RUCK, MUCK, AND A CLOSED SYSTEM OF TRUTH

RUCK, MUCK, AND A CLOSED SYSTEM OF TRUTH: SCIENCE, SPIRITUALISM, AND THE NEGOTIATION OF KNOWLEDGE IN NINETEENTH-CENTURY ENGLAND

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Lay Abstract: This project examines the ways nineteenth-century England's educational system, periodical literature, and growing science community contributed to a public dialogue between science and spiritualism. The knowledge and practices privileged by science were repeatedly framed as more valuable than, and irreconcilable with, the subjective, personal knowledges of spiritualism, which posited a spiritual human self beyond the limits of the material body. This paper uses examples from contemporary newspaper and journal articles to study the dialogue between science and spiritualism, and finds science metaphorized as solid ground, "objective", and masculinized, while spiritualism is shadowy, irrational, and feminized. These positions became entrenched enough in the public mind to affect the era's speculative fiction, but in analyzing texts from George Eliot, Robert Louis Stevenson, Marie Corelli, and Richard Marsh, the author also finds an embrace of science and spiritualist themes as sometimes compatible, blurring the simple "sides" of the media conversation.

Abstract: This project examines how the confluence of nineteenth-century England's educational reform, periodical literature, and scientific community growth contributed to a public dialogue between science and spiritualism that positioned the two as antithetical. I argue that this media-borne dialogue entrenched in the public consciousness a scientific domain claiming authority through masculinized, exclusionary language that effectively enclosed knowledge within objective measurement, while dismissing spiritualist notions of embodied knowledges based in affect. In doing so, I locate the under-recognized bridge between the printed medium of the debate itself and its durable influence on public discourse, occurring as it did at precisely the moment to best influence the broadest public.

The first chapter examines the confluence of educational reform, burgeoning print culture, and rising science professionalization that formed the ideal delivery platform for the promulgation of a cultural narrative pitting objective knowledge against the subjective. The second chapter examines contemporary newspaper and journal articles to find science repeatedly metaphorized as solid ground, "objective", and masculinized, while spiritualism is shadowy, irrational, and feminized. Metaphors of light and landscape recur from both sides, with spiritualist voices further claiming unquantifiable and communal experience as of equal value to the material "useful knowledge" privileged by science and institutional schooling. The final chapter analyzes texts from George Eliot, Robert Louis Stevenson, Marie Corelli, and Richard Marsh for representations of science, scientists, and those deemed outside their circles. There I discern a reflection of the media debate that finds unexpected – if unsettling – compatibilities between spiritualism and science, rejecting the alleged incompatibility of objective and subjective knowledge. All the texts speculate as to the parameters of human physical and mental life, but notably, none resolve the argument.

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DECLARATION OF ACADEMIC ACHIEVEMENT

I, Barbara D. Ferguson, declare this dissertation to be my own work. I am the sole author of this document. No part of it has been published or submitted for publication or for a degree at another institution.

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Introduction - Worlds Apart

I was in my late teens before I noticed the rift between my grandmother and her otherwise affable son, my uncle. My grandmother was convinced that there were spirits in her house, and my uncle was equally convinced there were, in his words, "rational explanations" for the phenomena she claimed. Parts of the Ferguson family home are over two hundred years old. Its stone foundations, dirt-floor cellar, creaking barnboard floors, and gurgling pipes framed the reality of life within it, but my grandmother insisted it was an unusual place even for a heritage house. The phenomena she perceived arose in conversation more frequently as the years passed, until even I – an irregular visitor – noted the cues of a long-standing dispute between my grandmother and my uncle: sighs of varying volumes, eye rolls both obvious and half-suppressed, and resigned shakes of the head as if to say *she/he just won't listen to reason, but I know I'm right*.

The difficulty, of course, was that neither could produce sufficient evidence to sway the other. Except for the occasions when some item might be unexpectedly absent from its rightful place – times when my uncle's explanations of softening walls or aging picture hangers were often borne out by investigation – my grandmother's certainty was grounded in sporadic, subjective, and often solitary experiences such as her "feeling" of a presence in a room or a voice speaking in an otherwise empty house. How could she possibly record or quantify such things to the standard my uncle required? Their civil disagreement gradually became as much a part of that house and its family dynamic as were the creaking floors and the odd happenings. I grew up in a series of far more prosaic

homes, and my own encounters with spirits remained entirely textual. During a post-graduate degree in the early 2000s, however, I researched nineteenth-century British spiritualism as part of a novel study, and the scholarship I discovered nudged me into a world I had, it seemed, long been brushing against in the old farmhouse where claims of strange activity elicited the same polarized responses: fascination from those who believed in a spirit realm, and dismissal from skeptics insisting on quotidian explanations. In many ways, the Victorian spiritualist movement felt already-familiar as it settled into my mental grasp of the era, as much a part of its cultural landscape as was industrialization, imperialism, Darwinism, social reform, or sensational entertainment.

Most scholars regard the origin of spiritualism in England as the early 1850s, when a handful of American "sensitives" arrived to share with lecture-halls full of interested listeners their accounts of alleged communication with the dead (Oppenheim 8-11; Wallace "Defence" par. 14-17, etc.).[1] Although claims of mental abilities and trance states had sparked widespread anxiety during the mesmerism movement some years previous (cf. Winter 1998 passim), the mid-century visitors with their tales of spirit-rappings offered startling new information. These sensitives asserted their own communicative abilities in sharing messages from the dead but claimed others might be able to do so as well, with no special equipment or arduous training required. Some might communicate with spirits more easily than others, but anyone might be a participant in a

[1] "Sensitives" was long the preferred term for those who claimed or demonstrated such abilities; the more technologically inflected "medium" gained currency later (cf. Galvan). I use the two interchangeably and examine their repercussions in upcoming chapters. My focus here is on England's spiritualism; for accounts of the American origins of these visiting sensitives, cf. Ruth Brandon (1983), Deborah Blum (2006), or others.

circle and encounter spirits that way. For some of those who found its notions of the afterlife compatible with Christian teachings of an eternal soul, spiritualism became a heterodox religion with its own communities in faith, its participants diverse in class and gender. Indeed, meetings were often centered around sensitives who were female or working class or both (Owen 5-11; Barrow passim). Spiritualistic phenomena expanded to encompass not just communication with the dead but also thought-transference, clairvoyance, and visible or even tangible manifestations of spirit bodies and spiritualism as a movement, apparently accessible and empowering regardless of one's place on the social spectrum, spread rapidly across England.[2]

Although the claims to spirit communication garnered the most attention, a more fundamental premise underlay the array of spiritualist beliefs and praxis: that "[t]he human subject was not self-contained, individualized, clearly bounded and separate from others, but rather the borders and boundaries between self and other were considered porous and permeable" (Blackman 30). Such a human was unfettered by time, space, or physical death in its ability to affect others or be itself affected. This view differed considerably from the paradigms of an age engaging thinkers in conversations around biology, chemistry, physiology, and other material sciences: even as evolution theorized new kinships and electromagnetism proved invisible influence, even as the mechanisms

[2] Or less generously, as the *Illustrated London News* wrote: "it is not only the ignorant and the vulgar, but the educated and the refined who yield themselves up, the unsuspecting, if not the eager, victims of self-deception" (Anon 481). The article appeared in 1853, the very earliest days of the movement. While spiritualist scholarship has been quick to attend to the ways the movement crossed gender and class lines, only lately, especially through the work of Christine Ferguson, has the field recognized its own presumption of whiteness among spiritualist adherents. Although my focus is primarily on gender, I consider the crucial and as-yet under-recognized dimension of race to the movement's appeal later in this project.

of disease were better understood, the Victorian human subject remained largely defined by flesh and by its autonomous will. When some wondered if scientific experimentation might solve the mysteries of the psychic or the spirit realms, spiritualist believers, would-be investigators, and professional scientists alike found themselves increasingly tangled in questions of evidence and materiality. In promising messages from the spirit realm and insisting that its participants might themselves be able to access forms of knowledge unverifiable by other methods – including knowledges from living people or places, through telepathy or clairvoyance – spiritualism prioritized the human subject's interior experience instead of exterior observation or experimentation. Moreover, their gatherings frequently emphasized a collective experience and shared energy entirely foreign to – or at least unacknowledged by – the increasingly professionalized, solitary science worker.

During my own work for that long-ago essay, the more I considered the writings of skeptics and believers on the topics of spiritualism, the more their references to spirits and table-rapping became a distracting fixation on surface detail that left the far more important vehicle unnoticed: this was an ongoing discursive contest in which knowledge was increasingly claimed as an empirical, fact-based, and masculinized territory across which feminized, subjective experience could not tread with any credibility. Spiritualism was thus relegated to a feminized space of nebulous sensation which privileged unverifiable perception in ways the dominant paradigms refused to countenance. How that relegation happened, and how it became so widely accepted, were the first inklings of this current study. In the decades between, my role teaching humanities courses to predominantly science and technology students prompted the realization that such an

enduring polarization of what was and was not "scientific" in the public imagination could not have occurred without a persuasive and persistent positioning of them as both firmly defined and incompatible. Once I grasped that nineteenth-century England's educational reforms led to an unprecedented rise in popular literacy, and in turn an astonishing proliferation of print media both educational and entertaining, I realized that the era had already constructed the ideal delivery platform for the promulgation of a cultural narrative pitting objective knowledge against the subjective.

This project begins the work of understanding the mechanisms of that cultural narrative and its efficacy.

* *

In examining the media-borne and literary conversations between nineteenth-century science and spiritualism, this study is underpinned by knowledge as contested territory – epistemological ground which various interested parties claimed for their own, even as the cultural standing and understanding of "knowledge" underwent significant change. Samuel Johnson's 1755 dictionary provides six definitions for *knowledge,* of which the first is "Certain perception; indubitable apprehension," and the second "Learning; illumination of the mind." The third and fourth invoke skill and acquaintance, the fifth "cognisance; notice," and only the last references "Information; power of knowing" ("knowledge, n.s."). John Boag's *Imperial Lexicon* of 1852 also offers multiple possible definitions, but the first adds to "certain perception" a new narrowing of what can be perceived: "A clear and certain perception of that which exists, or of truth and fact;

the perception of the connection and agreement, or disagreement and repugnancy of our ideas" ("Knowledge"). During the century between these publications, then, the recognition of *truth* and *fact* as knowledge gains prime importance. Note, however, that Boag's key preposition "or" suggests that "truth and fact" share equal importance with "clear and certain perception:" this appears to leave at least some space for sensory input as well as cognitive grasp.[3] Both Johnson's and Boag's second definition, "illumination of the mind," is more evocative; as my discussion ahead will show, the notion of light in an interior, cognitive context was a popular one for scientific and spiritualist commentators alike.[4] That Boag's dictionary appears around the time of perceptible nation-wide education reform may be a coincidence. By 1893, the denotative definition of *knowledge* had changed significantly. Funk and March's entry in that year's edition begins:

> 1. A result of product or knowing. Specifically: (1) Any fact or truth, or the aggregate of facts, truths, principles, and special or general information, acquired or retained by the mind; information respecting phenomena, causes, laws, or principles; learning; scholarship. […] (2) Practical understanding or skill in anything; familiar acquaintance derived from practice or experience…
>
> 2. In strict sense, the clear and certain apprehension of truth, or the agreement of thought with thing; the conviction or assurance, arising from proper evidence, that a mental apprehension corresponds with reality; assured rational conviction. See EVIDENCE. (Funk and March 987)

[3] Boag's wording here is also identical to the first entry of Noah Webster's 1828 definition for his American dictionary; both Webster and Boag replicate all of Johnson's other potential definitions in order, but add "Sexual intercourse" as a final, specialized "carnal knowledge" usage. One of Webster's usage examples for his first definition is striking, given my upcoming exploration of science's prioritization of objective knowledge: "Human knowledge is very limited, and is mostly gained by observation and experience" ("knowledge").

[4] The metaphor remains durable to this day, given the ongoing usages such as "sparked an idea," or "the light dawns," as well as the common use of the lightbulb as a visual shorthand for inspiration.

Here we see a striking and (literally) definite consequence of the science culture that flourished in England during the second half of the nineteenth century, as well as its influence on national education models: knowledge now rests not only in the apprehension of phenomena but also on the "causes, laws, or principles" underlying them, as well as "scholarship" implicitly provided by formal educational acquisition. Clear links between thought and reality, between rationality and evidence, are now fundamental to knowledge, and any reference to perception or sensory input in the process is gone: cognition based in rationality and material evidence now rules the realm.[5] In the words of scholar Ian Duncan, "Knowledge, in short, obliterates the imaginative as well as cognitive labor of its production" (19).

Under these conditions, science could promote itself as both a producer and arbiter of knowledge, although as this study will make clear, that largely self-made position did not go uncontested. With a philosophy and a praxis largely rooted in subjective experience and unexplained phenomena, the spiritualist movement may have seemed simply antithetical to science, but its claims compelled a public dialogue about different forms of knowing, and indeed whether scientific thinking might be applied to as-yet unexplained phenomena. The Victorian media served as a counterpart to academic learning in providing information to broad audiences, and like education it was frequently

[5] Funk and March's third definition is "The act, process, or state of knowing; cognition" and the fourth references "Any object of knowing or mental apprehension" including "the branches of knowledge," specified as "a) science, b) art, and c) literature" (Funk and March 987-8). Usage five retains "information" and "notice" seen in previous dictionaries, and the sixth knowledge remains the sexual, which, while perhaps only a nod to a common phrasing, fascinatingly implicates a bodily knowledge perhaps equal to or greater than the seemingly separate intellectual knowledge of the other definitions.

under scrutiny from those seeking to control the sharing of information, but the press ultimately became an apt forum for the sprawling conversations around science and spiritualism. As Richard Noakes notes, "[i]n articles in mass circulation periodicals, textbooks, in public lectures and in classroom teaching, Victorian professionalisers and popularisers of science enforced the contrast between science and Spiritualism, and helped represent Spiritualism as beyond the domain of natural enquiry" (24). Yet few, if any, extended explorations of the ramifications of that media platform exist in the scholarship to date. Merely acknowledging the debate's ubiquity leaves unexamined the inevitable influence the repeated distinctions drawn between science and spirit – and by rhetorical association, the "masculine" and "feminine" traits of each, as revealed by this study – may have had on the casual reading public, and the wider, lingering effects of that influence. I intend to redress that gap in scholarship by examining how the widespread and influential social phenomenon of spiritualism offers a critical lens through which to examine authority on the basis of knowledge.

Surrounding that lens is a sociohistorical confluence of the classroom, the laboratory, and the periodical press – a confluence which contributed powerfully to a gendering of science as masculine and objective and of spiritualism as its femininized antithesis. "The debate between science and spiritualism" is the tidiest description – and one I admit to using when trying to explain my project to scholars outside my field – but also a misleading one for what was a decades-long, multi-platform, highly nuanced conversation between thinkers in a range of positions. Certainly there are, and I examine here, instances when a notable scientific figure responds directly to a spiritualist's earlier

column, or vice versa, and the point-rebuttal pattern continues in an ongoing printed debate. However, the conversation as a complex whole might be more fundamentally described as negotiations for authoritative status between objective and subjective epistemologies within nineteenth-century English society.

The professional sciences in Britain arose from the gendered legacy of the gentleman 'natural philosopher,' with enough leisure time and financial security to follow esoteric interests and dabble with experimentation. In the first decades of the nineteenth century these men became the "aristocratic gentlemen of science, those Oxbridge-educated Anglicans who dominated the scientific scene [and who] provided Victorians with a vision of culture and social order based on natural theology" (Lightman 3). By the middle of the century, they had been largely supplanted by influential, but still primarily male, figures "from outside the Oxbridge environment," who offered an "alternative view of culture and society that drew its inspiration from evolutionary modes of thought" (Lightman 3). As industrializing England increasingly demanded scientific expertise, practitioners with that expertise formed a community around shared notions of what science is, who was best suited to do it, and what types of knowledge it deemed its purview (Lightman 1997; Barton 2007; Winter 1998). But the formation of a scientific collective – even one repeatedly proclaiming its distinctiveness from other professions or hobbyists – does not equate to scientific authority. Moreover, for much of the nineteenth-century science was "no monolithic entity: always in the process of becoming, its boundaries [were] never absolute, its definition never certain," although that mutability did not stop professionalizers from attempting to construct a definition of themselves and

their fields as rational, reasonable, and authoritative (Levine 15). As this project will illustrate, the Victorian scientific community not only reinforced its self-professed behaviours in its specialist journals but also exercised its growing cultural authority in the diverse and widely read periodical press, where a single article might reach thousands of minds. Consistency in rhetorical device and discursive habit demarcated its masculinized territory of objective truth from which practitioners could speak with the voice of reason against the feminized shadowy landscape that was the unverifiable – occasionally inexplicable – knowledges of spiritualism.

I argue that the media-borne argument surrounding psychical practice and investigation entrenched in the public consciousness a scientific domain claiming authority through masculinized, exclusionary language that effectively enclosed knowledge within objective measurement while dismissing spiritualist notions of embodied knowledges based in affect. In doing so, I locate the under-recognized bridge between the printed medium of the debate itself and its durable influence on public discourse, occurring as it did at precisely the moment to best influence the broadest public. I add these considerations to the already lively academic discussion of nineteenth-century British spiritualism, which has typically focused on the movement's transgressive navigations of class (Barrow 1986), gender and sexuality (Owen 1989; Tromp 2006), and more recently with race and ableism (C. Ferguson 2007, etc.); with its revisioning of (tele)communication structures (Luckhurst 2002; Galvan 2010; Robertson 2017), and indeed its intersections with science (Noakes 2004, etc.). Alison Winter (1998), Pamela Thurschwell (2005), and Lisa Blackman (2012) offer useful models for tracing the echoes

of Victorian spiritualism in modern thinking around theories of mind and embodiment. These commentators, along with history of science scholars such as Evelyn Fox Keller, Barbara Gates, Bernard Lightman and periodical press scholars such as Laurel Brake and Mark Hampton inform my study throughout. Without them, I would have a much poorer understanding of the complex convergences creating a culture of literacy in which scientific and spiritualist texts could arise and thrive.

In the first chapter, I explore the confluent factors of the classroom, the laboratory, and the press, beginning with the state- and citizen-led initiatives that, in theory at least, widened access to education. England's attempts at national educational standardization were many and frequently contrary, too caught within the tensive influences of the Church, *laissez-faire* economics, and developing theories of childhood to be effectual; additionally, the question of which sectors of the population should have access to learning (knowledge) underlay all the tentative motions toward a national system of education. Gradually, monitored attendance, scientized curricula, and standardized examinations helped to contribute to an emerging culture of literacy, promulgated through a pedagogy of knowledge-bestowal rather than discussion or exploration. It forms an early example of the triumph of objective knowledge over the subjective, at a systemic and institutional level. That triumph, as the second part of the chapter examines, is inextricable from the establishment of science as a cultural force in English society, and I liken its progress to that of the epistemological "domain" as theorized by Mary Poovey (1995): through the instantiation of scientific associations and structures, the liveliness of scientific rhetoric in mass culture, and the imposition of new paradigmatic knowledges,

science demarcated for itself a territory of rationality and universal truth.[6] This construction, however, had paradoxical foundations: science established itself as simultaneously a methodology anyone might learn, and best suited to certain – particularly male – individuals. As Ruth Barton has found, the professional sciences cultivated an image of inherent rationality, reliability, diligence, and public service (86). Not coincidentally, these also describe the nineteenth-century normative middle-class ideal of British masculinity, deployed against their counterpart feminine traits of irrationality, changeability, and paradoxical passivity. Between the sciences' discursive model of professional, knowledgeable masculinity and their influence on schooling, girls and women gained literacy but were increasingly excluded from the practice of increasingly professionalized science. Instead, as my chapter demonstrates, women such as Jane Marcet and Arabella Buckley produced some of the most influential popular texts of science sold to a fascinated and newly literate public, taking a more individualized, experiential pedagogical approach than did institutional science. England's growing middle class, already "technologically literate," was predisposed to accept scientific authority, whether through popular texts or otherwise. "Scientific books, journals, demonstrations and extra-mural lectures raised the profile of science among this powerful

[6] Frank Turner's influential scholarship in the history of English science and its professionalization through the nineteenth-century proposes a three-stage development that broadly matches Poovey's stages used here, demarcating by decade rather than by process (cf. 203-4). In his conception, the first half of the century begins to establish science in the public mind, the middle decades produce "science publicists" such as Huxley and Tyndall who straddle the eras of self-taught science and institutionalization (Turner 204), and the fin de siècle and early twentieth century illustrate how "British scientists had begun in considerable measure to transform themselves into an independent, professionally self-defined community and one recognized as such by other intellectuals and professional groups" (204).

section of society" (Waller 93): all were part of a wider culture of literacy contributing to science's advance.

