour of Spaceland, A Square entreats his spherical guide to grant him a vision of still higher dimensions than the third. Framing his request for knowledge as a desire to view the interior of the Sphere’s own body, he asks for access to “some yet more spacious Space, some more dimensionable Dimensionality, from the vantage-ground of which we shall look down together upon the revealed insides of Solid things, and where thine own intestines, and those of thy kindred Spheres, will lie exposed to the view of the poor wandering exile from Flatland” (103). A Square here dramatizes both the literary fantasy of omniscient access to another person’s interior as well as the theological fantasy of a higher-dimensional vantage point from which perplexingly immaterial forms will appear in rational terms. In the wording of the Square’s ecstatic request, though, Abbott eviscerates both. Seeing inside the Sphere would not reveal the ideal intricacies of his psychological depth but rather merely his “intestines.” To see within another person is by no means to escape the world of gross and deceptive materiality but only to fall more deeply into it.⁴¹

3. DREAMING CHARACTER: ABBOTT’S THEOLOGY OF IMAGINATION

I have been arguing that Abbott’s *Flatland* treats theology not as a source of moral or epistemological closure but rather as a resource for

defamiliarizing and rethinking conventions of literary form—specifically the spatialized forms of realist character that invite readers to imagine themselves as occupying a position of epistemological superiority with respect to characters. In this final section, I return to Abbott’s theological writings to suggest that *Flatland* reimagines literary characters, not as spatialized entities of which it is possible for a reader to gain omniscient knowledge, but rather as beings similar to spirits and resurrected persons as Abbott conceived them: entities perceivable not through the senses but through the medium of the imagination. As Deidre Lynch has recently argued, the ghost or spirit often functions in British fiction as a means of reflecting on “the affective compact through which . . . characters come to be.”⁴² Lynch explains, “A ghost solicits onlookers’ belief. Embedded in this figure for character is the proposition that belief is incumbent on readers of fiction as well, that we bring character into whatever provisional being it has.”⁴³ By highlighting the similarity between fictional characters and risen spirits, *Flatland* likewise foregrounds the imaginative work that the reader must perform to bring a literary character into being—work that requires a strenuous effort to temporarily assume a character’s point of view. Far from granting the reader a sensation of omniscience, then, this imaginative model of character turns the reader-character relationship into an occasion for the reader to explore the limits of her knowledge of immaterial literary beings.

The imagination played a crucial role in Abbott’s theological understanding of how spiritual forms could be apprehended. Repudiating the efforts of other theologians to formulate quasiscientific explanations for such beings, Abbott posited that spirits dwelt exclusively in a spiritual reality that communicated itself to the human mind by means of the imaginative faculties. Dreams and visions held a privileged position for Abbott as a key imaginative means whereby God revealed knowledge of these spiritual realities; he urged his reader “to recognize in dreams one among many potent levers employed by God to raise mankind nearer to Himself.”⁴⁴ Explaining Jesus’s resurrection in these terms, Abbott proposed that the risen Jesus existed purely as a spiritual vision, transmitted by God into the minds of the disciples “by the medium of imaginative faith” (*KH*, 232). The idea that Jesus’s resurrection had occurred in the form of a vision rather than as a physical miracle did not, for Abbott, make the risen Jesus any less real; instead, it attested to a divine act whereby God had caused the image of the living Jesus “to press in . . . upon the Imagination, so that the mind’s eye, thus

stimulated by real invisibilities, may. . . supplant the bodily faculty of sight” (238). By centering the imagination as a primary organ of spiritual knowledge, Abbott rejected other liberal theologians’ efforts to integrate spiritual forms into an empirical framework, instead cordoning such forms off from scientific inquiry as entities that could not be empirically measured, sensed, or known.