The final part of my first chapter surveys the rise of the periodical print media as key to understanding the growing public profiles of both science and spiritualism. England's media landscape changed rapidly after the mid-century, with thousands of new publications suddenly available to consumers.[7] Aled Jones finds that between 1815 and 1855, four hundred and fifteen new newspapers were established in the United Kingdom; between 1855 and 1861, however, four hundred and ninety-two new papers were founded (23) – and those numbers do not account for other types of periodical publications, blooming at a similar rate. The conversation about media's role in society changed as well, resonant with arguments about educational access from the era of school reform: was the media to be an educational tool for the working classes to consider the issues of the day as discussed by the elite, or was it a mouthpiece for all the nation's peoples to be represented and heard (Hampton *Visions* 9)? The politics of who speaks, who listens, and who decides the words, reflect England's widening culture of literacy and the roiling social issues of class and gender within it. Coinciding with the Forster Act of 1870, England's most significant educational reform, movements such as the New Journalism envisioned a representative, multivocalic press for which readers were not passive receptacles of information, but interlocutors engaging with text – including those texts

[7] Estimates of just how many periodicals saturated Victorian society vary, but as E.M. Palmegiano notes, any attempt to account for them all in some sort of collected bibliography must acknowledge defeat: "Their numbers and their fluidity, resulting from mastheads capriciously altered, contents mysteriously labeled, and parts lost, complicate inquiry" (vii). As my chapter will make clear, a mid-century lifting of industry-related taxes played a huge role in the rapid growth of England's print media.

issued from an emerging authority such as science. Through this confluence of education, scientific culture, and the press, the conversation between science and spiritualism found both a ready mode of communication and an eager audience.[8]

My second chapter shifts focus to closely analyze that developing conversation through multiple primary periodical texts, unpacking the claims to knowledge and authority by spiritualists as well as science practitioners, and those who felt able to do both. I begin with psychical investigators, particularly the Society for Psychical Research (SPR), who sought to borrow the language and praxis of science in examining the claims of spiritualism. Refusing an over-attachment to what William James called science's "closed and completed system of truth" (3), psychical investigators insisted they did not betray the scientific impulse but enlarged it to include psychical investigation. From there, I consider two extended media examples of the conversation between scientific and spiritualist practitioners: an 1868 exchange in the *Pall Mall Gazette* following the criminal trial of medium Daniel Dunglas Home, and the much-reproduced and -excerpted 1878 essay by Alfred Russel Wallace, "A Defence of Modern Spiritualism." In both, I find scientific luminaries and members of the public alike contributing to the oppositional and gendered rhetoric which I contend distanced the feminized spiritualist community from the masculinized scientific one. This rhetoric forms the basis of my feminist reading of the discursive patterns in the media conversation, with commentators such as Gates

[8] To measure popular consumption, I largely adopt the circulation numbers model, with important caveats about communal copies and statistical uncertainty as illuminated by scholars such as Hampton and Brake, all detailed in the pages ahead. For the most part, the sheer growth of print media production during second half of the century seems accepted by scholars as evidence of a ready market and widening readership.

and Fox Keller further illuminating science's discursive foundations on nineteenth-century gender normativity. Metaphors of light and landscape around intellect and knowledge implicate colonial projects as often as they do gender, leaving readers to decide whether it is better to stride manfully across the solid ground of rationalism, bringing light to the darkness of ignorance, or to explore the shadowy "ruck and muck" of spiritualism for the subjective, affective enlightenment it might bring (Hall xxxii). In considering the options, readers were implicitly considering whether the "useful" data sets of science were intrinsically more valuable than the subjective, experiential knowledge of the numinous. My intent is to underscore how the widest possible reading audiences, having already been encouraged to attend to scientific topics or barred from them over years of schooling, were again repeatedly exposed to the gendering of knowledge. Spiritualist reimaginings of communication and knowledge-gathering seek new modes of intersubjective communication, such as clairvoyance, psychic ability, or spirit channelling, which result in knowledge without the usual external evidence of learning but which may also collapse the distinctions between sender and receiver. The chapter concludes with analyses of text from mediums such as Elizabeth d'Espérance, whose concerns are urgently tied to the permeable nature of humanity and the reconciliation of shared selves.

The project's third chapter turns to speculative literature to explore the inevitable consequence of my assertion that the polarized media conversation engaged non-specialist, non-spiritualist readers across England. Emulating the scholarship models of Lauren Goodlad and Kelley Hurley, I analyze four literary texts for insight into how the

public grappled with fundamental questions of the human and of knowledge, focusing particularly on fiction in which orthodox science intersects with spiritualist themes in many guises. In my readings of George Eliot's "The Lifted Veil" (1878), Robert Louis Stevenson's *The Strange Case of Dr Jekyll and Mr Hyde* (1886), Marie Corelli's *The Soul of Lilith* (1892), and Richard Marsh's *The Beetle* (1897), I argue that these texts reflect public attitudes around both an active spiritualist movement and concomitant media positioning of science and spiritualism as philosophically incompatible, as those attitudes shift and re-form around the assertions of scientific authority and of skepticism across several decades. Emerging from outside the media conversation, my selected texts nonetheless demonstrate its deep reach into public thinking as they confidently assume a reader's awareness of trance states and "double consciousness" (Eliot 66) are equal to their awareness of the scientific laboratory. A consistent thread in my analysis is the literary view from and of science: that is, each author's characterization of scientists and their interactions with non-scientists, both paralleling and diverging from the exchanges seen in the periodical press. Stevenson's Henry Jekyll, for instance, replicates the rhetoric that sets the scientist as a reputable voice of authority, but adds the arcane and terrifying to his "transcendental" experimentation (Stevenson 41); Marsh's Sydney Atherton complicates the assertion of scientific detachment by pursuing military projects bereft of ethics and exemplifying the worst possible version of ambition in the reach for knowledge. Moreover, the fictional men of science in my third chapter are eager to investigate the apparently inexplicable, regardless of their colleagues' disapproval and even against villains (male and female) who hijack bodies and minds and prove the

human self is a vulnerable entity whose subjective experiences cannot be shared, or even discerned, by onlookers. In these speculative fictions, I discern a public reading of the debate that found unexpected – if unsettling – compatibilities between spiritualism and science. These narratives suggest the non-specialist, non-spiritualist reader has amiably rejected the alleged incompatibility of objective and subjective knowledge. Haunted variously by traumatic pasts, discomfiting futures, and the present's precarious consciousness, these texts speculate as to the parameters of human physical and mental life, but notably, none resolve the argument that had already filled so many pages of the print media.

I chose a family tale to begin this Preface not only because it intimately informed my early thinking on the topic, but also because my family's mild disharmony on this seemingly innocuous question of belief versus evidence is indicative of the many ways we are taught what knowledge is, and which knowledges have value. My study in the pages ahead examines the ways in which the discursive waging of Victorian England's epistemological contest – over the value of objective and subjective ways of knowing – occurred at a confluent moment of synchronicity, in a society filled with minds newly and multiply literate in the parsing of language, the understanding of science, and the claims of spiritualism. This multivalent conversation inevitably raised the profiles of science and of spiritualism but it also, and more importantly, prompted for thousands of readers new considerations of selfhood, intersubjectivity, and knowledge creation that would shape thinking for decades to come.

Chapter 1 - Confluence: Classroom, Laboratory, Press

Both science and spiritualism in nineteenth-century England have gained considerable scholarly attention in the last decades, with a rich and astonishing proliferation of publications seizing on the potential of each to further illuminate the era, to which this project attests. But this first, contextualizing chapter focuses upon what has as yet been under-recognized in those studies: the tripartite confluence of education, science culture, and media proliferation through which science and its practitioners were uniquely positioned to speak with epistemological authority, and their gendering of scientific practice as masculine that relegated the "non-scientific" to the feminine. The authority and the gendering of practice alike are fundamentally derived from conversations around access to and capacity for education, or, put more simply, from arguments around who should possess which knowledge. The absence of even one of these three social contexts – the classroom, the laboratory, and the press – would have significantly altered the nineteenth-century conceptions of thought and knowledge, as well as the corollary perception of science as a pursuit of knowledge antithetical to spiritualism. I delineate at least partially the complex cultural scaffolding behind the intersecting conversations of spiritualism and science in my next chapter and the fictional representations of both in my final one.

The nineteenth-century's rising industrialization and increasingly global commercial networks added dimensions of *usefulness* to England's valuing of intellectuality. As policy makers perceived increased need for more specialized and

innovative workers to compete in international markets (Goodlad 173, 193; Brown 18), science claimed that its reasoned focus on material observation and experimental replicability, among other "objective" traits, were most suited to those purposes, and moreover that scientific thinking was a teachable skill (cf. Winter *Mesmerized* 296; 303-4). Thus, the nation might rapidly increase its intellectual (and therefore productive) capacity by teaching literacy and particularly science literacy to a growing populace. Amid these promises of a national strengthening of thought, however, print media proliferation offered readers of all social levels not just scientific but widely varied content, including – as my next chapter will illustrate further – accounts of and from the spiritualist movement, in which psychical abilities and permeable minds troubled familiar understandings of thought itself. While policy-makers' hopes for education lay in the promise of a more productive population, they presumed literacy was a resource they could shape and control; anxieties around its growth were rooted in the realization it was not.

'Literacy' as a quantifiable measure is of course notoriously elusive. Some estimates of the literacy rate in 1840s England put it at "two-thirds for men and about half for women" (Lawson and Silver 259), or a more general "52 percent" (Hampton *Visions* 27), but such rates rarely explain by what standards that literacy was judged, or by whom, much less whether those measures account for bias or the myriad other human factors compromising testing.[9] The data cited here, for instance, are based on the signing of

[9] For a brief survey of, and response to, literacy models currently debated in pedagogical study, see for instance Ross Collin and Brian V. Street's article "Ideology and Interaction: Debating Determinisms in

church marriage registries: that is, the proportion of those newlyweds who signed their own names instead of making a simple mark.[10] The marriage register measurement leverages one of the few primary sources encompassing a broad cross-section of the local population and may certainly provide insight into local literacy. However – even putting aside the proportion of the literate population who did not marry and thus go unrecorded – a poorly literate person might master signing their own name as an isolable skill allowing for personal agency within growing bureaucracies of church and state, and the ability to do so does not equate to reading or writing in any other context; it implies even less the daily literacy habits of any local community. I bear this in mind during this chapter's first section, which focuses on education in England, examining its changing structures as the gradual implementation of a national system reduced some inequities of access but moulded England's students around an increasingly "useful" materialist curriculum that based learning on rote facts and individual study, relegating subjective, heuristic knowledges to the margins.[11] Such moulding could not happen without a relatively consistent schooling system and more widespread "literacy," but in this chapter I rely less upon the sorts of statistical data cited above and draw more from historical survey work by Jane Purvis, John Lawson, and Harold Silver; from Victorian literacy

Literacy" (2014), which moves beyond the long-held view of literacy as mere decoding/encoding abilities to consider sociocultural factors and institutional ideologies affecting every aspect of testing.

[10] Scholar David Vincent extends this measure by including the witnesses to the wedding, raising the "collective literacy rate" from 52 to an astonishing 85 percent in the 1840s (qtd in Hampton *Visions* 27).

[11] Although I will elaborate on my use of both 'knowledge' and 'useful' in the coming pages, for now I offer Alan Rauch's comment that "knowledge… can represent a content-based set of 'facts' that are useful in the construction and development of disciplines" (3) and these are frequently promulgated through "*knowledge texts* (encyclopedias, instruction manuals, didactic works for children)," as well as para-institutional sites of learning such as libraries, museums, etc. (italics original, 2).

culture scholarship by Jonathan Rose and Hilary Fraser;[12] and from nineteenth-century primary sources, which in the aggregate illustrate the extent to which educational politics were biopolitical exertions of control and access.[13]

The second section explores the increasing self-promotion of what are now termed the "sciences," as advocates infiltrated and leveraged England's educational systems to establish epistemological authority. While science as a discipline was as yet "malleable" and undefined, its discourse not yet concretized in the first half of the century (Winter *Mesmerized* 6), notables such as John Tyndall and Thomas Huxley positioned so-called objective scientific knowledge as paramount and best suited to the English male, paralleling an effective and "persistent effort to distance science from women and the feminine" through discourse and praxis (Schiebinger 9). The privileging of masculinized knowledge coloured the growing public perception of science, even as women writers and others popularized it by modelling a collective, more subjective learning for the wider public. Tracing science's rise through Mary Poovey's domain-emergence theory, I juxtapose the work of recent scholars such as Ruth Barton and Barbara Gates with examples from nineteenth-century scientific writings to illustrate the multiple ways in

[12] Lawson and Silver's *A Social History of Education in England* (1973) is a surprisingly durable overview still, with extensive consideration of the Victorian era; Purvis focuses on girls' and women's education throughout the century.

[13] In Michel Foucault's definition, biopolitics involve exertions of power that "endeavou[r] to administer, optimize, and multiply [life], subjecting it to precise controls and comprehensive regulations" (*The Will to Knowledge* 137). While Foucault conceives of these manipulations as intended to have a positive influence on said life, enacting them through hegemonic systems of patriarchal government allows considerable room for oppressive and exclusionary imposition of rule. Notably for my purposes here, he expands the idea elsewhere to claim that biopolitics "deals with the population as a problem that is at once scientific and political… a biological problem [and] power's problem" ("Lecture 11" 245).

which science advocates and popularizers negotiated the inherent paradoxes of science's self-construction as a cultural asset.

The tensions around knowledge sharing and access are visible again in this chapter's third section, which treats the rise of the English periodical press that reached thousands of newly literate readers and shaped wider cultural conversations. Drawing from the growing body of work on nineteenth-century journalism, particularly that of Laurel Brake, Mark Hampton, Geoffrey Cantor, and Sally Shuttleworth, I examine the ways the media negotiated ideological anxieties around access to knowledge in much the same ways educational reformers did. While industry stakeholders argued over the purpose of journalism, the daily appearance of myriad print publications proved that reading – and thereby, learning – might happen outside the walls of institutional education, particularly as the English media provided a forum for both science popularization and public criticism of science's self-promotion.

In attending to this triple scaffolding of nineteenth-century England's scientific and spiritualist conversations, I show in this chapter how its gaps in the areas of access and epistemology are as important as its structural supports, because while the gatekeeping of knowledge was integral to maintaining nineteenth-century patriarchal and ideological order, the ramifications of inclusion and exclusion were felt well beyond the turn of the century.

Philosophy and praxis in tension: education for the disenfranchised

The disparate influences jostling for philosophical and political space within nineteenth-century England's attempts at educational standardization were many, and frequently contrary. Lauren Goodlad describes the era's liberalism as including a reluctant recognition of the state's potential usefulness to welfare, sitting uncomfortably within resistant attitudes toward state interference: "Resistance to popular education came partly from conservatives, many of whom believed that education would make the working classes discontent with their lot. Liberals, on the other hand, saw education as integral to building character but clashed among themselves as to ways and means" (167). Attitudes toward education were variously influenced by theorists such as John Locke, Jean-Jacques Rousseau, and Jeremy Bentham; movement toward a nation-wide educational system were mired in England's class stratifications but increasingly influenced by democratic educational advocates such as Mary Wollstonecraft and William Godwin.[14] Throughout all these discussions were the calls for moral (or doctrinal) education from numerous faith-based organizations which already had volunteers, spaces, and potential funding for the work. Inevitably, tangled ideological arguments about the purpose, form, and delivery of education slowed the process of state regulation, while its implications extended well beyond England's physical borders. Education became a "vehicle for exporting English ideology into colonial territories such as India," further cementing education's place "in the edifice of class stratification" and

[14] John Locke's vision of education was that it built character and social order upon an infant's *tabula rasa*; Rousseau theorized a "natural child" whose education should only "[protect] him from the constraints and corruptions of society" while allowing free development (Lawson and Silver 231-2). Bentham advocated minimal state interference to allow social and economic forces to settle into patterns most useful for society's needs. Wollstonecraft and Godwin argued for education as a human right for both sexes, largely on moral grounds.

biopolitics around the world (Green 657); indeed, the school structures and para-educational institutions considered in an English context in the pages ahead inevitably become tools of nation-building and "cultural self-assertion" in the colonies (Atkin 2). There, the gatekeeping around who had the capacity and right to access education is even more overt than the efforts on English soil, but regardless of location, controlled access was predicated upon an ideal of a populace educated enough to direct its energies to harmoniously, productively useful ends.[15]

Nineteenth-century English schooling at all social levels varied in cost and quality, and its managers inevitably had widely variable dedication to education for its own sake, both before and after a nationalized structure of delivery and content. That structure, detailed further in the pages ahead, arrived gradually but can be broadly said to begin around 1870. Before its implementation, families with the least income had correspondingly few schooling options, with church-run, charity-run, and dame schools shaping much of the century's educational landscape while the urban "ragged school" movement offered education in England's neediest neighbourhoods.[16] All these spaces granted thousands of children a knowledge of, in the common phrase, *letters and sums*, but the overwhelming majority "cannot be disengaged from the underlying project of

[15] The global repercussions of the empire's decisions around education and knowledge-transmission are worth remembering throughout my discussion, but my focus is primarily within England as I consider the confluence mentioned earlier; I do this both for reasons of concision and because the works treated in my third chapter are all set in England or Europe, not the colonies.

[16] I examine each of these types briefly in the pages ahead. The most prevalent institutional schools across England prior to mid-century reform were the charity day schools run by benevolent or church societies. The British and Foreign Society (established 1808) and the Church of England's National Society (established 1811) were responsible for 90% of voluntary British schooling for the less affluent by 1870 (Purvis 20).

bringing working-class habits in line with middle- and upper-class social objectives," regardless of how the initiatives were rationalized (Goodlad 170). Notable figures such as Dr James Kay (later Sir James Kay-Shuttleworth) advocated schooling on an ostensible model of kindness that would enrich education – but in assuming, for instance, that parents in poverty were incapable of nurturing learning, Kay's model controlled access to knowledge along middle-class biases of intellectual capacity.[17] Similarly, urban ragged schools often provided accommodation, meals, job placement, or even help with emigration, but minimal academic curriculum. Thus, in practice, schools for England's most disadvantaged provided an outward educational structure that maintained social hierarchies, with inconsistent care for intellectual development or education in itself.

Nineteenth-century conversations around the ragged schools illustrate contradictory impulses to access and limitation, torn between asserting the value of education for its own sake and a middle-class impulse to charity subtly implicating both moral obligation and self-congratulation. A newspaper account by Charles Dickens about life at one Westminster ragged school deploys vivid description of neighbourhood squalor, to underscore the local need. Overtly admiring of the school's efforts and management, Dickens' account also includes a quotation from a potential student which perhaps unwittingly foregrounds the inherent weakness of a charity school model when

[17] Kay suggested intervening in the lives of "pauper children" by physically removing them from the slums to go to district schools elsewhere. In that model, "the teacher [would act] as a substitute parent for the working-class child," eschewing corporal punishment and instilling a love of learning (Goodlad 168-9). Canadians might recognize uncomfortable parallels with the Sixties Scoop, which forcibly separated Indigenous children from their families to impose an educational model more in line with state projects of monocultural normativity.

surrounding socioeconomics offer little opportunity for overall stability: "'It will be of little use to me,' said [the student], 'to attend school in the daytime, if I have to take to the streets again at night, and live, as I am now living, by thieving'" (Dickens "The Devil's Acre" 289). Still, Dickens perceives a visible distinction in the longest-attending students, as they seem "lit up with new-born intelligence" (299). I will return to the implications of a school-birthed "intelligence" in a moment, but for now I note that Dickens – a long and vocal critic of England's hierarchized society who believed "education held the key to producing 'sweet accord and harmony among all classes'" (qtd in Goodlad 162) – here presents the education of the poor as an undeniably worthy initiative and praises those engaged in it but does not, for instance, acknowledge the irony of ragged schools' ties to emigration systems ready to bodily remove 'improved' students from England.[18] As Audrey Jaffe has argued, that visible rendering of the unfortunate – such as Dickens does by painting grim pictures of need and student reality – is a common tool of Victorian literature in invoking sympathy, and maintains the reality of socioeconomic difference by positioning the "middle-class or respectable subject [to encounter] his or her social shadow" as a spectator at a safe distance (12). In grasping the potential benefits of the ragged schools, the spectator/reader feels the affective benefits of sympathy but is under

[18] Dickens also remarks that some students arrive at the school already knowing how to read because they had served prison time; he does not comment further (299). I have yet to encounter a study of Victorian Britain's prison system as a para-educational source, but Atkin and her co-authors confirm that nineteenth-century Australia recorded higher literacy rates than much of Britain, and moreover those rates were "true both of convicts and free settlers, and was particularly pronounced in the colonies of New South Wales and Victoria," the latter's rate in 1862 allegedly double that of Britain's average and indeed every other colony (47).

no obligation to enact real change for the spectated; even if they become a donor to the school themselves, the iniquitous access to education continues.[19]

For the somewhat more advantaged, dame schools were most often run on a pay-per-use system of perhaps a few cents a week, with Sunday schools offering supplemental education at little to no cost.[20] Dame schools offered spelling, sums, and basic reading in a private home, with more advanced work only available if the managing dame had sufficient education herself. Skills such as sewing or knitting were taught to male and female students alike (Purvis 13).[21] Sunday schools, although in most communities an option for both boys and girls, provided education through religious texts and became a space of general literacy through their libraries. But Sunday school instruction was inevitably language-focused, leaving skills such as numeracy under-served, and some church schools taught writing only to boys, with doctrinal limitations of content resulting in systemic gender inequities even as literacy grew (Purvis 16; Lawson & Silver 240). Proving once again that controlling access to educational material would not result in a controllably literate population, however, some contemporary accounts credit Sunday

[19] Despite child labour laws and increased educational opportunities for other social classes over the course of the century, there were still more than a hundred and thirty ragged schools in England by 1870, and some persisted into the 1890s (Lawson and Silver 285).

[20] Jane Purvis defines these as "small private schools usually run by one woman or 'dame' in her own home" – were frequently "closer to home, warmer and more familial in atmosphere," and free to select learning materials and schedules without adhering to doctrinal or institutional credos (11-13).

[21] Purvis notes that "the working-class family itself could also be an important education resource" (11), but she does not fully explore the significance of the claim, possibly because lessons in a domestic space leave less primary evidence for educational historians. Harriet Martineau famously takes up the idea of domestic education in *Household Education* (1849), advocating for a communally constructed intellectual development plan within the household sphere. Resonant with Wollstonecraft's call for more equitable education for women, she argues education should do "justice to all the powers of every human being under training – [it should include] women, the poor, the infirm – all who were rejected or slighted under former systems" (20). More on this book ahead.

school lessons for the rise of populist political agitation through the middle decades (Rose 61).

Charity day schools provided lessons in basic literacy and numeracy to all but were typically segregated by sex, or at least they gendered some content, most assigning needlework for girls while providing boys more reading and "ciphering" time (Purvis 21). Perhaps the most well-known representation of a charity school occurs in Charlotte Brontë's *Jane Eyre* (1847): the Lowood Institute with its frigid rooms, insubstantial food, and persistent sickness is hardly a cheerful place of learning, and the manager, Mr Brocklehurst, emphasizes the school's purpose is to "render [the girls] hardy, patient, [and] self-denying" in preparation for marriage or governess-ship (Brontë 55).[22] Unrepresented in Brontë's tale is another socioeconomic reality for all the schools described thus far: as students neared double-digit age, many able-bodied sons would have left schooling to find paid labour, and many daughters were expected to stay home to tend younger siblings.[23] Whether because of familial pressures or a perceived uselessness of their gendered curriculum, girls were disproportionately absent from day schools and unequally educated when present.

[22] The inspiration of the real-life Cowan Bridge school for Lowood is generally accepted, primarily because of Elizabeth Gaskell's assertion of it in *The Life of Charlotte Brontë* (Oates xv). Note too the difference between the grim Lowood and the more expensive, salubrious (if elitist, surveilled, and haunted) Madame Beck's boarding school for genteel girls in Brontë's later novel, *Villette* (1853).

[23] Although the Factory Act of 1833 forbade the employment of children under nine, compliance was notoriously erratic; some factories arranged desultory 'schools' "in factory corners," with employees as instructors. Attendance at local schools was so poor that the national compulsory birth registration began in 1837 at least partly in response (Lawson and Silver 273).

Against this reality of education for largely charitable reasons, reform-minded investigations by Royal Commissions and Parliamentary committees were largely ineffectual. Any space for schooling was attempting at once to produce the next generation of morally sound and productive workers, and to regulate children's daily activity in preparation for the adult working world – or more accurately, the work allowed to their social position. When Dickens' article perceives the birth of "intelligence" within the ragged school's classrooms, he conflates intelligence with exposure to even its limited curriculum, without recognizing the intellect that existed before it was provided an opportunity for expression. One wonders about the employment possibilities later available to the student astute enough to recognize schooling would not redress the straits that had led him to thievery; the ragged school's lessons might offer him more facility with letters and sums – which may indeed translate into better earning opportunities – but there is a perspicacity in his remark that speaks to an emotional or social intelligence which a curriculum of lecture and rote "useful knowledge" may neither recognize nor enrich.

The disjunction between the types of knowledge disseminated by audience type is exemplified by the schooling available at each income level: compare, for instance, the charity or ragged schools above with middle-class day schools. The latter were privately run, occupying large houses, and besides reading and arithmetic offered history, geography, and often at least one foreign language; in the girls' schools, needlework was also a core subject, and indeed in 1862 was made a condition for government grant monies (Lawson and Silver 286). These middle-class educational spaces were deemed

doubly useful for girls' education, as they suited daily lessons in householding, deportment, decorative arts, and other social skills – i.e., lessons tailored to future marriage, being "ornamental knowledge that might attract and impress a suitor" (Purvis 64).[24] Educational gender inequities did not go unnoticed by contemporary commentators: activists Josephine Butler, Francis Power Cobbe, and Emily Davies among many others spoke on behalf of girls' and women's education (Schwartz 672-6).[25] So too did author Harriet Martineau, who in her influential *Household Education* noted the illogic of simultaneously arguing that girls need not learn ancient languages or advanced math because they do not need them for future careers, but that those same subjects for boys will "improve the quality of their minds" (240). Rejecting the prevalent notion of brain-capacity differences between the sexes, Martineau upholds education for its own sake and for continual intellectual development rather than segregating subjects by sex, and she argues that "[the female] brain that learns French will learn Greek; the [female] brain which enjoys arithmetic is capable of mathematics" (Martineau 240-41). Even with reluctant and incremental changes to curricula, however, England's girls' schools could not function as stepping-stones to further education: boys' schools' administrators might retain ties with their alma maters and facilitate a student's entry into

[24] The Taunton Commission acknowledges the pervasive thinking: "In our returns the girls' school is often spoken of as intended to be more a home than a school" (Schools Inquiry Commission 547). More on this key Commission ahead.

[25] Laura Schwartz's article astutely points out that the advocates for women's education were no more united on how and why it should happen than were the advocates for any other education reform: "Feminists were divided over what kinds of education were best suited to women" (676). I explore this advocacy further in the pages ahead.

university, but schools for girls stood untethered while England's post-secondary institutions would not admit women.[26]

For England's wealthiest families, gender-specific boarding schools, privately run and subject to no state regulation, offered prestige but again varied widely in their curricula. Boys' schools were frequently as esteemed for their social cachet as for their academic rigour, tacitly understood as the first rungs of social connections a respectable university would further elevate. That these schools and their costly public school cousins were also frequent sites of psychological, physical, and sexual abuse by teachers and fellow students was less commonly spoken, though reflected in literature such as William Thackeray's and former student memoirs.[27] The nation's wealthiest young women, in contrast, were statistically more likely to be tutored privately at home (Pederson 64). Young women who were sent away to schools found many of those institutions continuing programs of ornamental knowledge and "rigid codes of ladylike behaviour" (Purvis 76). And again, regardless of the family's wealth and attitudes to education, girls' official schooling in England ended in childhood, so long as the nation's universities refused women.[28]

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[26] The first to admit women was the newly created University of London in 1870; I explore university education further in the pages ahead.

[27] George Landow writes that by the 1840s, "Public Schools had become characterized by dreadful teaching, archaic curricula, bullying, sexual abuse, and dreadful living conditions" (para 2). Scholars such as Jacqueline Banerjee (2007) argue Thackeray's work was influenced by his time in Charterhouse School. In *The Roundabout Papers*, he writes that the first night in a public school is marked by "hard bed, hard words, strange boys bullying" and an ominous observation that "And the first [night] is not the WORST, my boys, there's the rub" (Thackeray "On Two Children in Black" n.p.).

[28] By 1885, only two English universities were conferring degrees upon their women students (Pederson 73). Those fortunate enough to access continental European universities – which in limited locations had been admitting and matriculating women for some time – might argue their schooling equalled that of

The Taunton Commission and a national education

Amid growing criticism of England's schooling in the middle decades, the government implemented an educational agenda "to strengthen the governing credentials of the nation's elite through public school and university reform" (Goodlad 173).[29] The Taunton Commission of 1864–67 investigated specifically middle class education; its final report, however historic and influential, nonetheless focused on structural rather than pedagogical changes to England's educational landscape.[30] Like its predecessors, the Taunton report had little material impact on gaps in access and funding. It did condemn the neglect of girls' education, finding the result too full of "slovenliness and showy superficiality; inattention to rudiments; undue time given to accomplishments, and those not taught intelligently or in any scientific manner" (Schools Inquiry Commission 548-9).[31] "New schools" for middle-class girls began to offer education "intended to prepare

English universities, though as my second section will demonstrate, further obstacles to women's use of that education remained.

[29] Note North American and English differences in the use of "public" in school contexts: Canadian "public" schools are funded by provincial and municipal tax revenues; students within their catchment areas attend without tuition fees, and their curricula and assessment standards are mandated by a provincial ministry. Victorian England's "public" schools were governed by a board of trustees, often shareholders, who historically nominated students for enrolment from amongst respectable families. Privately-owned "grammar" schools were structurally different, though enrolment in either type was indicative of socioeconomic status. These distinctions were in flux over the course of the nineteenth century, but both types catered primarily to the gentry and aristocracy, charging hundreds of pounds in annual tuition (Purvis 66-70). Many resisted curricular reform and retained Greek, Latin, and philosophy instruction until the early twentieth century.

[30] The report suggested sorting schools into categories partly based on whether the curriculum was 'Classical' or 'modern,' for instance. In 1869, Matthew Arnold expressed exasperation with such bureaucratization: "An English law for [education] is ruled by no clear idea of the citizen's claim and the State's duty, but has, in compensation, a mass of minute technical detail about the number of members on a school-committee, and how many shall be a quorum, and how they shall be summoned, and how often they shall meet" (qtd in Green 657).

[31] The authors are pessimistic about girls' school reform, lauding the work of "able and experienced" advocates but adding they "must be content to expect, even ultimately, a proportion of failures somewhat

the daughters of business and professional families for 'more active and socially useful' roles in the public and domestic spheres" (Purvis 76), again with the evident intention of shaping students for productive – in both the commercial and heteronormative senses – citizenship. Indeed, as Laura Schwartz observes, even the advocates for girls' education adopted the argument, insisting educated girls would "improve society" and arguing "with a language of productivity and efficiency [, frequently] invoking the 'economic gain to the community' that a better educated female workforce could provide" (672-3). It was not until 1870's Elementary Education Act, commonly called the Forster Act for its primary Parliamentary proponent, that previous tentative motions toward state regulation, endowment, and mandatory education for children of both sexes, were realized.[32] Attendance committees, inspectorships, teacher training, and standard examinations were instituted to promote institutional and curricular consistency (Lawson and Silver 317), while a monitored system of repetitive, rote learning in preparation for testing, assured any casual observer that student learning was underway (Purvis 22). The Act established England's pedagogical focus as one of "useful" learning with little acknowledgement of other, non-empirical types of knowledge. Schooling reform thus also troublingly begins to mirror the industrial mindset, as if the spaces and ideologies of pedagogy and production shared similar goals. Postural guidelines, call-response rote learning, and results-based funding models exemplify the ways in which "[e]ducation sanitized,

larger than must be reckoned on in most such attempts, and distinctly more than is probable in the corresponding work of the education of boys" (Schools Inquiry Commission 547).

[32] Raised as a Quaker and with long-standing populist sympathies in the areas of industrial and franchise reform, William Forster had served on the Taunton Commission and was encouraged by its tentative steps toward system regulation. Forster and his allies "hoped to establish a ladder of scholarships… as well as a permanent regulatory mechanism" for public education (Warren par 2-14).

elevated, and ultimately erased the middle-class"— as if children were themselves precision-cut, mass-manufactured products (Goodlad 175). Although too precise an application of this mass-production overlay would be misleading, the parallels add to the biopolitics of Victorian education, with generational consequences.

As social utility began to determine curricula, subjective or affective intelligences – forms we might now call social or emotional intelligences, which buttress kinship networks, personal relationships, or even aesthetic appreciation, all difficult to assess in standardized ways – disappear from the classroom. "Knowledge texts" such as school primers and even textual representations of schools, such as Dickens' or Brontë's, lack references to, for instance, aesthetic education or collaborative, discussion-style pedagogy that fosters learning through dialogue and exchange. Just as secular learning materials displaced overt religious indoctrination, the privileging of empirical observation and bestowed knowledge displaced considerations of opinion, the human spirit, or experiences of the numinous, to outside the classroom space. This relegation of subjective, qualitative experience to the margins of importance, rather than as an essential part of selfhood and cognition, is partly why the spiritualist movement was recurrently positioned as one antithetical, if not threatening, to "scientific" rationality, as my second chapter will explore further. Other ramifications of prioritizing objective materialism through education and the growing science culture are subtle and diverse; arguably, a full exploration would include present-day manifestations of such priorities and require more space than available to this project. But as a single example: perhaps the English public's startled response to the aesthetic movement as the nineteenth century ended was at least

partly due to a generation of learners unprepared to consider with any seriousness their own subjective responses. When art critic Walter Pater poses a series of questions about art's influence and evocation of pleasure in one's self, he does so because each of his readers' personal answers are the "original facts" from which to build art criticism (i) – yet these are not the facts drilled into students by rote repetition in England's schools. Nor could students engaged in solitary classroom tasks "catch light and heat from each other's thoughts" to enhance culture as a whole (Pater iii). "Our education [as aesthetic critics] becomes complete," Pater asserts, "as our susceptibility to these impressions increases in depth and variety" (i-ii), yet this reflective, expansive education was not happening in the state-mandated childhood classroom and was increasingly positioned as the opposite of the "useful" knowledge necessary for a productive populace. Given that literary and artistic output during the Victorian era was varied and considerable, schools cannot have stifled all creative impulse, but the strictures of national standardization appear to have left little space for it to bloom in less affluent learners. Schools for the elite, it is important to remember, did not have to adopt the government measures around pedagogy and productivity testing. As Jonathan Rose argues, eliminating considerations of literature and art from working- and middle-class education, particularly by omitting those works canonized as "great" for at least partly aesthetic reasons and therefore deemed sophisticated studies, preserves classist myths of innate intelligence and stymies any politics of equality predicated on the sharing of knowledge (7).[33] Juxtaposing the

[33] Rose's influential study draws persuasively on Marxist and reader network theory to refute historical assumptions about mass readership and literacy. His Preface notes that "If the classics offered artistic excellence, psychological insights, and penetrating philosophy to the governing classes—if, in fact, this kind of education equipped them to rule," it was in those classes' best interests to keep those same texts out

schooling available to each class drives the point home: until the twentieth century, England's elite boarding schools and universities continued to be grounded in "Classical" subjects such as rhetoric and philosophy (cf. Lawson and Silver 257), while working- and middle-class schools taught fact-based material through rote repetition. The struggle for reform was thus multifaceted. While women struggled for access to university at all, critics of England's higher education increasingly saw those institutions' classical education insufficient in a rapidly globalizing economy (cf. Brown 18; Schwartz 676).[34] Instead, it was para-institutional education that engaged most with questions of pedagogy, content, class, and gender.

(Para)education past childhood

Growing in number and acclaim throughout the century were adult learning venues outside university halls, particularly in the nation's rapidly expanding industrial centres. In multiple cities, Mechanics' Institutes (MIs) offered lessons on the science principles within distinct trades, though Jane Purvis notes their initial objectives were "both class and sex specific, i.e. the diffusion of scientifically useful knowledge to working-class men" (37).[35] The publications of the Society for the Diffusion of Useful Knowledge were

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of the hands of the wider public (7). The notion will recur in my upcoming examination of nineteenth-century journalism.

[34] Brown bluntly observes: "The problem, from the point of view of the critics, was that Oxford, Cambridge, and the public schools persisted in treating knowledge as a goddess, and in so doing so were depriving the country of a much-needed cow. In its extreme form, this criticism could be reduced to the belief that the knowledge given by the most prestigious educational institutions in the nation was, quite simply, USELESS" (capitals original, 19). He cites commentary by Rudyard Kipling, Stanley De Brath, and editorials from *Banker's Magazine* and the *Contemporary Review*, among others (fn. 2-4).