One of the greatest challenges of imagining spiritual forms in Abbott’s theology was coming to grips with the fact that they did not occupy material space in any verifiable way—a feature spirits crucially shared with geometric forms. To study geometry, Abbott wrote, required one to “strain” one’s imagination to envision a whole array of ideal and impossible forms: “lines without thickness, straightness that does not deviate the billionth part of an inch from perfect evenness, perfectly symmetrical circles, and—climax of audacity!—points that have ‘no parts and no magnitude!’” (*KH*, 30). Of such forms, Abbott readily admitted, “obviously these things have no existence except in the dreams of Imagination; yet Euclid’s severe reasoning applies to none but these things. . . . In a word the whole of Geometry is an appeal to the imagination” (30). Writing about spirits, Abbott similarly cautioned his reader against attempting to make spiritual forms imaginatively legible through conventional understandings of how bodies occupy space: “I hope you will not misunderstand me so far as to suppose that I could mean a material, gas-like (though intangible) form, occupying so many cubical inches of space” (236). Rather, a spirit “does not occupy space; nor is it the object of sight, any more than of smell or touch; it is. . . of the nature of a thought, only a thought personified” (236). Spirits cannot be subjected to material verification but rather, like the ideal forms of geometry, require the mind to grapple with the radical strangeness of such forms as epistemological objects.

In describing supernatural beings as “thought[s] personified,” Abbott suggests a provocative parallel between literary characters and the spiritual objects of religious belief. Just as both spirits and geometric forms require an act of the imagination to be perceived at all, so too are characters immaterial beings animated only through the imaginative work of a reader.⁴⁵ As Mark McGurl points out, *Flatland* stresses this imaginative dimension of character from its very first page: it “foregrounds the curious fact about fictional characters that their physical existence is realized in real space only as ink on a page, as collections of letters. Otherwise they are invisible as spirits. From this substrate the character is ‘raised’ into a virtual three-dimensional existence that seems to leave

behind its crudely material origins.”⁴⁶ A Square opens his narrative by instructing the reader to “Imagine a vast sheet of paper on which straight Lines, Triangles, Squares, Pentagons, Hexagons, and other figures, instead of remaining fixed in their places, move freely about, on or in the surface, but without the power of rising above or sinking below it” (15). By placing the reader in a godlike position looking down on a two-dimensional sheet of paper populated by moving “figures,” Abbott describes the spatial location of any reader gazing down upon the page of any novel. Yet where the reader of a realist novel reflexively encounters the figures on the page as representations of three-dimensional bodies possessing mass and volume, *Flatland’s* figuration of characters as only two-dimensional polygonal shapes without any pretense of human form requires the reader to reflect on the process whereby such alien beings are animated into anthropomorphic figures. In their figural flatness, *Flatland’s* characters offer a metafictional invitation to reflect on the complex imaginative process whereby writing on a page gives rise to what are experienced as fictional persons.

Reading *Flatland’s* characterization techniques in the context of Abbott’s imaginative theology thus exposes the distinction between a realist representation of character as a spatialized, “preexisting creature with multiple levels of existence” that a reader can omnisciently know and a theological notion of character as an imagined being that confronts the reader with the limitations of her knowledge of the characters about whom she reads (Gallagher 356). *Flatland’s* subtle narratorial humor is often directed at the gap between these two conceptions. Toward the end of the novel’s first section, for example, the narrator interrupts his description of Flatlander existence to tease the reader with the prospect of withheld descriptive information that would flesh out the novel’s flat, starkly figural characters into three-dimensional realist fullness:

For this reason I must omit many matters of which the explanation would not, I flatter myself, be without interest for my Readers: as, for example, our method of propelling and stopping ourselves, although destitute of feet; the means by which we give fixity to structures of wood, stone, or brick, although of course we have no hands . . . the nature of our hills and mines, our trees and vegetables, our seasons and harvests; our Alphabet, suited to our linear tablets; our eyes, adapted to our linear sides; these and a hundred other details of our physical existence I must pass over; nor do I mention them now except to indicate to my readers that their omission proceeds, not from forgetfulness on the part of the Author, but from his regard for the time of the Reader. (58)

If the novel's most obvious satirical target is the Flatlanders' blinkered assumption that their limited knowledge of the world and one another is absolute, this passage shifts the satirical gaze to the purportedly omniscient reader, who looks down upon the white page of *Flatland* from a higher-dimensional perspective that appears to lay the spatial forms of the Flatlanders open to full view. Indeed, *Flatland*'s copious use of diagrams to represent the characters and spaces of its imaginary world gives an impression of legibility and transparency, as though the reader has total epistemological access to it purely by virtue of his or her ability to view an illustrated page. Yet by listing all the physical details of Flatlander life that must necessarily remain unimaginable to a reader accustomed to the three-dimensional conventions of realism, the narrator reminds the reader that this sensation of omniscience—the feeling that these characters are preexisting entities that, given enough information, a reader can fully know—is merely a formal effect of the novel's dimensional conceit. The characters of Flatland are phantasms that must be brought into being, detail by textual detail, through narratorial creativity and readerly imaginative effort. Along with the illustrative diagrams themselves, the characters are merely figural placeholders for the imaginative work required to transform the flat and ghostly text on the page into something approximating the fleshed-out, spatialized complexity of a realist character.