[35] Rose notes MIs were often "founded and governed by paternalistic middle-class reformers, where religious and political controversy was usually barred and the premises could be uncomfortably genteel" (65). Studies of colonial MIs indicate that these attitudes were carried beyond England's borders to support the projects of empire-building.

widely accessible on a variety of topics for minimal cost, contributing to "an enormous change in the kind of reading material that was available for broad reading audiences" (Rauch 41).[36] Alongside the public libraries proliferating across England, the working class reading rooms and mutual improvement societies across Britain functioned on what Rose describes as a grassroots level "venture in co-operative education," implementing the sort of teaching and learning institutional education was rejecting, and doing so via working-class initiative rather than middle-class philanthropy (58). In those spaces, lessons in arithmetic, reading, and writing were "taught cooperatively by the members themselves or by professional teachers who volunteered their services," encouraged open discussion on a variety of topics, and sought "to develop the verbal and intellectual skills of people who had never been encouraged to speak or think" (Rose 65; 58). Rose's evocative description of an entire segment of the population previously deemed outside any expectation of intellectuality may resonate with Dickens' perception of the newly illuminated ragged school students, but I would argue the local initiatives are more notable for fostering their learning without adherence to the rote- and individual-study models of the schools. Though financially precarious and often ephemeral, such efforts offered new venues for a broader public manifestation of literacy that might include the social or discussion-based in their provision of "useful" knowledges.

[36] Alan Rauch traces the lifespan of the Society, arguing its goals were more radical than its contemporaries or perhaps even its members realized (40-6). The Society overtly sought to produce inexpensive books for broad consumption, "'particularly to such as are unable to avail themselves of experienced teachers or may prefer learning by themselves'" (qtd in Rauch 41).

Women's inroads into post-childhood educational venues continued only incrementally, with even some of the grassroots reading rooms reluctant to admit women (Rose 76-77). However, the advocates for women's education were as disparate in motive and philosophy as were other educational reformers, being "divided over what kinds of education were best suited to women," and many with "ambiguous" stances on the wider women's movement and suffrage (Schwartz 671). Their common ground was "fighting in the face of entrenched and widespread opposition to educating women outside the home" (Schwartz 671). By 1870, although women were allowed on a few campuses to attend lectures and in some places sit an exam, they were not granted degrees until the University of London allowed it 1878 and others slowly followed.[37] Sharing the same academic spaces did not mean equal access or equal status: that would require fundamental changes in pedagogical philosophy to include a new perception and promotion of women beyond heteronormative domestic roles, to welcome them as scholars "valued for [their] own sake, as… independent being[s], rather than in relation to men and children" (Purvis 45). So long as they were disenfranchised and outside the skilled job market, women's education could remain different from and lesser than men's. Complicating the moves to reform, however, "many [women's education advocates] pointed to how outdated the existing university curriculum was, and insisted that women should not seek to emulate this" (Schwartz 676). For instance, while she supported women's demand to sit exams if they wished, educator Elizabeth Wordsworth was

[37] Oxford and Cambridge Universities for instance did not grant degrees to women until 1920 and 1948 respectively.

"especially keen to ensure that rather than have 'facts ... ruthlessly and unremittingly shovelled into her brain,' a girl's poetic imagination ought to be nourished" through a "more holistic" university education (Schwartz 677)[38] – a suggested path for women's education which would mean diverging from the established, male university model in ways different again from those reformers seeking to replace the classics with a statedly "useful" curriculum. Fundamentally, however, most advocates of women's education reform sought to change the paradigm to "the *new woman*" capable of the same intellectuality as men, within both educational walls and workplace ones (Purvis 112, italics original).[39] Amid the multiple drives toward educational and intellectual equity, perhaps the most noticeable gatekeeping occurred around those subjects now broadly identified as 'sciences,' because those were consistently aligned with ideals of rational masculinity.

The laboratory meets the classroom

The Taunton Commission's recommended emphasis on "modern" curriculum was among England's first legislative responses to its changing economic landscape,

[38] Wordsworth was Principal of Lady Margaret Hall, Oxford, established in 1879 (Schwartz 676). Schwartz does not mention if Wordsworth elaborated on her meaning of "holistic" here, but I assume from context that it involves the humanistic, literary, aesthetic, or dialogic learning through any model other than the lamented "facts" here.

[39] Sally Mitchell's influential *The New Girl* (1995) features the "the [Cambridge University college] Girton Girl," as a variation of the New Woman trope. Petra Clark identifies the college and its students as "instrumental in changing Victorian attitudes toward women's education and intellectual abilities" (659), even if some of the interest was simply curiosity about a college which with very restricted "visual and physical access" (658). Schwartz notes Girton was also known as "that infidel place" supported by "freethinkers" (677). I would add that many of Cambridge's and Oxford's colleges were, and remain, similarly secret-seeming, still gated and patrolled in ways that continue the aura of exclusivity and elitism.

assembled by a body not directly concerned with commerce or trade. It directly references pressure from advocates, acknowledging that "[t]he study of natural science has of late years been strongly pressed on the attention of schools by scientific men" (School Inquiry Commission 32-4). Despite internal disagreement over topic selection, and over finding sufficiently expert teachers, the report ultimately recommends science's integration within childhood education; this mirrors a broader social acceptance of its growing cultural authority, even while, as my previous section made clear, the discipline as a whole was disproportionately more available to boys of the wealthier classes, largely rooted in the presumption of biological difference between male and female brains and intellectual capacity. "In [that presumption's] most extreme manifestations," Schwartz notes, "women's intellects were seen as insightful and sensitive without the ability to make rational evidence-based judgements" that science ostensibly requires and were therefore better suited to the "insightful and sensitive" arts and family spheres (674). Consequently, Barbara Gates notes, "Young men became more knowledgeable in science, more apt to learn their science from men, and more likely to become the major disseminators of the narrative of natural history as well as the narrative of science" (65). Here are traces of the fundamental paradox of science in Victorian culture: although education reformers promoted "scientific thinking" as valuable for all, its designated learning spaces remained inaccessible to those without funds or connections, and especially to girls and women (Waller 89, 91). Science sought to become somehow both a popular, public knowledge and a specialized, insular one.

Natural philosophers had already established in the English public imagination what is now broadly termed "science:" demonstrations of physical or chemical principles had been occurring in shipyards and coffee houses since at least Elizabethan times, and their practitioners were among the first to leverage the printing press to share knowledge widely (cf. Goodman and Russell, 1991; Morton and Wess, 1993). Indeed, for much of the nineteenth century, the public absorbed scientific knowledge in para-institutional spaces – "in local clubs and pubs [so that] Victorians of every rank, at many sites, in many ways, defined knowledge, ordered nature, and practiced science" (Lightman 1). Gradually, however, the amateur, largely self-taught 'natural philosopher' was replaced by a group of predominantly male experimenters whose work was laboratory- and experimentation-based, and whose findings were published in specialist periodicals (cf. Gates; Shtier).[40] Through the professionalization process, science gradually constructed itself as a discrete entity simultaneously part of, yet separate enough from, society to critique it with authority.[41]

Science's intersection with education reform and mass media aligns well with Mary Poovey's theories of paradigm formation. Poovey argues that in nineteenth-century Britain, as mass culture, governmental reform, and fledgling institutions prompt new structures both material and conceptual, nascent cultural paradigms or "domains" emerge.

[40] The term 'scientist' does not enter common usage until late in the century, nor were the distinctions between physics, biology, chemistry, etc., yet fully solidified. These discursive and disciplinary changes form part of this section's exploration.

[41] Alison Winter, Ruth Barton, Richard Noakes, Bernard Lightman, and Sally Shuttleworth, among many others, have all produced valuable work in the history of science and the contexts within which it grew over the nineteenth century.

The label evokes not only geographical territory but also its concomitant abstractions – appropriation, ownership, boundaries, rule, and unequal privileging – all of which are relevant to my argument here (Poovey 5). These new domains are mapped in gradual, recognizable stages upon existing structures, requiring "the negotiation and eventual re-drawing of the boundaries between kinds of knowledge, kinds of practice, and kinds of institutions" which serve to promulgate or protect that knowledge (Poovey 7). My survey of educational reform has illuminated similar negotiations of knowledge valuing and access in that arena; science emerges as an arguably adjunct domain, the first stage of which involves establishing itself as an epistemological field the discourse of which gradually suffuses education, industry, and politics. Poovey terms this initial process "instantiation," and it lays the ground upon which Victorian sciences become a significant, and significantly gendered, cultural force.

One prominent example of science's instantiation into nineteenth-century English culture at the visibly institutional level is the Royal Institution. The broadly accepted history of Western "scientific thinking" assigns its origin to seventeenth-century polymath Francis Bacon's proposition of an experimental methodology through which to examine the world – what is still broadly referred to today as the scientific method. Within England, the history of science inevitably includes "the invisible college," a network of thinkers influenced by Bacon, and their subsequent formation of the Royal Society, for which they were granted a royal charter in 1799 (Royal Institution "Our

History").[42] The public-facing Royal Institution (RI) emerged from the Society by an Act of Parliament in 1810, an Act which ensured not only self-governance but also legal protections granting the Institution and its members authority to speak on behalf of their field.[43] The RI established itself as populated by specialized professionals. Its "Friday Evening Discourses," begun in 1825, attracted prominent researchers and large audiences, and indeed still draw crowds today (Royal Institution "Michael Faraday: About").[44] However, its claiming of scientific space in the public consciousness did not go uncontested. In 1831, the British Association for the Advancement of Science (BAAS) was founded partly in response to RI's perceived elitist bias, promising instead a "more systematic direction to scientific inquiry… a removal of those disadvantages which impede its progress, and to promote the intercourse of the cultivators of science with one another, and with foreign philosophers" (British Science Association, "Our History").[45] BAAS seems here to embrace the potential of a growing public literacy, and indeed its

[42] The "invisible college" included names still recognized as luminary: Robert Boyle, Robert Hooke, Isaac Newton, and Charles Babbage. A Royal Charter "is an instrument of incorporation, granted by The Queen, which confers independent legal personality on an organisation and defines its objectives, constitution and powers to govern its own affairs" (Privy Council, "What is a Royal Charter?"). King George III, who granted the initial Royal Society charter, was fascinated by scientific experimentation, patronizing scientific work and amassing a vast collection of instruments (cf. Morton and Wess, 1993).

[43] Contrast this with the many eighteenth-century grassroots "mutual improvement" groups, which produced notable natural philosophers working in skilled trades for their livelihood but who were, until about the middle of the nineteenth century, recognized investigators contributing findings to scientific periodicals (Rose 70-72, etc.)

[44] In the first year, each Discourse lecture averaged a 269-person audience (James 69). Michael Faraday, who began the Discourses and delivered 126 of them himself (James 69), is most remembered for his pioneering work in electromagnetism. Socioeconomic factors had denied Faraday a university career; prior to his apprenticeship at the Royal Institution, Faraday had relied on libraries and other para-institutional venues described in the previous section.

[45] The group became known as the British Science Association in 2009. When BAAS was founded, some members of the Royal Society joined it as well – an early indication that, while an institution might present an even façade to the public and metaphorically speak from a unified front, its membership was still comprised of individuals with disparate views of how science should be conducted, by whom, and how made public.

meetings were detailed in numerous newspapers, with keynote speeches reprinted almost verbatim. However, BAAS notably does not mention novices or interested members of the public, but rather those already invested in the "progress" narrative of scientific enquiry. In creating and nurturing its own cultural authority, science needed the reach of educational systems and the distinction of scientific practitioners from everyone else.

Science as worthy, useful, and masculine

In recommending science be integrated into children's schooling, the Taunton commissioners aver that "the study of natural science develops better than any other studies the observing faculties, disciplines the intellect by teaching induction as well as deduction, supplies a useful balance to the studies of language and mathematics, and provides much instruction of great value" (34).[46] Science is thus an incredibly complex asset: it promises not only content of "value" but also structures of reasoning that transfer into other aspects of life. It is positioned here as a "balance" to language, which by implication gives it equal weight, yet is figured as a not-science on the opposite side of the scale.[47] In fact, the scientific "object lesson" quickly became part of the school day: demonstrations of scientific principles using familiar, concrete examples and with a focus

[46] The report notes a letter of concern from chemist and Member of Parliament Lyon Playfair, who claimed the nation's "decline" in manufacturing technology is "partly due to a want of technical education;" the commission surveyed "competent observers" on the opinion, and the majority agreed (School Inquiry Commission 11). However, the commissioners' recommendation to include the sciences in elementary curricula comes with the caveat that it should not displace other subjects but rather occur "side by side with classics, mathematics, and modern languages, which may be of the greatest advantage to young men proceeding to the Universities, or to professional training, or directly to the business of life" (36). Note again the gendered learner and the expected "usefulness" of school knowledge.

[47] The implication that mathematics is also outside science is somewhat mystifying to me, perhaps betraying an inadequate level of scientific training. I would argue that mathematics is essential to most of what we today call the hard sciences, but then again, I would argue the same about language in science.

on observation and recording (Lawson and Silver 331). Polymath William Whewell proclaimed science could raise man above the natural vices of "rudeness, dimness, confusion, laxity, [and] insecurity" (qtd in Winter *Mesmerized* 296). The elevating power of science was thus aligned, in praxis and discourse, with useful knowledges intended to shape not only a productive citizenry but also a morally "improved" one. Physicist Michael Faraday, biologist T.H. Huxley, physician William Carpenter, and Sir Francis Galton were among the notables advocating for educational reform, urging the inclusion of the sciences in children's public education to encourage mental discipline in English youth.[48] Faraday, in 1853, contributed a letter to *The Times* lamenting the public (mis)usage of scientific terminology and concluding the English education system must be "greatly deficient in some very important principle" ("Table-Turning" 8).[49] Faraday's letter exemplifies the topic's movement within educational discussion, from a perception of "scientific ability as something one was born with (or without)" toward "a definition of scientific thinking as a skill that could be learned… a disciplined form of 'common sense'" (Winter *Mesmerized* 8) – and, of course, a common-sensical and sensibly trained nation was a productive one.

[48] After the Forster Act's re-organization of state education, Huxley was elected to his local London school board, and presumably argued for science from inside the system as well as out (Lawson and Silver 322). Galton is today remembered as a statistician and the originator of forensic finger-printing in Britain, but primarily as proponent of eugenics (Waller 85). Given his own elite schooling, social rank and overt social biases, his motivation for widespread "petty bourgeois" educational reform for all children remains, as Waller notes, somewhat obscure. He participated in several spiritualist gatherings and his vision of the afterlife exemplified his vision of "racial fitness and hereditary improvement" (C. Ferguson "Eugenics and the Afterlife" 65).

[49] Faraday's letter, in that it responds directly to spiritualist practice and its adherents' enthusiastic embrace of electromagnetic terms, was widely remembered by both sides of the conversation and will reappear in my second chapter.

Promoting the future benefits of scientific schooling also benefited professional scientists. By 1866, according to Royal Society member William Grove, "[T]he habit of consulting men of science on important questions of national interest [was] becoming a recognized practice" (qtd in Barton 82). Ruth Barton makes explicit the cruciality of language to the construction of science as an epistemological and sociocultural force by tracing the community's "language of self-description" throughout the 1800s (Barton 73). Whewell had suggested "scientist" in 1833 as a generally applicable noun, but Barton's study finds that Whewell's coinage did not enter common use until late in the century.[50] Practitioners instead retained "natural philosopher," and occasionally "cultivator of science" or "votary of science" for variety (80). Worth noting is how the first term tellingly evokes the gentleman hobbyist embodying centuries of intellectual tradition; the second, a caretaker nurturing the professional field to growth; the third, a follower acting in faith as a dedicated acolyte to a quasi-divine Science. Barton further finds that by far the most recurrent phrase was "man of science," thus gendering professional practice from its earliest days (83). As an increasingly cohesive community, scientists by whichever label could more easily promote their fields as useful to state projects and policy.[51]

Those proffering science as a new epistemological authority continued the field's instantiation while also beginning the second stage of Poovey's domain formation:

[50] William James wrote that the word *scientist* "suggests to me the priggish, sectarian view of science as something against religion, against sentiment" (Blum 8), at a time when attendance at traditionally recognized churches was on the decline.
[51] Indeed, the Royal Society became custodian of national funding coffers in 1851 and remains a primary grant-funding institution in England today ("History of the Royal Society").

vivification (Poovey 9). This stage strengthens the new material visibility of a domain within society by adding desirability, producing in this case a near-commodity value to science. Prominent science advocate John Tyndall expounds on how a lone scientific thinker's efforts might have ramifications for all humanity:

> [F]rom a starting-point furnished by his own researches, or those of others, the investigator proceeds by combining intuition and verification. He ponders the knowledge he possesses and tries to push it further, he guesses and checks his guess, he conjectures and confirms or explodes his conjecture. These guesses and conjectures are by no means leaps in the dark; for knowledge once gained casts a faint light beyond its own immediate boundaries. There is no discovery so limited as not to illuminate something beyond itself. (*Fragments* 110)

Invoking first a solitary thinker, and then one working from the shoulders of others, Tyndall links the methodical man to the scientific community and beyond, borrowing the language of colonialist expansion to carry civilized light into the darkness (implicitly both geographical and intellectual) within and beyond England's boundaries. I attend to such rhetoric more closely in upcoming chapters, but here the masculinization of science is doubly bolstered by its colonialist imagery, the investigator as proceeding alone (albeit sometimes from the work of others) and the exclusively male pronoun throughout. While granting the pronoun was the era's grammatical default, I also note Londa Schiebinger astute remark that the Royal Society's mandate was the promulgation of science as a "masculine philosophy" that was "distinctively English (not French), empirical (not speculative), and practical (not rhetorical)" – all traits which not coincidentally align with England's ideals of affluent masculinity (Schiebinger 138).[52] That he apparently does so

[52] The Society's centuries of exclusively male membership did little to publicly suggest women were welcome or even practicing science at all. Schiebinger notes Margaret Cavendish would have been a

in solitude may lend him an aura of focused purpose – and conveniently aligns with scientific schooling eschewing collaboration in favour of data, even as his professional community is obliquely recognized as supporting him. This too is a recurrent and paradoxical image of nineteenth-century science: the practitioner as a lone intellectual who is part of a professional community but rarely figured as working closely with colleagues.[53]

Claiming epistemological territory

Who and what science displaced in its claiming of authoritative ground is not always clear, though "religion" was frequently invoked as oppositional. Tyndall provoked considerable criticism for his assertions of experimental research's supremacy over theology, but every such conversation implied that "the nature of knowledge itself… had come into question. The origin of truth and the ownership of rationality and method became objects in the struggle" (De Young 92). In claiming rationality and method, Victorian scientific discourse centered knowledge constructed from the material world and observable experimentation: as William Clifford told the BAAS in 1872, "to every reasonable question there is an intelligible answer, which either we or posterity may know

"qualified candidate" but was only grudgingly allowed to attend a lecture in 1667 (25); Joan Mason (1991) recounts Hertha Ayerton's nomination to Royal Society Fellowship in 1902 as contested on two fronts: first, her married status, with members divided as to whether that was a reason for or against her acceptance, and second, the need for a supplemental royal charter for the Society to allow women. Ayerton lost the vote, and although she and other women were awarded medals, prizes, and grants by the Society (cf. Mason 1992 passim), the first female Fellow was not accepted as a full member until 1945 (Schiebinger 26).

[53] I will comment further on this image, but it is a strange fact that none of my sources – including my fictional samples – describe a shared laboratory space of workers bent toward the same task, or even working in parallel on different projects. Whether this had yet to become the norm in at least the University setting if not in private practice is, oddly, not a question addressed by any of my readings.

by the exercise of scientific thought" (qtd in Luckhurst 15). However, discourse fixated on statedly objective knowledge also had to allow for the subjective, such as Tyndall's passing reference to the researcher's "intuition" above or the casual invocation of genius or inspiration in describing scientific innovation. These unexpected and uniquely subjective sparks of cognitive output were essential to, for instance, replacing theological models of creation with theories of geology and species evolution: these, scientists admitted, could not be directly observed, but required a flash of insight before the tools of reasoning.[54] As already mentioned, the growing pedagogical reach of rote learning and useful subjects left little apparent space for the expansion of collaborative, creative thinking alongside the expansion of the "intellect," and thus the perceived gap – however illusory – between the subjective and the empirical widened in the public perception.

The construction of the scientific image emphasized the hard work, intellectual skill, and impartiality of the scientific community, and it did so simultaneously within that community itself and the public mind.[55] Exhibiting such traits in one's work cemented one's membership in the profession but taking a stance on what appeared to be subjective grounds of personal belief left a "man of science" open to accusations of being less than scientific and elicited censure from peers. The construction of the professional Victorian man of science thus fostered a tautology of self-description – "I am a man of

[54] Even today's typical terms for such insights – a *spark*, a *flash* – evoke the light-based metaphors I explore more fully in Chapter 2. Darwin was among the early science writers for whom aesthetic appreciation and ongoing wonder was not only overt in his observation of the world but essential to it, invoking beauty (60), "exquisite" design (61), and an acceptance of the limits of human knowledge (434, etc.).

[55] Barton finds the public representations of scientists repeatedly distinguished them by "the quality of their reasoning, the reliability of their judgement, their patience, constant labour, and public-spiritedness;" men of science "'reason with more accuracy'… are 'patient, earnest, ever-working'… [and] guided by humanitarian rather than selfish personal goals" (Barton 86).

science because I have traits x, y, z; a man of science has traits of x, y, z like me" – that bound identity with profession. Evelyn Fox Keller, in her feminist critique of scientific culture, punctures this framing of objective science as both manly and value-neutral: "How is it that the scientific mind can be seen at one and the same time as both male and disembodied? How is it that thinking 'objectively,' that is, thinking that is defined as self-detached, impersonal, and transcendent, is also understood as 'thinking like a man'?" (Keller 19). Here then is a second paradox of Victorian science: claiming a detached, objective territory of mind yet linking it insistently to the male body. Together with its attempts to be at once a teachable skill and one best left to experts, science's own ground was increasingly unstable, and the shifting border between objectivity and subjectivity as epistemological territory was the entry point for those who perceived no incompatibility between, for instance, objectively scientific knowledge and subjective personal knowledge, refusing to value one over the other.

Knowledge sharing: the ingroup, the margins, and the popular

Gillian Beer notes that the writings of natural philosophers early in the nineteenth century were crafted – because intended – for broad audiences of mixed knowledge levels: "scientists still shared a common language with other educated readers and writers of their time… There is nothing hermetic or exclusive in the writing of Lyell or Darwin" (4).[56] The promulgation of accessible science writing across England was aided by the

[56] Readership and readability combined into a primary vector of influence, carrying the ideation of Charles Lyell's geology or Charles Darwin's evolution into the collective Victorian consciousness to mutate or multiply as it would – for instance, into the speculative fiction realm, as my third chapter will explore in more detail.

growing culture of literacy already described, and by popularizers who understood what Beer argues is a less tangible social and intellectual circulation: "Because of the shared discourse not only *ideas* but metaphors, myths, and narrative patterns could move rapidly and freely to and fro between scientists and non-scientists" (punctuation original, 5).[57] In contrast to this fluid and free movement of intellectuality in the early decades of the century and the popular authors whose dialogic approach I examine in the pages ahead, the latter decades saw the gradual proscription of scientific language into specialized publications that shifted "a culture of public science [toward] one of increasingly professionalized laboratory science" reliant on a specialized language that effectively excluded outside readers (Winter *Mesmerized* 300). Whewell insisted that scientific terminology with its "fixed and definite" meanings "must remain the property of the scientific elite, and not fall into the hands of those… who could pervert their true meaning" (Winter *Mesmerized* 296). The "scientific elite" in Whewell's conception shared experience and knowledge grounded in higher education, i.e., the school-to-university path still inaccessible to many. Two decades after Whewell's words, Galton proposed the "true" scientist as being "one who has earned a medal for his work, presided over a learned society or section of the British Association, has been elected to the Council of the Royal Society, or occupied a professorship in an important college or university" (qtd in Waller 108).[58] I note again the combination of solitary and communal work this professionalization asked of its members; though the researcher may work

[57] In chapter three, I return to the ramifications of this remark and its coda for fiction.
[58] Although my source does not report to whom Galton made this proposal, or how it was received by that audience, the rhetoric nonetheless reinforces science's specialized status within society as a whole while distancing itself from those deemed outsiders.

alone, he was expected to circulate and serve within his professional peer group, proving his worth through awards or recognized roles. Further, this set of public milestones would not only bestow authority but also enact the end stage of Poovey's domain emergence: norm generation, by which a cultural domain might measure, identify, and reward its institutions and participants (Poovey 9). Even while the community constructed itself as a social group necessary to acceptance, those who adopted non-normative approaches to science, incorporating for instance discussion-based learning or subjective experience, risked not meeting the requisites and being relegated to the margins of the discipline's intellectual labour.

The binding of scientists by ties of educational experience, while ignoring the inequities inherent to those systems, did much of the work of exclusion. Increasingly, most 'amateur' (i.e., self-taught, part-time, or more dismissively, "enthusiast") male practitioners could not compete for paid scientific work opportunities and were distanced, if not entirely rejected, from the professional ingroup.[59] When T.H. Huxley disdained a non-scientist for writing a review of a scientific book, his primary protest was that the author knew science only from books and was therefore "without the discipline and knowledge" of a formally educated, working practitioner (Barton 74). Some fortunate autodidacts – notably, Faraday and Huxley himself – had established themselves within

[59] I use "ingroup" here in a doubled sociological sense described by Kathleen Taylor: first of a "collective entity" of which we count ourselves a part, whether cultural, national, familial, etc. (303), and also of the group within that collective seen as particularly worthy or influential, whose approval is essential to members' feelings of belonging and self-worth. Though in a very different but equally illuminating context to my focus here, Taylor's work (2004) is a fascinating exploration of ingroup formation, maintenance, and violences.

the domain's institutions earlier in the century and were now widely lauded, but the professionalization of science in its final decades allowed far fewer opportunities for entry, even as childhood schooling reform interested more English children in scientific subjects.

Among its multiple and contradictory hierarchies, professional science likewise offered "no recognized place for women, either as practitioners or active subjects" (Levine 21).[60] Being recognized as a woman of science by the ingroup remained difficult not only because of iniquitous access to schooling but also because of potentially derisive resistance from family and institutional gatekeepers at the mere suggestion of continued study (Gates 65). Women who persevered and demonstrated knowledgeable capability sufficient to the ingroup's standards could still only remain on the fringes of any group measuring professional identity entirely by the ingroup's constructed yardstick of men's institutional education. Against it, women were, by purported biological and demonstrable scholastic deficit, even more dismissible than amateurs and were "restricted to the increasingly private sphere of the family, where they served as 'invisible assistants' to brothers, husbands, or fathers" (Schiebinger 8). Normative middle-class gender roles further reinforced the domain of science as a masculine one: men became scientists by exercising their innate rationality to gather knowledge based in allegedly objective fact, while women in science would merely be attempting to do so against their innately

[60] Although Whewell had, in his proposal of the term scientist, further suggested that the group widen the label to include "persons of real science" or "woman of science," his suggestions garnered even less enthusiasm than did "scientist" (Barton 83).

emotional natures.[61] Consequently, "the feminine eventually came to represent a style of scholarship, a set of values and a way of knowing to be excluded from the new scientific order" and its masculine world of sanctioned education (Schiebinger 121). Indeed, women's presence is persistently visible in Victorian scientific margins and paratext, as illustrators and assistants in the acknowledgements of male scholars' publications.[62] However, the walls of institutionalized and professional science, like its discourses, were neither impenetrable nor monolithic, no matter the forces intent on making them that way. The alternative educational spaces already described offered potential learning avenues, and notable female scientists such as astronomer Maria Mitchell or physician Elizabeth Blackwell earned the respect of the ingroup by their pursuit of education outside England, determination to contribute to professional publications upon their return, and/or personal acquaintance with a male scholar who publicly lauded their efforts. Scholarship continues to recover many such women from the liminal spaces of science.[63]

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[61] Schiebinger lists Pythagorean and Aristotelian gendered dualisms in pairs both familiar to and intriguingly different from the now-notorious Victorian *passive-active* binary (234). I find echoes of them all, alongside what Taylor and Shuttleworth aptly describe as the Victorian "contorted attitudes towards female sexuality" (165), in the second chapter's examination of the primary texts between science and Spiritualism.

[62] Ann Shtier's work explores women's persistent presence in botany (1996; 2004). The Royal Society's online archival presentation "Women in the Royal Society" perhaps unintentionally bears out their paratextual presence, as illustrators comprise the most examples and male scientists acknowledge assistants' work; Louise Tyndall, it seems, also assisted her husband in the RI laboratories but was never publicly acknowledged in print (2010). In contrast, Nora Sidgwick, who will reappear in chapter two with the Society for Psychical Research, was physicist Lord Rayleigh's frequent mathematician and receives co-credit on several of his Royal Society publications.

[63] Astronomer Mitchell (1818-89) and polymath Mary Fairfax Somerville (1780-1872) both earned the admiration of the Royal Society, though not membership (Royal Society "Women and the Royal Society"); writer, suffragette, and anti-vivisectionist Frances Power Cobbe in 1870-71 used *Macmillan's Magazine* to share her theories of "Unconscious Cerebration" and conducted a comprehensive dream study by calling for reader testimony; "[a]lthough Cobbe had no scientific training…her work was nonetheless taken seriously by major figures in the field" (Cantor and Shuttleworth 7). Blackwell was the first woman entered onto Britain's medical register. Having trained in New York, she returned to Britain and a legislative loophole allowed her to register as a medical practitioner in 1858 (M. Carpenter 172).

Women authors were also among England's most widely published and commercially successful popularizers of science of the century.[64] Some, like Jane Marcet (1769-1858), preceded the professionalized fencing-in of science and sold tens of thousands of copies of a chemistry primer, reaching generations of self-directed learners (Gates 3, 41). In its Preface, Marcet attributes her knowledge of chemistry to a combination of public lecture and subsequent discussion: finding the RI lectures too densely and quickly presented, she furthered her knowledge by "conversing with a friend on the subject of chemistry, and of repeating a variety of experiments, [becoming] better acquainted with the principles of that science," and in sharing her knowledge with those who could not benefit from "the same means of private instruction" (Marcet vi).[65] Her intended audience is girls and women, as she observes that their education "is seldom calculated to prepare their minds for abstract ideas, or scientific language" and moreover they cannot learn from each other because "there are but few women who have access to this mode of instruction" (vii). Marcet leaves the mode undefined, but by implication it is the exclusionary model of higher education and the RI itself. Her book is presented largely in play-script form as a dialogue between the teacher, Mrs B., and her students Caroline and Emily, whose questions and responses bracket fundamental terms and

[64] Gates, as a key author in the field of women scientists, offers a crucial caveat: her recuperated authors were among the most privileged in English society, "in the sense that they were highly literate, often monied, and in touch with the intellectual currents of their day" (7). Few were from the working class or ethnic minority groups. My earlier exploration of the educational inequities of the time might help us to understand how, even within women's generally effaced science history, such a skewed authorship demographic would occur.

[65] Marcet attended lectures by Humphrey Davy (1778-1829), who was a founding member of the RI and Michael Faraday's mentor (Gates 41; Royal Institution, "Michael Faraday: About"). Faraday himself used her primer as a young learner.

principles as each lesson proceeds.[66] Another popularizer, Arabella Buckley, does not replicate dialogue; her 1880 book *The Fairy-Land of Science* began as a series of lectures to children, and the print version likewise interpellates the reader as "you," starting with its evocation of fairy tales as akin to scientific wonders: "There are forces around us, and among us… ten thousand times more wonderful, more magical, and more beautiful in their work, than those of the old fairy tales. They, too, are invisible, and many people live and die without ever seeing them or caring to see them… either because they will not open [their eyes], or because no one has taught them how to see" (6). She later replicates a school textbook's highly technical description of coral, acknowledging its accuracy but asking, "Does it lead you to love [a] piece of coral? Have you any picture in your mind of the coral animal, its home, or its manner of working?" (21). Marcet, Buckley, and other female popular science writers likely found public approval not only for their clear presentation of scientific fact for a rising public market, but also by remaining within a safely gendered (in the case of Mrs B, married and potentially maternal) role of teacher-guide.[67]

[66] Caroline's first contribution is, "To confess the truth, Mrs. B., I am not disposed to form a very favourable idea of chemistry… I prefer the sciences which exhibit nature on a grand scale, to those that are confined to the minutiæ of petty details," to which Mrs. B replies, "I rather imagine, my dear Caroline, that your want of taste for chemistry proceeds from the very limited idea you entertain of its object. You confine the chemist's laboratory to the narrow precincts of the apothecary's and perfumer's shops, whilst it is subservient to an immense variety of other useful purposes" (Marcet 2). Within the next several pages, the conversation presents the fundamental principles of matter and its constituent and integrant elements; a table of elements by property begins on p13.

[67] Buckley's second book, *Through Magic Glasses* (1890), features a male principal at a school for boys, presenting him first as a "magician" in a mysterious moonlight laboratory (Gates 57). Buckley was secretary and assistant to geologist Charles Lyell, whose writing Beer cites as part of the century's more accessible early science writing.

Strikingly, given the trends in educational reform I have already identified, popularizing science texts largely reject solitary objective learning and offer instead a communal or dialogic pedagogy; Gates finds the teacher figure is more often a knowledgeable female "sharing an interest in the world around her," adding "a social dimension to the story of science" (38). Readers of any age or experience are encouraged to "open their eyes [and] learn to look at what is around them in the universe [and] exercise their imaginations, for much is 'hidden in the things around them'" (Gates 41).[68] The pedagogy here is heuristic rather than fact-based, emerging from subjective experience of the world and an awareness of its own observations before making sense of them. The popularizers' encouragement to the reader is perhaps closer to Walter Pater's process of aesthetic appreciation: "the first step towards seeing one's object as it really is, is to know one's own impression as it really is, to discriminate it, to realise it distinctly" (Preface i) – these steps parallel "scientific" methods of observation and taxonomy but, crucially, do not eliminate the subjective agent. Such popular writings show little sense of Huxley's distinction between book-learner and laboratory practitioner, or indeed of Tyndall's solitary, methodical cogitation. Instead, popularizers value the relational learning that England's schools seemed largely to discard; their narratives facilitate thought and observation, providing explanation as appropriate but its 'teachers' do not claim ultimate authority (cf. Gates 41). The popular books and periodicals teaching

[68] The exhortation is reminiscent of Darwin's *On the Origin of Species*, the first chapter of which begins with the phrase "When we look" (7). *Origin* often presents readers with quotidian natural detail available to anyone's observation, and with a certain implicit pedagogy invites participation in its evidence-gathering, entwined with curiosity and appreciation. My thanks to Dr Grace Kehler for drawing my attention to its subtle but telling initial phrase.

science to those left outside the institutional walls model how a scientifically untrained public may yet find validation for its own interpretations and reach verifiable conclusions through careful observation.[69] Their success leveraged not only an unprecedented readership produced by the gradual strengthening of educational and para-educational structures in England but also by the extraordinary rise of mass media.

"The age of the periodical"

The periodical press, its rise coincident with those of educational reform and science, is my third contextual consideration around nineteenth-century English science and spiritualism. Within an expanding culture of literacy, England's periodical press became both the voice of the people and increasingly, though not without contest, the voice of authority – in this it could be both the promoter of science and the public forum in which to query its claims. Myriad social contexts shaped the Victorian periodical as it shaped them in turn, raising in its stakeholders correlative questions about for whom this new authority was intended and of whom it was reflective. Its proliferation and influence have prompted some to name the nineteenth century "the age of the periodical" (Vann and Van Arsdel 7). On a practical level, the sharing of newspapers and periodicals between families and friends make estimates of print media readership numbers uncertain, but more important is the realization that readership itself was often collaborative, distributing the cost burden and forging communal bonds in literacy

[69] Anticipating my second chapter slightly, I would note the popularizers' approaches often parallel spiritualist communities and tenets, which likewise emphasize relational subjectivities and posit a neighbouring world awaiting those with the inclination to seek it.

(Hampton *Visions* 27; Palmegiano 5). By the 1870s, the print media was sufficiently instantiated as a cultural domain to imagine – with hope or despair, depending on one's view – an English reading public sharing "a common stock of regularly revised knowledge about the world" (Jones 202).[70] The sharing of knowledge thus becomes a critical tenet in media production, as it was for education and science culture, and again, decisions around who should be privy to what sorts of knowledge generate the most argument. Inevitably, the class and gender politics described in previous sections resound as print becomes a responsive and multi-vocal vector of social influence, "a medium of cultural exchange in which the reader was genuinely and fundamentally implicated" (Fraser, Green, and Johnson 76). As this section will demonstrate, when science is the focus of that media communication, issues of authority and readership sharpen further.

The periodical press in a culture of literacy

Early nineteenth-century periodicals in England were primarily state-stamped and state-sanctioned, produced on behalf of society's most privileged. The state's literal stamp of approval made those publications more expensive and thereby less accessible to much of the population, but seemingly more respectable than smaller-press, unstamped papers, which in consequence were perceived as more politically "radical."[71] During

[70]The question of "[w]ho read the press and why they did stumped nineteenth-century assessors as much as later historians. […] Few accounts presented hard evidence, probably because audience surveys did not exist" (Palmegiano 5). However, as Hilary Fraser notes, "empirical studies of nineteenth-century reading that dominated the scholarship of the 1950s to the 1970s, which asked questions such as who could read, who did read, and what they read, have by and large been superseded by more textually focused and theoretically framed critical studies" (69). Although I provide statistics about periodical readership when available, I do so merely to provide a starting place for considering influence, rather than as a portrait of true breadth of reach and influence.

[71] Hampton suggests that 1830s and 1840s radical newspapers may have had more than twenty readers per copy; influential Chartist publications like the *Northern Star* may thus have had a "total readership of over

these early decades, anxieties about the press arose from the privileged classes, who feared removing the state stamp to 'free' the press would open the industry to misinformation and uncritical (i.e., uneducated and, by implication, unthinking) readers. Of equal concern was whether a free press would exacerbate existing uncertainty around "the relationship between the press and public opinion – that is, whether the press influenced or reflected public opinion" (Hampton *Visions* 9).[72] Depending on one's perspective, "newspapers were described as a means whereby the individual or social body might either be nourished or poisoned… [but] newspapers might also inject the only effective antidote to the venom ingested through unwise reading [elsewhere]" (Jones 99): the freer circulation of knowledge thus hovers in paradox as both threat and cure to individual well-being and to social harmony.[73] Some worried that an unrestrained print media might contaminate England's social body with radical politics or base content, and

half a million" by its 1839 heyday, despite its 80,000 print run (Hampton *Visions* 27). It was a "broadsheet weekly newspaper [that] cost four and a half pence a week – a relatively high price for a paper aimed at a radical readership" (Mussel par.2). Its editor, Feargus O'Connor, became a notable figure in the Chartist movement, as did its printer/publisher Josiah Hobson (Mussel par.1).

[72] Jones and Hampton both note that free press conversations focused exclusively on England, leaving colonial newspapers strictly regulated. Arguments about colonial "freedom of press" largely reflected Anglocentric concerns of whether such freedom would hinder state projects and the safety of British citizens overseas (Jones 24). For instance, although most of England's newspaper taxes were removed in the 1850s, further restrictions were imposed on Indian presses after the 1857 Sepoy Mutiny; "[t]he mid-Victorian newspaper reader thus had masculine, European [white] and middle-class attributes" (Hampton *Visions* 12). Most colonial libraries, though promoting themselves as spaces where print media could be "publicly" shared for the benefit of all, in practice demonstrated policing and anxiety around their users' visible racial and socioeconomic markers (Atkin 50; 66).