In foregrounding this imaginative work, *Flatland* posits an epistemological relationship between reader and character very different from the one Gallagher describes, one that hinges on the limitations of point of view rather than omniscient access to interiority.⁴⁷ Instead of inviting the reader to ascend to a higher-dimensional viewpoint that grants him or her a godlike view of characterological forms and their interiors, *Flatland* suggests that the apprehension of character requires the strenuous and difficult work of imagining *downward*—envisioning what the world would look like from a more particular and limited point of view.⁴⁸ While it might be argued, as Henderson suggests, that Abbott's literal positioning of the reader "above" the page means that the novel "represent[s] Flatland vision only as seen from without," the novel does, in key moments, devote considerable effort to making its reader visualize the world from within the near-impossible constraint of a Flatlander perspective.⁴⁹ Immediately after describing his world as it appears from above, A Square enjoins the reader to imaginatively lower her point of view so as to envision Flatland as it would appear from the severely limited perspective of a two-dimensional being. Instructing

the reader to “place a penny on the middle of one of your tables in Space,” A Square notes that it will appear circular from above; however, he then tells the reader to slowly bring his or her eye to the level of the table until the penny appears only as a straight line, “thus bringing yourself more and more into the condition of the inhabitants of Flatland” (15). Abandoning the god’s-eye-view of Flatland that the third dimension affords, the reader is encouraged to align her optic with the two-dimensional, first-person perspective of a polygon imprisoned within the page. Knowledge of a character, in Abbott’s novel, is not gained through omniscient comprehension of the character’s spatial form, but rather through relinquishing omniscience to the point of fully inhabiting the limitations of their perspective.

This act of imagining downward also carries a theological significance: A Square is only able to engage in it through dreams and visions, the favored medium of spiritual knowledge in Abbott’s theology.⁵⁰ Although critics often focus on A Square’s direct physical encounter with the third dimension as his most transformative experience, it is arguably through his dreams—both of which involve traveling to *lower* dimensions rather than higher ones—that he gains his most important insights. Twice over the course of the novel, A Square dreams of traveling to a world with fewer dimensions than Flatland: first to Lineland, the land of one dimension, and then to Pointland, the land of none. It is this latter dream that dramatizes with especial force the strenuous imaginative effort required to inhabit another being’s radically different—and more limited—perspective. Following his return to Flatland from Spaceland, the Sphere appears to A Square in a dream, informing him that one more transdimensional journey is still necessary “to complete the range of [his] experience”: “in Flatland thou hast lived; of Lineland thou hast received a vision; thou hast soared with me to the heights of Spaceland; now . . . I conduct thee downward to the lowest depth of existence, even to the realm of Pointland, the Abyss of No Dimensions” (109). Once there, A Square encounters a being whose entire world is a single point, and who is thus tragically incapable of perceiving any entity beyond his own vanishingly diminutive yet seemingly all-encompassing consciousness. After A Square tries and fails to disabuse the Point of his conviction that there exists no world beyond his own mind, the Sphere dismisses him as a lost cause, saying, “Let us leave this God of Pointland to the ignorant fruition of his own omnipresence and omniscience” (110). In employing the same theological language of omniscience that A Square had used to characterize his

own experience of the third dimension, the Sphere (and, by extension, the novel) makes a crucial point about higher-dimensional experience in *Flatland*: to ascend to the third dimension does not necessarily leave one any better off, knowledge-wise, than a being confined to zero dimensions. As Henderson explains, “an encompassing perspective and distance are valuable not because they give us access to higher truths but simply because they remind us that there *are* other perspectives.”⁵¹ While the narrative purpose of A Square’s dream of Pointland is thus most obviously to underline the Point’s tragic solipsism, it also gives A Square an important education in imagining what it would be like to dwell in a space as alien as Pointland—and not just as it appears from his own comparatively omniscient point of view in the second dimension but also from the Point’s severely limited one. Theological dreaming here does not grant access to a higher perspective that affords a stable and omniscient understanding of all forms, whether spiritual or characterological. Rather, dreams in *Flatland* defamiliarize conventional ways of understanding how bodies inhabit space, insisting instead on the value of estranging oneself from one’s own position to imaginatively inhabit other points of view—even ones as radically alien and limiting as those of “points that have ‘no parts and no magnitude!’” (*KH*, 31).

Flatland’s multidimensional literary experiment ultimately invites us to reconsider the ways in which our epistemological relationships to immaterial beings—whether disembodied spirits or literary characters—depend on specific techniques of dimensional spatialization. While nineteenth-century theologians deployed such techniques as a means of rendering the strange rationally knowable, Abbott instead turns to dimensional space to imagine immaterial and strange forms of personhood that exceed realist modes of representation.⁵² By probing theological analogies between spirits and characters, Abbott’s novel reimagines character, not as a stable being with an accessible interior that affords readers a gratifying sensation of omniscience, but rather as an occasion for readers to confront the limitations of their own knowledge through the strenuous effort to imagine radically different points of view. In so doing, *Flatland* offers a powerful instance of how nineteenth-century theological inquiry could function not only as a reassuring source of epistemological and moral certainty but also as a speculative and estranging discourse that afforded new strategies for rethinking central categories of fictional form.

NOTES

1. Abbott, *Kernel*, 259. All subsequent references to this edition are noted parenthetically in the text, and with *KH* in the context of citations from Abbott's other works.
2. White, *Other Worlds*, 3 (emphasis in original).
3. Jager, "Phantom Belief," 431.
4. Gallagher, "Rise," 356–57. All subsequent references to this edition are noted parenthetically in the text. For other recent approaches to the question of how characters are rendered perceptible to a reader, see especially Brilmyer, who argues that characters arise as an emergent property of both the linguistic elements on the page and the material qualities those elements describe (*Science*, 68–69); and Ward, who suggests that the seemingly human interiority of characters is generated through techniques that anticipate forms of artificial intelligence (*Seeming Human*). For another influential account that understands character primarily in spatial terms, see Woloch, *The One vs. the Many*.
5. Orr, "Incarnation," 470. Eliot frequently uses the spatial language of interiors and exteriors to describe her characters. Consider, for example, her description of Mr. Tryan in "Janet's Repentance": "Outwardly Mr. Tryan was composed, but inwardly he was suffering acutely from . . . tones of hatred and scorn" (*Scenes*, 247).
6. Lynch, *Economy*, 16.
7. Gilbert, "Upward," 392; Henderson, *Algebraic Art*, 46–48.
8. Henderson, *Algebraic Art*, 39.
9. McGurl, "Social Geographies," 65.
10. Jann, "Abbott's *Flatland*," 486. See also Smith, Berkove, and Baker, who read Abbott's novel as "a cautionary tale about the dangers of the imagination when wrongly employed," taking as its specific target John Henry Newman's reasoning in favor of miracles ("Grammar," 129–30).
11. For a reading that argues the novel's religious energies are essential to its arguments for utopian questioning of the social status quo, see Kingstone, "A Leap of Faith."
12. For detailed overviews of the complex interchange between scientific and religious discourse in Victorian Britain after Darwin, see especially Turner, *Between Science and Religion*; Levine, *Realism*; and Lightman, "Victorian Sciences and Religions."