[73] Jones leverages the longstanding notion of a "social body," an anthropomorphization of England's "society as organic whole," with the monarchy and government at the head and the rest of society as the body, allowing for embodied metaphors of industriousness and illness as required (Poovey 8). Fears of seditious print material intensified after the Peterloo Massacre of August 1819, when a cavalry regiment used lethal force against a thousands-strong crowd of civilians rallying for franchise reform outside Manchester (Mather par 4-7). Although the subsequent public outcry sympathized with the civilian casualties, legislators responded by passing the Six Acts, "a paranoid legal crackdown on the freedoms of the public and press" (Mather par 9). Patrick Brantlinger implies this anxiety might have been partly motivated by the reported influence of print media in the American and French revolutions (5).

early century legislation known as the Six Acts sought to curtail this. Alongside laws requiring permits for large public gatherings, the Acts intended to minimize the risk of seditious material by ensuring that the cost of producing or purchasing periodicals was beyond the reach of the popular majority. The tax on newspaper production affected almost every inexpensive periodical but left long-established, previously stamped publications such as the *Times* and *Blackwood's Edinburgh Magazine* exempt (Hampton *Visions* 32).[74] Similarly, taxes on advertisement were fixed at six pence per item in 1819 and remained so for decades, a cost most felt by smaller periodicals dependent on advertising revenue to offset production.[75] Such pressures on the weekly or biweekly smaller papers, such as the ones fueling the Chartist or other social movements, deterred the founding of new publications and ensured the control of information by established presses, exactly as quality education remained in the hands of the affluent and already-educated classes during this time. When critics arguing against a freer press claimed that state taxes and regulation protected the publications doing the worthy work of educating 'the masses,' they were simultaneously preserving those publications' ideological control of knowledge, much as did the defenders of England's venerable universities' curricula. In both areas, critics feared "a descent into a frightening mass society, [a populist] age of the crowd, or rule by the 'half-educated'" (Hampton *Visions* 5). Given that, in these early decades, much of England's population was simply unable to access the forms of

[74] "Established by William Blackwood with [an overt] Tory bias, *Blackwood's* contained myriad essays on the press, especially its influence everywhere. Other themes were literary criticism and newspapers' quality" (Palmegiano 39).

[75] In every mention of the advertising tax I have found, it is unclear whether the newspaper bore the cost for printing advertisements, or whether the company placing the ad would be taxed for each item. Either way, too heavy a tax would deter placement and thus lessen revenue for the publisher.

education these critics of a free press undoubtedly had, the descriptor could be deployed with a certain bald truth: the working public could not be poisoned by radical print media they could not read.[76]

Those in favour of an open press also saw journalism as a means of reader improvement but differed in their conceptions of its social function. Mark Hampton describes one view as believing periodicals might "'influence,' 'inform,' or 'elevate' readers," providing important forums for discussion of current events, though he notes an important expectation in this model was that readers would gather multiple papers' perspectives for a full understanding of key issues (Hampton *Visions* 9). Another view of the free press's social function was the one Hampton calls "the representative ideal," in which "the press did not influence readers or public opinion but reflected them […] convey[ing] the opinions, wants, or needs of readers, crystallizing them into a powerful form that could bring pressure to bear on Parliament," although whether these papers spoke on the public's behalf rather than recording their direct input remained a corollary argument (*Visions* 9-10).[77] Charles Dickens, in the inaugural issue of his *Daily News*, promises that "The Principles advocated in THE DAILY NEWS will be principles of Progress and Improvement; of Education, Civil and Religious Liberty, and Equal

[76] The concern paralleled decades-old conversations around fiction reading as frivolous and potentially damaging, especially to women (Brantlinger Chapter 1 passim; Winter *Mesmerized* 328-30, etc.). Fraser, Green, and Johnson persuasively argue that readers were in any case "inducted into the gender order, [and] taught to understand their class position, from an early age in the Victorian periodical" through the 'specialized' publications for boys, girls, women, and so on (64).

[77] Hampton's book explores the "elite" discussions of the press, motivated for the most part by self-interest, to attempt "to understand and perhaps to control the emerging mass society." His use of 'elite' thus refers to those writing in the press from "the assumed perspective of insiders," imagining a press in which "*their own* inclusion was never in doubt" (*Visions* 6, italics original)

Legislation; Principles, such as its conductors believe the advancing spirit of the times requires" (Dickens "The Daily News" 4).[78] Note the final clause positions the *Daily News* as a discerning educator, curating then distributing information in the purported public interest. Choosing to label himself 'conductor' of the paper rather than editor further situates Dickens himself as a director of knowledge, maintaining an aspect of control over information not dissimilar to the conservative advocates of a stamped and controlled press (cf. Winter *Mesmerized* 320-1).

During the newspaper stamp years, the inequity of access to information did not go uncriticized: the levies described above, and a long-standing tariff on paper that curtailed mass printing of all kinds, became known as the "taxes on knowledge." The evocative label was coined by middle- and working-class activists calling for broad socioeconomic reform and was taken up by renegade presses printing protest material against the taxes, flaunting their own non-payment of them in the process (Hampton *Visions* 32-33). When the Newspaper Stamp Bill of 1855 repealed all taxes on newspapers and removed the required government stamp, small presses began almost immediately, and increased production of print matter of all kinds inevitably played a crucial role in the widening culture of literacy.[79] While public protest certainly helped to topple the "taxes on knowledge," the repeal coincided with Privy Council investigations into education reform, and the Taunton Commission was struck several years later. Paper and printing

[78] Dickens further promises not to engage in the publication rivalry seen elsewhere, hoping instead to "elevate the character of the Public Press in England" to one of civil competition and "public usefulness" (Dickens *Daily News* 4). The latter phrase, of course, is familiar from conversations around school curricula and education reform.

[79] The advertising duty was repealed that same year and the bulk paper tariff a few years later, further lowering manufacturing costs for any printed matter (Jones 22-3).

presses would of course be among the first requirements for a state preparing to reform education and promote literacy.[80] The press thus shaped itself to suit consumer demand, even as that public shaped and re-shaped its form.

"Fugitive literature" - new reading spaces and "half-skilled" readers

Conversations about the media's social function continued even after the opening of the press, particularly those about its potentially negative influence on the working classes. Aled Jones relates a telling 1859 moment in *Blackwood's Edinburgh Magazine* when a correspondent described newspaper journalism as "a 'fugitive literature,' one whose essence consisted of endless movement … Instead of being displayed and consumed in the libraries of polite society, [it] lurked in such unedifying places as inns and street corners" (3). Though intended to alarm *Blackwood's* Tory readership, the description is not inaccurate in its view of the press as fluid and ephemeral, and its broadening of the spaces of literate practice outside institutional walls. In fact, the quotation expresses the same concerns around expanded access to information and educational space explored in this chapter's first third; that the author intends it as a criticism instead of a commendation reflects the same ideological biases that resisted educational reform, though the opening of the press had more immediate and visible effects on the landscape than did the incremental changes in education. Indeed, mid-century educational reform added further anxiety as to what role the press might play.

[80] Other social forces, such as the development of the telegraph and the concomitant surge of interest in timely information about global conflict and commerce, also played immeasurable roles (Jones 24), as indeed they do in the rise of spiritualism I explore in the next chapter.

Some critics blamed the state interference in schooling, finding fault with the 'new' schools which taught students to read "without being able to think," and predicted a mass press reflecting the worst of "the larger, literate but uneducated public" (Hampton "Liberalism" 82-3).[81] Changes in journalistic praxis and layout were deemed either as contributing to or resulting from that decline, as they broke text into smaller, more "digestible" pieces and included "maps, graphs, and line drawings" as nonlexical content (Brake 99); change was also explicitly linked to factors such as faster train travel and the increased pace of modern industrial life, which paradoxically were believed to create leisure time for reading, yet less time for sustained reading (Fraser, Green, and Johnson 51; 57).[82] These visible transformations of public information were argued variously as progress or degeneration – the latter view especially lamenting new gaps in a formerly closed circuit of information generation and dissemination, a circuit which had primarily benefitted the already-advantaged.

As the 'educational' theory of the press became to its despairing proponents "more and more chimerical" (Hampton *Visions* 11), the representative theory of its social function rose and adapted to social change. In the theory's ideal conception, the press acted as a mouthpiece for the people with editors serving as important mediators of the

[81] Hampton notes the critics who worried over "half-skilled readership" "commonly but inaccurately" attributed it to the 1870 Elementary Education Act (*Visions* 10); Beth Palmer describes the alleged decline as one perceived by the wealthiest classes surveying the working communities most affected by the Act (*Women's* 163).

[82] Fraser, Green, and Johnson do an excellent job of exploring the layered paradoxes of this leisure time / less time pairing, complicated further by gendered differences in the idealized middle-class, where the woman's domestic workday should be both "leisured," yet full of household tasks to be done "at odd moments." Especially noteworthy are how these last factors added to the image of women readers as "desultory" readers of small items and how periodicals responded by producing short articles on domestic themes, so that even leisure time was to be dedicated to reading about household management, sewing, etc. (Fraser, Green, and Johnson 52-6).

message, performing "a mixture of manly and gentlemanly virtues such as candour, foresight, firmness," and serving as "the arbiter of good taste and good morals" (Palmer *Women's* 5-6).[83] Regardless of the strength or overt presence of its editor, however, the periodical press increasingly claimed to represent the ideas and beliefs not only of its readers but also the imagined broader public (Dawson, Noakes, and Topham 3), which in turn required new definitions of public opinion and considerations of how to mediate it.

The late-century turn to the New Journalism is perhaps the most well-known manifestation of changing relationships between nineteenth-century mass media and its reading public. The label was coined derisively in 1887 by Matthew Arnold – as Brake notes, "a practitioner for more than thirty years of what by implication was the 'Old' Journalism" (83) – to describe a journalistic philosophy which rejected many of the tonal and layout traditions of venues such as the *Times* or its fellow long-running periodicals.[84] The New Journalism sought ways to "personalize" textual presentation for its readers, implementing innovations such as the authorial byline and the interviewing of sources outside the social elite, naming and quoting them directly in print.[85] The New Journalism

[83] Presumably many editors would claim allegiance to truth as well, though propriety kept frank discussions of some "delicate" matters out of the general press, particularly if they reflected uncomfortable social truths. W.T. Stead's "Maiden Tribute of Modern Babylon" series was controversial partly because he toed the edge of respectability in his exposé of child prostitution, for instance; Suzanne Rintoul's work (2015) thoughtfully explores the erasure of domestic violence in Victorian media. However, Stead was also overtly democratic in his philosophies of journalism as a collaborative practice and his calls for reader contribution (cf. Barbara D. Ferguson 2021 forthcoming; Fraser, Green, and Johnson 76).

[84] Brake describes how Arnold deemed the New Journalism "at the bottom of a hierarchy of cultural forms, at the top of which is art, which, by his definitions, outlives the specificities of history and is accessible only to the cultivated" (83).

[85] Richard Salmon cautions that, as with so many other visions for the press, "personalization" was not a unified movement; he finds differences of interpretation even between New Journalism's arguably most vocal proponents, Stead and T.P. O'Connor. Stead's advocacy was largely focused on the journalist's visibility on the page as a discrete authorial voice and self, substituting "I" for the more traditional editorial "we" for instance, while O'Connor spoke more often about the importance of vivifying on the page the

advocated a multivocalic text, professing to speak not from above but from among its readership, a plurality of voice intended to demonstrate that "the popular classes were not passive objects of study [for journalism] but active readers and letter writers" co-creating a culture of literacy (Hampton *Visions* 6). While the New Journalism is primarily remembered today for its social commentary and investigative work such as Stead's, its practices of quotation and personalization might be adopted in articles on any topic. Those practices make visible some ideological parallels with the techniques of science popularizers such as Marcet, who sought to draw the audience into the text through dialogic or narrative style, rather than acting as bestower of knowledge – but the diffusion of scientific knowledge through the periodical press depended on more than simply technique.

Science in the press

The tenets of the New Journalism may seem at odds with the authoritative information dissemination sought by the scientific ingroup. However, bylines and personal pronouns also helped to shape a new vision of the scientific author not as "specialized and detached from the general culture… isolated from the wider public" but as "distinct authorial personas" through which to communicate science, reaching audiences both popular and interdisciplinary (Dawson, Noakes, and Topham 21-4). Most science practitioners developed discrete discursive tones in periodic literature: one for scientists among themselves, and one for scientists speaking to non-scientists.

"great men" about whom the journalist was reporting (Salmon 42). The two philosophies are, of course, not mutually exclusive.

The specialist periodicals *Nature* and *Science* were founded in 1869 and 1880, respectively, but science required more generalized periodicals to weave itself more firmly into the English mind. Publications such as the *Athenæum* and the *Literary Gazette* regularly detailed the RI's events (Cantor and Shuttleworth 3), and as previously mentioned, the BAAS encouraged correspondents to relay its meetings to broader audiences. Individual scientific fields soon founded their own publications outside institutional walls; indeed, some commentators believe that periodical literature soon eclipsed book publication as the primary means of scientific communication (Vann and VanArsdel 5). Publication as a means of proving oneself worthy of professional community acceptance is perhaps the most notable way in which the myth of the solitary scientist was disproven: peer review, peer responses to publicized work, and status gained by respectable publication all required a community that was at once necessary to the profession and notably absent in any imaginings of "the scientist" as an intellectual worker, especially as career opportunities outside academia grew. Of the several hundred self-described 'science journals' extant in England by mid-century, more than sixty percent were commercially rather than institutionally produced, which in itself reflects the staggering growth of literacy across the socioeconomic spectrum, with a readership well beyond elite schooling's alumni (Vann and VanArsdel 4). The multiplicity of voice in scientific conversations likewise grew exponentially; an array of journals provided readers knowledge and analysis on topics including "the woman question," public health, technology, and more (Brock 82), adding varying levels of biology, medicine, physics, and myriad other "active ingredients [to] the ferment of science" in timely, socially

critical conversation (Cantor and Shuttleworth 13). By the end of the century, the English press served as "foils for readers' own developing views; they might read them 'not to agree with them, but to think with them'" in expanding circles of intellectuality that had increasingly fewer ties with the rote-learning knowledge control of institutional education (Dawson, Noakes and Topham 3). Arguably, "periodicals themselves embodied forms of debate" that in aggregate performed the work of discussion left aside by school reform (Dawson, Noakes and Topham 3). An essential part of that ongoing conversation was the public's adoption of and play with the language of science itself, sometimes even within the pages of the same media venues scientific practitioners chose for publication.

Playing with authority: public subversions of scientific language

While non-specialist audiences might acknowledge science as an authoritative voice, they also found room in the pages of the press to query and elasticize its discourse. Readers regularly responded to columns by scientific professionals, acknowledging them with respect but also questioning their claims to knowledge. For instance, after Faraday's previously mentioned 1853 letter to the *Times* lamenting English educational deficiencies, reader J.C. Perry responded:

> Now, Sir, what does Mr. Faraday know? Can he explain the law whereby a piece of steel becomes impregnated with an attractive power merely by rubbing it with a stone? It is a fact that it does so, but it is inexplicable. Again, is there not the repelling force at the other pole? And what is that? His answer can be no other than speculative… (8).[86]

[86] Although indicative of the tone of some reader letters, the example is ironic in the light of subsequent events: by the end of Faraday's lifetime, he had indeed theorized and demonstrated the 'speculative' forces invoked here. His work in electromagnetism forms the basis of our modern understanding.

Scientific language play also permeates George Eliot's 1859 "Silly Novels by Lady Novelists," a satiric essay for the *Westminster Review*. She claims such novels make up "a genus with many species" and includes an array of scientific references, for instance asserting that certain literary tropes are so familiar "We are getting used to these things now, just as we are used to eclipses of the moon" (par 15). She cites a romantic hero who shines upon his heroine "as a bright particular star, which has no parallax for her" (par 8) and concludes by praising fiction for being as easily yet diversely formed as laboratory-grown "crystalline masses" (par 29). Her tacit assumption that the *Westminster*'s readers would understand, rather than be deterred by, such specialized allusions is likely grounded in her perceived demographics of its readership. Equally worth appreciating, however, is that Eliot had a curiosity for and grasp of science her contemporaries and subsequent commentators such as Ian Duncan (2014) have noted, but lacked the years of training the professional sciences increasingly demanded as markers of expertise; nonetheless she deploys the concepts with accurate and effective resonance in contexts well outside the prescribed spaces of professional science.[87] Eliot is but one example proving the paradox that, despite Whewell's and others' concern about scientific terminology in untrained hands, science needed its discourse to suffuse non-scientific texts in order to prove its own cultural success.

One might equally measure the widespread public acceptance of scientific terminology by considering its regular satirizing in the press. The hugely popular and long-running *Punch* routinely selected newsmakers and public figures for skewering, and

[87] Eliot's integration of scientific discourse and concepts into her fiction writing will reappear in Chapter 3.

the world of high science was not exempt.[88] An 1869 "Hints for Conversation" column assumes its readers "probably could not tell the difference between hydrogen and oxygen, and would be puzzled to give an intelligible account of the cause of an eclipse" but recommends they should pretend knowledge of all, up to and including "HUXLEY's paper and TYNDALL's discourse, molecules and protoplasms, spectrum analysis and 'BAILY's beads" so as not to appear socially deficient (capitals original, "Hints for Conversation" 68).[89] Strikingly, it is "Miss Cerulia Stocken" who broaches the scientific topic, while her implicitly male interlocutor (i.e., *Punch*'s readership) is baffled. Even in its parodic form, the column suggests how quickly the non-specialist public might be left behind without at least a passing knowledge of science – left behind both in conversational and in social progress, given the range of referents and the allusion to the 'bluestocking' New Woman, whose knowledge makes the encounter a doubly anxiety-producing one for the ignorant. The article notes in conclusion that "ordinary politeness and the remembrance that you belong to the superior sex, should save you from disclosing your ignorance" ("Hints for Conversation" 68). Here, as in the article's first command to "Never show ignorance," the anonymous author encourages male readers to perform the ideal of the informed intellectual to maintain social propriety, while making

[88] With circulation holding steady at around 40,000 through the three middle decades of the century (Ellegård 20), *Punch* was nonetheless one of the more expensive humour magazines and its primary readership was likely "middle to upper class" (Ellegård 22).

[89] "Huxley's paper" and "Tyndall's discourse" might be useful phrases at almost any moment, given that both men were prolific producers, but "Baily's beads" refers specifically to Francis Baily's 1836 observations of 'beads' of sunlight along the edge of the moon's silhouette, just before and after totality in a solar eclipse (Editors of *Encyclopedia Britannica* 2019). 'Molecule' as a term had been in use since the eighteenth century but increasingly after 1811, when Amedeo Avogadro specified its definition for use in chemistry (Coley 2020); 'protoplasm' emerges in the mid-1800s from German biological studies and Czech physiology (Editors of *Encyclopedia Britannica* 2015).

overt those same readers' complicity in the shallowness of that performance. Not coincidentally, the topics serve to remind readers that science was primarily a masculine domain into which worthy male Britons were invited, although the last exhortation to enact the "superior sex" might prompt a reader to wonder how much of the increasingly idealized scientific male was likewise a performance. Countless media examples of such satire, like Perry's ambivalence toward Faraday, indicate a cultural awareness of the knowledge gap between specialist and non- that might at any time be undermined in a Bakhtinian discursive play that lessens the power of authority by appropriating and subverting its language. Intriguingly, such play with scientific language went largely uncorrected by its targets, except when spiritualists and spiritualist investigators began adopting it; as the next chapter will make clear, those instances include some of the most pointed defenses of scientific territory, on the grounds of which knowledge was most valuable and who was permitted to wield it in an increasingly "scientific" age.