13. See Livingston, who argues that “in the often zealous effort to accommodate theology to the new developments in science, numerous nineteenth-century theologians and clergy seriously distorted their theology, the science that they were appropriating, or both” (“Natural” 148).
14. The material status of resurrected bodies has been a subject of theological debate since long before the rise of scientific naturalism. On the longer history of this question in Christian theology, see especially Bynum, *Resurrection*.
15. For more detail on Victorian theological interpretations of the Gospel of John’s account of Jesus’s postresurrection body, see Wheeler, *St John*, 199–211.
16. John 20:25 (NRSV).
17. John 20:27 (NRSV).
18. Strauss, *Life*, 735.
19. Westcott, *Gospel*, 163–64.
20. For detailed accounts of the emergence and implications of higher-dimensional and non-Euclidean geometry in Victorian Britain, see especially Richards, *Mathematical Visions*; Blacklock, *Emergence*; and Kreisel, “Discreet.”
21. Richards, *Mathematical*, 104. On the relationship between mathematical truth and religious belief in Victorian Britain, see also Cohen, *Equations*.
22. Richards, *Mathematical Visions*, 112 (emphasis in original).
23. Richards and Kreisel identify J. J. Sylvester and William Spottiswoode as two of the first mathematicians to hint at the reality of higher-dimensional space in 1869 and 1878, respectively. See Richards, *Mathematical*, 55–56; and Kreisel, “Discreet,” 402.
24. Hinton, “What Is,” 9–10. Also qtd. in Kreisel, “Discreet,” 402.
25. For a detailed account of Hinton’s contribution to higher-dimensional thought in the nineteenth century, see especially Blacklock, *Emergence*, 103–34.
26. Throesch, “Nonsense,” 50.
27. Blacklock, *Emergence*, 25.
28. As White explains, although “one could not see or perceive them, . . . [higher dimensions] were nevertheless physical spaces” and thus promised to provide a place for the supernatural within a scientifically understood cosmos (*Other Worlds*, 3).
29. Jann, “Abbott’s *Flatland*,” 489.
30. Willink, *World*, 84.

31. For further examples of Christian theologians and religious writers using higher-dimensional space to account for miracles and other aspects of Christian doctrine, see especially Tyler, *Dimensional*; Patterson, *New Heaven*; Schofield, *Another World*; Granville, *Fourth*; and Stewart and Tait, *Unseen*.
32. Kreisel, "Discreet," 409.
33. On Abbott's "rational Christianity," see Valente, "Transgression"; Jann, "Abbott's *Flatland*"; and Smith, Berkove, and Baker, "Grammar."
34. Abbott, "On the Resurrection," 89.
35. Some years before Abbott, Heinrich von Helmholtz had pointed out that human bodily organization itself was an almost insuperable obstacle to conceiving higher-dimensional space. "As all our means of sense-perception extend only to space of three dimensions," he explained, "and a fourth is not merely a modification of what we have but something perfectly new, we find ourselves by reason of our bodily organization quite unable to represent a fourth dimension" (qtd. in Richards, *Mathematical Visions*, 57).
36. Abbott, "On the Resurrection," 2.
37. Abbott, *Flatland*, 36. All subsequent references to this edition are noted parenthetically in the text.
38. Henderson, *Algebraic Art*, 47.
39. White, "Seeing Things," 1478–79.
40. Kreisel, "Discreet," 399.
41. Jill Galvan hints at this unsettlingly materialist dimension of interiority, pointing out that while critics tend to equate interiority with accessibility or "continuity" between persons, it just as easily can involve "a sense of separate insiderness, necessarily opaque or exterior from the perspective of someone else" ("Character," 615).
42. Lynch, "Character," 223.
43. Lynch, "Character," 223.
44. Abbott, *Through Nature to Christ*, 84.
45. For a provocative recent account from a religious studies perspective of the ways in which religious believers' experience of gods and spirits resembles the experience of engaging with fictional beings, see Luhrmann, *How God Becomes Real*.
46. McGurl, "Social Geographies," 65.
47. Henderson also observes that the novel privileges point of view over interiority. See *Algebraic Art*, 53.
48. In suggesting this, I am reading against predominant interpretations of *Flatland* as a novel about the importance of aspirational, upward

- movement—both toward higher dimensions and toward more elevated points of view. See especially Gilbert, “Upward”; and Kingstone, “Leap.”
49. Henderson, *Algebraic Art*, 464.
 50. For a reading of *Flatland* that acknowledges the centrality of dreaming as a mode of knowledge in Abbott’s novel, see Funk, “Mathematics.”
 51. Henderson, *Algebraic*, 54 (emphasis in original).
 52. In this sense, *Flatland* also invites reconsideration of the relationship between religious thought and the emerging tradition of speculative fiction in the late nineteenth century. Robert Scholes’s influential *Structural Fabulation* argues that SF and religious writing share an investment in the imagining of alternative worlds (what he calls “fabulation”) but that religious writing uses only a “dogmatic” form of fabulation oriented toward “a closed, anti-speculative system of belief,” while modern SF deploys fabulation in a secular, “speculative” form that is “opposed to dogmatic narrative” (*Structural Fabulation*, 29). In *Flatland*, however, the forms of speculation that Scholes attributes only to secular SF are expressly energized by theological inquiry.

WORKS CITED

- Abbott, Edwin. *Through Nature to Christ: or, The Ascent of Worship through Illusion to the Truth*. London: Macmillan, 1877.
- . *The Kernel and the Husk: Letters on Spiritual Christianity*. London: Macmillan, 1886.
- . *Flatland: A Romance of Many Dimensions*. 1884. Edited by Rosemary Jann. Oxford: Oxford University Press, 2006.
- . “On the Resurrection of Christ.” 1884. GB 275 Abbott, Box 9, Fonds Abbott – Papers of Edwin Abbott, St. John’s College Library, Cambridge, UK.
- Blacklock, Mark. *The Emergence of the Fourth Dimension: Higher Spatial Thinking in the Fin de Siècle*. Oxford: Oxford University Press, 2018.
- Brilmyer, S. Pearl. *The Science of Character: Human Objecthood and the Ends of Victorian Realism*. Chicago: University of Chicago Press, 2022.
- Bynum, Caroline Walker. *The Resurrection of the Body in Western Christianity, 200–1336*. New York: Columbia University Press, 1995.
- Cohen, Daniel J. *Equations from God: Pure Mathematics and Victorian Faith*. Baltimore: Johns Hopkins University Press, 2007.
- Eliot, George. *Scenes of Clerical Life*. 1857. Edited by Thomas A. Noble. Oxford: Oxford University Press, 2015.
- Fechner, Gustav Theodor. “Space Has Four Dimensions.” Translated by Hans G. Fellner and William F. Lindgren. “Gustav Theodor Fechner: Pioneer of the Fourth Dimension.” *Mathematical Intelligencer* 33, no. 3 (2011): 132–37.

- Funk, Wolfgang. "The Mathematics of Evolution: Dreaming about Four Dimensions in Edwin A. Abbott and May Kendall." *Critical Survey* 27, no. 2 (2015): 67–80.
- Gallagher, Catherine. "The Rise of Fictionality." In *The Novel*, edited by Franco Moretti, 1:336–63. Princeton: Princeton University Press, 2006.
- Galvan, Jill. "Character." *Victorian Literature and Culture* 46, nos. 3–4 (2018): 612–16.
- Gilbert, Elliot L. "'Upward, Not Northward': *Flatland* and the Quest for the New." *English Literature in Transition, 1880–1920* 34, no. 4 (1991): 391–404.
- Granville, William Anthony. *The Fourth Dimension and the Bible*. Boston: Richard G. Badger, 1922.
- Henderson, Andrea. *Algebraic Art: Mathematical Formalism and Victorian Culture*. Oxford: Oxford University Press, 2018.
- Hinton, Charles Howard. "What Is the Fourth Dimension?" In *Scientific Romances*, 3–32. London: Swan Sonnenschein, 1884.
- Jager, Colin. "Phantom Belief and Belief in Phantoms: The Strange Objects of Literary Study." *Modern Language Quarterly* 83, no. 4 (2022): 427–42.
- Jann, Rosemary. "Abbott's *Flatland*: Scientific Imagination and 'Natural Christianity.'" *Victorian Studies* 28, no. 3 (1985): 473–90.
- Kingstone, Helen. "A Leap of Faith: Abbott, Bellamy, Morris, Wells and the *Fin-de-Siècle* Route to Utopia." *English Literature in Transition, 1880–1920* 60, no. 1 (2017): 58–77.
- Kreisel, Deanna. "The Discreet Charm of Abstraction: Hyperspace Worlds and Victorian Geometry." *Victorian Studies* 56, no. 3 (2014): 398–410.
- Levine, George. *Realism, Ethics and Secularism: Essays on Victorian Literature and Science*. Cambridge: Cambridge University Press, 2008.
- Lightman, Bernard. "Victorian Sciences and Religions: Discordant Harmonies." *Osiris* 16 (2001): 343–66.
- Livingston, James C. "Natural Science and Theology." In *The Blackwell Companion to Nineteenth-Century Theology*, edited by David Fergusson, 141–64. Malden: Blackwell, 2010.
- Luhrmann, T. M. *How God Becomes Real: Kindling the Presence of Invisible Others*. Princeton: Princeton University Press, 2020.
- Lynch, Deidre. *The Economy of Character: Novels, Market Culture, and the Business of Inner Meaning*. Chicago: University of Chicago Press, 1998.
- . "A Character of Character, in Five Metaphors." In *A Companion to the English Novel*, edited by Stephen Arata, Madigan Haley, J. Paul Hunter, and Jennifer Wicke, 209–24. Hoboken: John Wiley & Sons, 2015.
- McGurl, Mark. "Social Geographies: Taking Place in Henry James." *Representations* 68 (1999): 59–83.
- The New Oxford Annotated Bible with Apocrypha. New Revised Standard Version*. Oxford: Oxford University Press, 2018.
- Orr, Marilyn. "Incarnation, Inwardness, and Imagination: George Eliot's Early Fiction." *Christianity and Literature* 58, no. 3 (2009): 451–81.
- Patterson, Charles Brodie. *A New Heaven and a New Earth; or, The Way to Life Eternal (Thought Studies of the Fourth Dimension)*. New York: Thomas Y. Crowell, 1909.