Conclusion

The imbrications of nineteenth-century England's educative, scientific, and periodical cultures are foundational to the era, providing the grounds for deeper querying of subjective and objective knowledges and those claiming authority in either. When the journal *Nature* claimed in 1887 that "the cardinal principle of [science as a movement] is the investigation of truth for truth's sake alone," the profession's self-description reached its acme: scientists see the ultimate truths of reality, they imply, and in so doing become arbiters of fact and knowledge, replacing the speculative texts of philosophy and religion

(qtd in Barton 88). As Frank Turner remarks, by the end of the century "The scientific writers were promising that training in even elementary science, by increasing the sense of discipline among the lower social orders, would contribute to the kind of social control that the late Victorian and Edwardian middle classes thought necessary" (212). Theirs is an epistemological domain with a powerful conceptual yardstick, an inarguable standard for the bettering of society from a group with specialized training and knowledge against which no outsider could effectively compete.

Despite *Nature*'s confidence, however, those excluded from the academic traditions attempted to compete regardless, and indeed regularly undermined science's claiming of territory. As Rauch observes, "Every member of society had some kind of stake in the knowledge industry, whether as a proponent, a detractor, a marketer, or merely a consumer" (21). Those seeking knowledge found alternative paths in private tutors, public lectures, para-educational venues such as libraries and Mechanics' Institutes, and especially in the periodical press, which, in offering new avenues for learning, "kept the scientific societies on their toes… [and] made them less authoritarian and cliquish than they would have liked to be" (Vann and VanArsdel 84). Throughout the development of science into a professional and epistemological domain, England's growing print culture provided not only new tools for communication within the scientific ingroup but also a forum for the wider promulgation of that knowledge. As my next chapter will illustrate, however, while leveraging the periodical media to do this necessary work, science also enabled the non-specialist, increasingly literate public to

engage with – and push back against – the claiming of material "objective" knowledge as the only type worth having.

Chapter 2 – Firm ground and shadow lands

Since this chapter will explore in more detail the negotiation of territory between scientific and spiritualist claims to knowledge, it seems appropriate to recall the family anecdote from this project's Introduction. My grandmother and my uncle struggled to reconcile their differences regarding the odd phenomena in the family farmhouse because each *knew* they were right, but their knowledges arose from different places. My uncle was satisfied that the movements and sounds my grandmother perceived could be explained by quantifiable, typical patterns of decay in aging buildings. My grandmother did not dispute this, but neither did she believe that her unquantifiable, subjective experiences were any less evidentiary. Fortunately, their disagreement did not require the rest of the family to choose between our school-imparted knowledge of physics or logic and our lived knowledge of our matriarch as a nurturing, practical woman, not prone to fantastical imaginings. A similar hesitation resonates at the heart of the nineteenth-century entanglement of science and spiritualism: a recognition of empirical fact tempered by an awareness both of its inadequacies and of the perils of an overly detached observer. The Reverend H.H. Higgins, watching the rise of science with concern, articulated the hesitation this way: "[A]re we idolising the verifiable… at the expense of loyalty to humanity?" (SPR MS 35 /718).

This chapter centers that hesitation in the era's media representations of science and spiritualism. The structures of education, professionalized science, and print culture described in my previous chapter were preoccupied with the circumscription and control of knowledge, privileging the objective over the subjective, but not without public

resistance. Alongside those contests spiritualism appears as a concurrent cultural phenomenon, but one repeatedly positioned as antithetical: spiritualist subjective experiences are repeatedly positioned as feminized and distant from science's masculine, factual knowledges, even though spiritualist selves often share traits of permeability and interrelation with the era's vanguard sciences of ecological systems, energy physics, and psychology. These fields too looked beyond the ephemeral lifespan and limited human senses, seeing new scales of kinship, influence, and time which could scarcely be imagined without the spark of subjective inspiration. Discussions of psychical ability and the spirit's persistence after death paralleled those already underway around telecommunication and emerging theories of crowd behaviour and suggestibility, for instance.[90] As Pamela Thurschwell observes, "Spiritualism creates contact across inaccessible time, with the dead; telepathy creates contact across inaccessible space, with others who are out of the range of the usual forms of sensory communication" (16). But even the newest "usual forms" of telegraph and telephone were initially unsettling as they brought the absent within reach through invisible waves and (to the uninitiated) largely mysterious mechanisms of transmission – there was, perhaps, only a minor sensorial difference between receiving a disembodied voice over the telephone and receiving it telepathically. What William James describes as science's ideal of a "closed and completed circle of truth" which could be presented with any authority was being built on far shakier ground than some of its luminaries believed (3).[91] This chapter examines

[90] Alison Winter's 1998 text, *Mesmerized,* remains an influential exploration of examples and anxieties around both mass phenomena and influence.
[91] Roger Luckhurst, Jill Galvan, Winter, and Thurschwell are among the scholars who explore science's rich cross-connections with spiritualist studies. Their work informs this chapter at multiple points.

discursive clashes and convergences between science and spiritualism in the nineteenth century, but I can represent only a fraction of this complex, decades-long dialogue that is arguably still ongoing. In repeatedly juxtaposing these two cultural influences, however, the late-Victorian print media complexified existing arguments around claims to knowledge for thousands of new and thoughtful readers.

I begin this chapter with a treatment of Cambridge's Society for Psychical Research (SPR), which claimed a territory between spiritualist "believers" and scientific skeptics and struggled with media representation.[92] Astutely described by Roger Luckhurst as spiritualism "in a newly scientized form," psychical investigation seemed to offer "a hybrid, popular knowledge" by borrowing the discourse and praxis of science in the testing of unusual phenomena (*Invention* 12).[93] Although the SPR sought to legitimize their work through the publication of findings, their frequent reluctance to engage with mainstream journalism aligns with concerns detailed in my last chapter, about how untrained readers might parse that media. I turn then to samples of the mass presses' positioning of spiritualist and scientific groups, and reader engagement with that conversation, with focus on two extended examples. The first is a weeks-long exchange in the *Pall Mall Gazette* following its 1868 coverage of spiritualist D.D. Home's trial for fraud, during which notable scientists and the wider public alike comment upon the

[92] I use "spiritualist investigation" and "psychical investigation" interchangeably, as do most scholars in the area. "Psychical" was the era's frequent and versatile adjective in spiritualist conversations and elsewhere, applied in contexts where today we would choose between "psychic," "psychological," or "mental."
[93] Note the use of "popular" here: in contrast to the professional sciences' exclusionary circles, psychical investigation was regularly undertaken by women as well as men, sometimes even family groups, across the social spectrum. Cf. Logie Barrow (1986), Alan Gauld (1968), and William Crookes' notebook (MS SPR 13-1), among others.

discourse of scientific objectivity; the second is Alfred Russel Wallace's 1874 "Defence of Modern Spiritualism," which appropriates some of science's own language, wields it against detractors, and posits spiritualism as a longtime human pursuit propelled by intersubjective connection and curiosity. I expand on this affective worth or "use" for spiritualism argued by Wallace and others who resist usefulness as being solely a virtue of objective, fact-based knowledge; as several of my examples insist, the self may be as enlightened by an unquantifiable experience as much as by a set of data.

In the final sections of the chapter, I focus on the gendering of the dialogue's "sides" via key metaphors in the wider debate, notably those of terrain and visibility so frequently reminiscent of colonial expansion and the intrepid British explorer enlightening darkness (in several senses of the phrase). Some contemporaries imagined the scientific mind as a man "surrounded by a dense thicket of thorny logomachies and obscured by the dust-clouds of a barbarous and perplexing terminology" (Huxley "Scientific and Pseudo-Scientific" 239) evoking fears of a primitive, obstructive, and obfuscating wilderness; others, in disdaining the "ruck and muck" of spiritualism, conjure it as a clinging, unclean swamp (Hall xxxii).[94] These metaphors ascribe material world dangers to the intellectual plane, implying that the rational mind should be wary of straying but also rendering the straying body a transgressively feminine one, indulging a

[94] The fuller context of James' "closed and completed circle of truth" quotation seems worth noting against Huxley, as James comments that around all the "orderly facts" of scientific work there floats "a sort of dust cloud of exceptional observations, of occurrences minute and irregular" often easier to ignore than account for (3). Clouds of uncertainty and murky terrain will reappear in my upcoming analysis of recurrent metaphors. Hall's quotation in full is, "Spiritism [sic] is the ruck and muck of modern culture, the common enemy of true science and true religion, and to drain its dismal and miasmatic marshes is the great work of modern culture" (xxxii).

childish curiosity beyond the masculine rationality's safer knowledges. Readers must decide where to plant their feet: on the seemingly solid ground of detached reason or the shadowy lands of the spirit. Even the varying terms for spiritualism's volitionally permeable bodies – *sensitives, mediums, spirit controls* – suggest ongoing negotiations at the edges of affect and paradigmatic understandings of the fragile, ephemeral human self. In this chapter's final section, I focus on those mediums' own accounts and their fundamental questioning of whence knowledge arises, and under which influences we construct selfhood. There, the human is as a site of ongoing contestation, as spiritualist practitioners eschew the media's surface quibbles around legitimacy to consider the more profound concerns of autonomy and identity underlying the science-spiritualism conversation.

The valuing of knowledge, its safeguarding and sharing, thus remain critical facets of this project, albeit in perhaps subtler ways than my first chapter described. Constructed upon the male-dominated educational training and behaviours already detailed, the professional sciences largely promoted fact-based content drawn from individual study or a learned authority, as solid ground from which to reason. Spiritualism more typically promised knowledges from relational, subjective, or affective human experience – all traditionally aligned with changeable femininity in the English imagination – and moreover distributed authority between members of the séance group or the inherently plural voices of mediumship rather than a single speaker. Whether motivated by personal bereavement or some other draw to the numinous, spiritualist participants viewed their

experiences as of equal value to "useful facts."[95] Valuing unverifiable experience and refusing to designate authority by normative standards meant spiritualism was contesting more than simply the data of physiology or physics but indeed their constructions of knowledge and praxis.[96] In my examination of the seemingly antithetical positions of science and spiritualism in the nineteenth-century imaginary, the newly literate public and the influence of the media emerge as critical yet under-recognized components in the circulation and persistent gendering of competing knowledges.

The SPR and scientific authority

The Society for Psychical Research was England's arguably most well-known and well-regarded collective for spiritualist investigation. Formed in 1882 by Henry and Eleanor Sidgwick, Edmund Gurney, and Frederic Myers, the group's intent was to move psychical research away from the fringes of occultism and closer to scientific orthodoxy. In his inaugural presidential address, Henry Sidgwick refers to himself and his audience of SPR members as "we" but defines this as "'not merely we who are in this room, but we and the scientific world outside'" (qtd in Wadge 29). A year later, his presidential address

[95] Although some of these promised effects seem to align spiritualism strongly with orthodox religion, I would argue that Britain's dominant religions were structurally more like science than spiritualism, with typically top-down communication, institutional standards for training, and resultant systemic exclusions of women from positions of power.

[96] The contestation is hardly new. Recent Indigenous and Black scholarship details many cultures' long acknowledgement of embodied knowing and intersubjective connection to ancestors and community. Scholars including Leanne Betasamosake Simpson, Rosanna Deerchild, Audre Lorde, and Barbara Christian offer rich writings on those connections. In Christian's words, "people of color have always theorized—but in forms quite different from the Western form of abstract logic" (41). Such scholarship emerges from cultural contexts so distinct from my focus here, however, that I choose to recognize their own power rather than force an equivalency with my argument. The larger truth is that alternate modes of knowing have been long marginalized, but some populations' resistance to hegemonic science – such as to the racialized taxonomies underlying law and policy – have been met with far more violence than were others'.

focused on furthering dialogue and debate with "our scientific friends," adding with attempted humour, "I mean our scientific enemies, whom we hope to turn into friends" ("President's Address" 67).[97] Alongside this striking characterization of the perceptibly hostile resistance the SPR encountered, there are multiple valences of inclusion in Sidgwick's "scientific world," including the wider community of investigators not present, the scientific communities which might someday accept them, and finally a wider England steeped in scientific culture, which indeed had prompted their stated intention to bring science to spiritualist enquiry. The SPR's determination to employ scientific methodology paralleled their determination to separate themselves from spiritualist believers whose faith appeared too tied to superstition, and to speak with the authority imbued by its own membership.[98]

The Society was nonetheless chary in speaking from that position, despite their use of diverse publications to solicit personal testimonials about unusual phenomena (cf. Gurney and Myers, "An Appeal," discussed further in the pages ahead). The leveraging of mass media reach to study experiences nation-wide was quite different, it seems, than contributing to ongoing wrangling over the legitimacy of either those phenomena or the work of the SPR. Some members appeared in media coverage as debunkers of fraud or defenders of scientific methodology, but others in the executive worried over the

[97] Sidgwick later deploys a parallel phrase of "religious friends" when describing the protests of those worried about spiritualism's heretical or occult leanings (69). Much of the second speech, as further examined in the pages ahead, urges investigators to continue their work in service of presenting findings that, if not yet sufficient to "scientific proof," at the very least justify investigation (69).

[98] An undated list archived with the SPR's 1884-1900 Minute Book lists approximately forty-five "Members & Associates," with only eleven names identifiably female; most appear attached by marriage to the professors, reverends, and Cambridge alumni. Male undergraduates fill the remainder of the page (Minute Book MS SPR 74, 12).

advisability of mass print exposure. One of the reluctant was co-founder Eleanor Sidgwick, whose compilation of reports for consideration in the SPR's *Proceedings* included a process of meticulous vetting to ensure that speculation did not overwhelm "science."[99] She perceived SPR investigators as distinct from believers and feared that the popular media would not do the same. She declares to a fellow executive member that she wishes to quash any potential of the group being "mixed up with [journalist, editor, and spiritualist W.T.] Stead," preferring instead that the SPR remain "dignified" by avoiding the use of mass media (SPR 35, 2125).[100] Her association of SPR endeavours with dignity – and the simultaneous *dis*sociation of both from the popular media – suggests the extent to which the broader scientific community's discursive project to establish themselves as a sober epistemological authority in the public mind had already succeeded. The SPR's reluctance to engage with the media conversation may nonetheless have damaged their public profile, as the efforts of the "spookical Society" (cf. Delgado "Psychical" 245) were referenced lightly in the newspapers. One item facetiously professed sympathy for the ghosts who refused to engage with investigations which "threatened… to reduce them to the dull level of scientific phenomena" ("Occasional Notes"), while other media items

[99] Born into the wealthy Balfour family and privately tutored, "Nora" still had no more access to English universities than did any other woman during her formative years. She was a mathematician widely admired for her 'scientific' mind and "her remarkable gifts for assimilating and analysing large masses of intractable material" (Gauld 186). Gurney calls her "the very best observer I have ever met" (Gurney MS SPR 35, 677). Outside the SPR and the scientific papers she co-authored with Lord Rayleigh (see Chapter 1, fn. 62), she worked for access to education; she and Henry sat on several educational boards and Commissions, campaigned for women's enrolment at Cambridge University, eventually founded its Newnham College for women.

[100] By the time of this letter, Stead was a public figure, known for having served as editor of four periodicals and for his incarceration after the *Pall Mall Gazette*'s infamous "Maiden Tribute of Modern Babylon" investigation into child prostitution. He had lately founded "Julia's Bureau," a spiritualist community inspired by his spirit collaborator on *Borderland*, the deceased American journalist Julia Ames.

dismissed the group's fixation on figments of outmoded superstition.[101] Faced with either derision or accusations of, at the least, a "harking back" to pre-historic days ("Haunted Houses, Ghosts, and Scientific Research") and at worst an evolutionary backwardness, the SPR took up the most modern tools: enlightened science to discourage detractors, and print media to gather the largest sample size of individual accounts for research purposes. Like many other psychical researchers, they sought not to erase the circle drawn around scientific legitimacy but rather to enlarge and re-draw it, arguably akin to the ways emergent evolutionary and psychoanalytic theories sought to change the paradigms around human temporality and being.

The SPR leadership's inclination toward authoritative science is exemplified by longtime member, investigator, and physicist Oliver Lodge (later Sir Oliver).[102] His archival correspondence makes clear that, however frequently his SPR colleagues laud his meticulous work in spiritualist investigation, they more often interpellate Lodge as a voice of science, requesting his presence on public panels and investigations to validate their as-yet unrecognized new field of science, full of invisible yet quantifiable forces and an expanded human sensorium. For the SPR, attempting to bridge the orthodox scientific world and the spiritualist demimonde, there seems little question of which held the greater

[101] Regardless of this striking example dismissing scientific fact as "dull" and by implication, unimaginative, elsewhere belief in ghosts and spirits was tied to "savage" races, paralleling xenophobic and racialized hierarchies often tied to "scientific" anthropological theory. I explore some implications of racialization and the appeal of the spiritualist exotic in the coming pages and in my third chapter.
[102] Consulted by international scientific figures as well as by interested members of the public such as the Reverend Higgins cited earlier, Lodge also maintained friendships and partnerships with both Frederic Myers and French physician Charles Richet; when Richet wrote his autobiographical *30 Years of Psychical Research* in 1923, Lodge featured prominently in its pages. Like Richet, Lodge insisted throughout his career that most spiritualist phenomena were simply as yet unexplained, rather than inherently unexplainable.

gravity and resultant social force – or at least which side needed the greatest visibility to those ready to question any result. Yet the Society's calls for public testimonials necessarily garnered subjective, experiential accounts of apparitions, premonitions, and other such phenomena. How to apply "scientific" checks to those accounts for verification became a project in balancing qualitative and quantitative evidence that often leveraged the less-publicized range of expertise within the Society's membership. For instance, during the five-year Census of Hallucination project (1889-94) that gathered more than 17,000 responses, the designing of parameters for exclusion and consideration fell partly to Nora Sidgwick and her assistant Alice Johnson (Gauld 182-85; Oppenheim 145, etc.), both of whom might be recognized for intellectual labour within the Society to an extent not granted by the outside world.

The SPR and interested spiritualists repeatedly noted that criticism of psychical investigation by the professional science community primarily relied on a yardstick established by that community, i.e., its institutional training and self-standardized methodologies. As with the foreclosed opportunities in my last chapter, female psychical investigators were typically dismissed *a priori* by outsiders as lacking the requisite education and practical experience; if mentioned in the media conversation, women are most often witnesses, participants, or suspect mediums rather than held to any scientific standard. Far more acrimony arose when the investigator was a widely recognized man of science – as were Lodge, Lord Rayleigh, naturalist Alfred Russel Wallace, and chemist William Crookes. In these cases, critics call the investigator's competency and methodologies *as a scientist* into question, undermining the self-definition nurtured by the

ingroup's construction of the ideal. An often-cited example is the lengthy media exchange between Crookes and physician W. B. Carpenter. In an 1871 article about psychical investigation in the *Quarterly Review*, Carpenter singles out Crookes' work, naming members of his team as "scientific amateurs [without] that broad basis of *general* scientific culture" (italics original, 342), and citing Crookes as an example of how "a man may have acquired a high reputation as an investigator in one department of science, and yet be utterly untrustworthy in regard to another" (W. Carpenter 340). More damagingly, however, Carpenter claims that Crookes' fellowship in the Royal Society for his work in chemistry and spectroscopy had been "conferred on him with considerable hesitation" (343).[103] Crookes challenged the assertion, and the Royal Society confirmed its untruth (Lamont 912).[104] Thus began a five year, cross-publication exchange "in which [Crookes' and Carpenter's] rival 'natural' solutions to the problems of Spiritualistic phenomena were bound up with their competing claims to authority" (Noakes 37). Notably, in charging Crookes with dubious authority, Carpenter struck at the tautology of selfhood I have argued science was constructing for its members – "I am a man of science because I have traits x, y, z; a man of science has traits of x, y, z, like me" – and exposed its weakness in binding identity to profession: if Crookes were an acknowledged

[103] Crookes' spectroscopy, like Lodge's energy physics, was already engaged in rendering the invisible visible and explicating complex natural forces; for scientifically minded spiritualists, these emerging fields might equally explain spirit activity and telekinetic or telepathic abilities with a mere shift in focus.
[104] The correction was printed not in the *Quarterly* but in the *Daily Telegraph* (Lamont 912). Other than noting it was again Carpenter who contributed the article containing it, none of my sources explain why the venue changed.

investigative thinker in recognized scientific fields, his work outside them must likewise uphold scientific thinking, because it is inherent to his nature.