- Richards, Joan. *Mathematical Visions: The Pursuit of Geometry in Victorian England*. Boston: Academic, 1988.
- Schofield, A. T. *Another World, or, The Fourth Dimension*. London: Swan Sonnenschein, 1888.
- Scholes, Robert. *Structural Fabulation: An Essay on the Fiction of the Future*. Notre Dame: University of Notre Dame Press, 1975.
- Smith, Jonathan, Lawrence Berkove, and Gerald Baker. "A Grammar of Dissent: *Flatland*, Newman, and the Theology of Probability." *Victorian Studies* 39, no. 2 (1996): 129–50.
- Stewart, Balfour, and Peter Guthrie Tait. *The Unseen Universe; or, Physical Speculations on a Future State*. London: Macmillan, 1875.
- Strauss, David Friedrich. *The Life of Jesus Critically Examined*. Translated by George Eliot. London: Swan Sonnenschein, 1892.
- Sylvester, J. J. "A Plea for the Mathematician." *Nature* 1 (1869–70): 260–63.
- Throesch, Elizabeth. "Nonsense in the Fourth Dimension of Literature: Hyperspace Philosophy, the 'New' Mathematics, and the *Alice Books*." In *Alice beyond Wonderland: Essays for the Twenty-First Century*, edited by Christopher Hollingsworth, 37–52. Iowa City: University of Iowa Press, 2009.
- Turner, Frank S. *Between Science and Religion: The Reaction to Scientific Naturalism in Late Victorian England*. New Haven: Yale University Press, 1974.
- Tyler, W. F. *The Dimensional Idea as an Aid to Religion*. New York: R. F. Fenno, 1910.
- Valente, K. G. "Transgression and Transcendence: *Flatland* as a Response to 'A New Philosophy.'" *Nineteenth-Century Contexts* 26, no. 1 (2004): 61–77.
- Ward, Megan. *Seeming Human: Artificial Intelligence and Victorian Realist Character*. Columbus: Ohio State University Press, 2018.
- Westcott, Brooke Foss. *The Gospel of the Resurrection: Thoughts on Its Relation to Reason and History*. 7th ed. London: Macmillan, 1891.
- Wheeler, Michael. *St John and the Victorians*. Cambridge: Cambridge University Press, 2011.
- White, Christopher G. "Seeing Things: Science, the Fourth Dimension, and Modern Enchantment." *American Historical Review* 119, no. 5 (2014): 1466–91.
- . *Other Worlds: Spirituality and the Search for Invisible Dimensions*. Cambridge, Mass.: Harvard University Press, 2018.
- Willink, Arthur. *The World of the Unseen: An Essay on the Relation of Higher Space to Things Eternal*. London: Macmillan, 1893.
- Woloch, Alex. *The One vs. the Many: Minor Characters and the Space of the Protagonist in the Novel*. Princeton: Princeton University Press, 2009.