Such *ad hominem* attacks against science-inclined investigators or believers did not go unnoticed. "In every other experimental inquiry, without exception," Wallace writes in a lengthy 1874 essay, "confirmation of the facts of an earlier observer is held to add so greatly to their value, that no one treats them with the same incredulity with which he might have received them the first time they were announced" ("Defence" par 55). The converse, he notes pointedly, occurs in spiritualist investigation, as the investigator is instead dismissed, the subjective witness experiences of touch and sensation likewise disregarded, and even accounts of visible phenomena are explained away. Henry Sidgwick believed in a persistent accumulation of evidence to sway the skeptics: if they would not "yield to half-a-dozen decisive experiments by investigators of trained intelligence and hitherto unquestioned probity, let us try to give them half-a-dozen more recorded by other witnesses… if [even] a score will not do, let us make up the tale to fifty" ("President's Address" 67). But Wallace, like Lodge and others, concluded that no amount of testimony would change the most skeptical mind.

Public conversations and reader response

Writing to the *Times* in 1853, Michael Faraday notes that the phenomena of table-turning had been variously attributed to "electricity, to magnetism, to attraction, to some unknown or hitherto unrecognized physical power able to affect inanimate bodies – to the

revolution of the earth, and even to diabolical or supernatural agency."[105] He observes that most of these can be scientifically investigated, except the last, which is "too much connected with credulity or superstition to require any attention" ("Table-Turning" 8). The layperson's attempts at modern science are here dismissed as misguided because uninformed, and worse, they are proximally associated with "superstition" leftover from a pre-Enlightenment, less-evolved age. Wallace rebuts the notion of spiritualism as rooted in superstition, instead insisting that spiritualism itself is "an experimental science…which appeals only to facts and experiment; which takes no beliefs on trust; which inculcates investigation… [and] which teaches that happiness in a future life can be secured by cultivating and developing to the utmost the higher faculties of our intellectual and moral nature" ("Defence" par 114). As will be explored in the coming pages, Wallace's essay also provides a theory of human morality strengthened by spiritualism, its benefits to the individual and to society resonant with broader conversations around, for instance, "self-improvement" mentioned in my previous chapter, or the critiques of science that worried experimental detachment would separate the practitioner from human conscience.

While Faraday's *Times* letter was allegedly a response to public demand for his commentary on spiritualism, other scientific voices, such as John Tyndall's, simply seized

[105] This is the same letter mentioned in my first chapter, lamenting the deficiencies of the British educational system that facilitated what Faraday perceived as uncritical gullibility in the face of spiritualist activity. Table-turning was an early form of spiritualist activity that involved a pair or group of sitters asking a spirit to move the table their hands were resting upon. Movement might be directed to correspond to "yes" or "no" as part of a search for information.

an opportune opening.[106] In 1868, the widowed Mrs Jane Lyon, alleging "extortion and undue influence," brought a fraud case against medium Daniel Dunglas Home, whom she alleged had forced both adoptive kinship and financial ties on her (Robson 6).[107] Home was a prominent medium in English and European high society. His phenomena typically included trance channelling, spirit touch, and furniture movement, and the case gained considerable mainstream media attention. In its editorial, the *Pall Mall Gazette* (PMG) found fault on both sides, dismissing spiritualist practice, Home as practitioner, and the "silly old lady" (par 7) who had been so trusting.[108] A brief letter from Tyndall soon appears in the Correspondence section, alleging Home had refused Faraday's proposed investigation of his work seven years previous. Although the single-paragraph letter does not overtly link the fraud case to Home's alleged refusal, Tyndall offers the comment with little additional context, making it seem an unsubtle attempt to further weaken Home's public image. Tyndall's letter – not the earlier editorial – sparked a protracted exchange between Tyndall, Home, reader F.T. Palgrave, and George Henry Lewes, among others.

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[106] Faraday assures readers that the public's requests for his commentary are the only reason he writes ("Table-Turning" 1); although he may have wanted to speak out about the topic regardless and simply took the opportunity, his exasperated tone seems genuine.

[107] Court evidence revealed that Lyon's deceased husband, speaking through Home, urged her to legally adopt Home and gift him with upwards of £30,000 (Robson 5). The ten-day trial ended when Home paid the Court £60,000 to reimburse Lyon; within a week, Home filed *Home v. Lyon* to recoup the "jewels and gifts" he had given the widow (Robson 6).

[108] The *PMG* editor at the time was Frederick Greenwood. Alvar Ellegård estimates its circulation numbers then as around 8000, though his description of its readership arguably understates the breadth of its influence on the media landscape: "Readers upper to middle class, politically Liberal to Conservative, educational level fair to high" (5). The year before the exchange detailed here, John Ruskin had described the *PMG* in the *Times* as "One of the most temperate and accurate of our daily journals" ("Pall Mall Gazette Description," British Library Newspapers, Gale Cengage). W.T. Stead's later tenure as its editor (1883-90) ended with his turn to spiritualism.

Home immediately disputes Tyndall's representation and claims he would have been pleased to meet Faraday; he would moreover be pleased to meet Tyndall "and any two gentlemen he would designate" for a session under scientific scrutiny. Though Home notes he cannot guarantee results, "a patient and candid investigation is all I ask" ("Spiritualism and the Professors"). Tyndall rebuts at length, providing the text of the now-deceased Faraday's 1861 letter so readers might judge for themselves how Home, in Tyndall's phrase, "declined the combat" ("Faraday and the Spiritualists" par 2). The *PMG* readers thus learn the several questions Faraday required the medium to answer before any investigation occurred. While the first few are simply about attendees and location, the last become more pointed, asking, for instance, "Would he [Home] be glad if [the phenomena's] delusive character were established and exposed…?" and "If the effects are miracles, or the work of spirits, does [Home] admit the utterly contemptible character, both of them and their results, up to the present time, in respect either of yielding information or instruction, or supplying any force or action of the least value to mankind?" (Tyndall "Faraday and the Spiritualists" par15). Home then responds by claiming it was the first he had seen Faraday's letter, adding, "I would ask if this is the tone of a humble student and inquirer, prepared to analyze and ascertain certain facts" or instead "the sign of a mind far gone in prejudging the question at issue" ("Mr. Home's Reply" par 5).[109] The *PMG* readership soon joined this dialogue, with its unspoken yet critical ramifications: the exchange is notably not about whether spiritualism was

[109] The letter, it seems, had been addressed to the host of the séance as an intermediary ("Mr Home's Reply"). Whether this was true and the communication had stopped with that gentleman is almost as telling as the fact such an intermediary was used at all; it suggests at once an attempt at third-party distance from the experiment and Faraday's disinclination to engage with Home at all.

legitimate, but whether Faraday had expressed such bias against both it and Home as to effectively preclude the investigation, repudiating science's public image of dispassionate, objective curiosity.

F.T. Palgrave's first contribution to the conversation articulates this perceived inconsistency. Palgrave recalls Faraday's 1853 letter to the *Times* as justifiably exasperated by the public pestering he had experienced but argues that Tyndall's sharing of Faraday's letter to Home introduces elements "into the scientific side of the controversy [which] appear extremely well calculated to damage or defeat" any open-minded consideration of the spiritualist side ("Science versus Spiritualism" par 1). Palgrave judges the author's tone as "that of a man who has decided that the other party is a rogue," (par 4), rather than the "eminently fair and liberal mind" for which Faraday was known (par 4). Further, Palgrave claims, Tyndall's framing of the text damages "the cause of truth" that should spur science to query spiritualism through unbiased observation (par 6). Thus, science's constructed public image is itself under scrutiny, but this time from the outside: Palgrave wonders what has happened to the scientific mind that elsewhere showed such professional objectivity, and his letter implicitly invites other readers to do the same. He provides the deceased luminary the excuse of exasperation for his lapse in tone but asks the living Tyndall to exemplify the detached rationality upon which his objection to Home claims to rest.

In contrast, George Henry Lewes's contribution refuses to comment directly on tone, shifting focus to argue instead that prejudice and skepticism are not incompatible. "Cases are always prejudged," Lewes claims, adding, "The man of science is always

sceptical," ("Science and Spiritualism" par 4). These claims seem contradictory: if skepticism is an abeyance of belief or outright refusal to follow suit, the implication is that a skeptic has not yet made a judgment of one side's definitive worth. Yet if as Lewes says, judgment has already occurred before any "case" of investigation begins, what then is the role of skepticism, and can it make any valid claim to neutrality? Lewes seems to intend "sceptical" to mean something other than 'open to persuasion,' when used alongside "prejudged." Further, in making these claims without further clarification, Lewes evades Palgrave's point that both Tyndall's and Faraday's language itself betrays a bias of refusal rather than neutrality, instead refocusing the issue on the man of science as the putative judge or skeptic. He asserts that if Home had proven himself to Faraday, no one would dare question him further – a claim that presumes the *PMG* readership had already accepted Faraday's unassailable authority.[110] After weeks of near-daily exchange in the Correspondence, the *PMG*'s editor intervened in the "spirited contest," reproving its participants for writing with "a little more warmth [and at] rather greater length than necessary," and declining to devote further space to the argument ("Science and Spiritualism" par 6).[111]

[110] Scholars have since commented on how Lewes' relationship with George Eliot influenced her writings on science and materialism. Rick Rylance notes Lewes was a skeptic who "contested the militant materialism of 'automatists' such as Huxley and Tyndall" (qtd in Woods) and theorized inextricable mind-body processes in his discussions of Bioplasm and Psychoplasm (Woods 61). As these themes do not seem incompatible with spiritualist thought, Lewes' contributions to the exchange above become the more striking for their focus on "scientific" mindset and authority, rather than on Homes' practices or legal culpability.

[111] Within a month, however, the *PMG* reprinted an earlier essay from Tyndall about his séance experience: "Science and the Spirits," on 15 June, 1868. That the essay was not favourable to spiritualism seems to align with the apparent editorial bias visible in the Homes-Lyon sequence.

A thorough unpacking of all the documents comprising the exchange could fill an entire chapter, but I will note a few elements in the letters above as indicative of larger patterns. One is the paper's presentation of the argument by continually juxtaposing science and spiritualism as distinct movements at odds, for instance when titling Palgrave's letter "Science versus Spiritualism." Within the letters themselves, the rhetoric of engaged opposition continues, beginning with Tyndall's use of "combat," Home's objection to Faraday's "treaty" conditions ("Mr. Home's Reply" par 4), and Palgrave querying the language of the "challenge." The discourse is one laden with an irreconcilability of position that resounds with a refusal of peaceful compromise. That the participants imagine the conversation is such militaristic terms, which the editors themselves exacerbate with titles, further cements the two "sides" as inimical, if not antithetical. A second discernible pattern is the repeated focus shift away from Home's legitimacy and onto fraudulent mediumistic practice elsewhere, effectively tarring the wider movement. Tyndall and Lewes each provide personal anecdotes of attending séances with other (unnamed) mediums, recounting how they accepted messages from a "sister" or "friend" they never had. Omitted is the note that the briefly described messages are designed to comfort a grieving relative, or that personal bereavement was frequently an impetus to spiritualism; instead, the authors focus on their own – equally deceptive, though that goes unspoken – role in playing along, triumphing over mediumistic fraud and other sitters' gullibility here on the public page if not audibly in the séance itself. Their framing of these other events ironically relies on the very type of evidence Wallace notes they elsewhere disdain: the report of their personal experiences in

a séance room, though here their personal accounts are used to damn the medium instead of supporting her. Whether readers accept these "skeptical" men's unsubstantiated accounts as truth, when they would not accept a believer's, involves precisely the double standard Wallace identifies.

Home's contributions to the exchange are themselves representative of much spiritualist self-defence in the media: he does not vehemently assert the validity of his work but, as cited above, merely disputes the facts as Tyndall presented them and invites him to experience the work in person. Whether he believed he might be accepted is debatable, given Tyndall's outspokenness elsewhere, but Home's suggestion of two "gentlemen" witnesses demonstrates a familiarity with the praxis of Baconian science, i.e., that phenomena are to be observed by as many non-believing, and therefore "objective" men as possible. After his two letters, Home disappears from the exchange, ostensibly on the basis of ill health but apparently as reticent as other spiritualists seemed to be about asserting themselves overmuch publicly. I would like to argue that they refuse the field because their own view of spiritualism's projects was far more profound, concerned with the very nature of the human instead of the media's fixation on trickery, and perhaps the final section of this chapter will substantiate that argument, but they may equally have withdrawn because the professional sciences had, as I have already noted, so firm an authoritative foothold in wider English education and culture. Regardless, a notable exception to their typical reticence is the previously mentioned 1874 "Defence of Modern Spiritualism," by Alfred Russel Wallace.

Wallace's Defence

Wallace, whose name was long overlooked as a co-theorizer of natural selection with Charles Darwin, was a self-taught naturalist, geographer, and teacher whose 21 books and 700 periodical contributions throughout his lifetime made him a familiar voice in Victorian scientific literature (Camerini par 5-10).[112] Publishing his Defence across two editions of the well-regarded *Fortnightly Review*, he references several newspaper exchanges between science and spiritualism, including the one discussed above (par 12) and cites Tyndall specifically for the "high scientific standpoint" from which he views spiritualist believers as "dupes beyond the reach of proof" (Wallace "Defence" par 53). Wallace invites readers to decide "whether [such dismissals of spiritualism] come with a very good grace from men who have the most slender and inadequate knowledge of the subject they are criticising, and no knowledge at all of the long continued and conscientious investigations of many" (par 53). Here, Wallace resists the scientific ingroup's claim to authority, appropriating their own yardstick to accuse the critics themselves of lacking the education to speak authoritatively on the matter of spiritualism, and further presuming to apply it to the seemingly most unscientific of fields. Like Palgrave in the *PMG* above, he uses science's own self-construction to question its claims: if commentary on science can be dismissed by scientific professionals because it lacks specialized knowledge, those professionals are themselves dismissible when

[112] Wallace's work, based on his travels in South America and the Malay archipelago, preceded Darwin's slightly, but the two co-authored the earliest paper on the topic in 1858 (Camerini par 5). His entry in the *Encyclopedia Britannia* concludes he was "a prolific and lucid writer, a committed socialist, a seeker of truth, and a domestic, modest individual," and tellingly adds, "His engagement with progressive politics and spiritualism likely contributed to his lack of employment and to his somewhat peripheral status in the historical record" (Camerini par 10).

commenting on anything outside their purview – and spiritualism had repeatedly been placed outside science. Wallace's tactic here is only one example of how the conversations in the press around knowledge-based authority provided convenient rhetorical tools to both sides.

The Defence is a sweeping document, attending not only to contemporary media conversations but also to the history of human fascination with the afterlife, visionary phenomena, and altered states of trance and dreaming.[113] The essay's stated goal is "to remove the prejudices and misconceptions with which the whole [of spiritualism] has been surrounded, and to incite to unbiassed and persevering examination of the facts" – an arguably scientific examination as befits the cultural climate ("Defence" par 117). As did Home above, Wallace urges individual experience before judgment, noting "every one [sic] must find out the truth for himself. [Spiritualism] demands that it be not rejected without patient, honest, and fearless inquiry" ("Defence" par 117). That call for individual experience borrows science's measure of authority from observation-based knowledge, transferring it to the séance room rather than the laboratory, because by science's own claim, the skill of observation should work anywhere. Readers are encouraged to evaluate and add their own experience to the multiple examples from

[113] For Wallace, this includes shamanistic, prophetic, and mediumistic activity, which he treats in separate sections as cross-cultural, ancient, and therefore intrinsically human practices of which spiritualism is merely a recent iteration. Christine Ferguson thoughtfully resists the association of Wallace's travels with his apparent openness to global spiritualist practices – as cited by his contemporary critics and by later scholars – and traces instead what she identifies his "anxious quarantining of non-First-World practices of spirit contact from those of modern Britain" before his later adoption of a "more universalist stance" ("Other Worlds" 178). Despite Wallace's opinions elsewhere, the Defence seems largely non-committal, if brief, in its listing of worldwide figures and praxis, perhaps as it serves more to adduce evidence of human activity than comment on legitimacy.

history, but this sort of appeal by spiritualist defenders had appeared in media elsewhere, at less length. Wallace distinguishes himself by arguing the "moral teachings of spiritualism" that benefit its adherents (par 103). He works in a discourse familiar to him by linking spiritualism directly to emergent evolutionary theory – that revolutionary field which likewise looked beyond individual life span and connection – and proceeding from what he describes as spiritualism's understood "Theory of Human Nature." Every human, he argues, is a dual form consisting of "an organized spiritual form, evolved coincidently with and permeating the physical body, and having corresponding organs and development." Death separates the two components but has no effect on the spiritual form, while "progressive evolution of the intellectual and moral nature [ensures that the] knowledge, attainments, and experience of earth life [form] the basis of spirit life" ("Defence" par 104-6).[114] Wallace thus argues an inextricable bond of parallel evolution between the physical and spiritual selves, such that morality and cognition are as adapted to modern life as is human physicality. Becoming aware of the more durable intangible self should compel ethical living on Earth, because the spirit will survive the body to progress toward what Wallace terms the "natural and inevitable reward" in the world beyond death (par 112). This notion of moral progress aligns with the era's (mis)understandings of evolution as being a progress narrative resulting in the modern civilized human, but also with concerns about social decay and loss of morality in the

[114] His fourth premise is less pertinent at this juncture, but states that "Spirits can communicate through properly endowed mediums [but] their communications will be fallible, and must be judged and tested just as we do those of our fellow men" (par 106). The point supports Wallace's and others' assertions elsewhere that nonsensical messages do not disprove the phenomenon of spirit communication ("Defence" par 110; Owens 80-81; L. Wilson 20-22).

face of industrialization: in Wallace's model, merely recognizing that our moral selves are as marvellously evolved as our physical ones obliges us to attend to them. Notably, because the spiritual self evolves in every human body, morality is universally present and its eternal "reward" after death is inevitable regardless of religious creed.[115] These paired selves also tacitly imbue spiritualism with a value that answers the demands for "usefulness" from critics like Faraday or Tyndall: Wallace's offering transcends the single believer by bridging physiological evolution to the capacity for a morality that promises an improved individual and, inferentially, a better society. Like the ever-emergent evolution of Earth's species bound together "by a web of complex relations" (Darwin 73), Wallace's moral evolution is neither recent nor as ephemeral as a single human life, but instead inherently entwined with environment, community, and ongoingness. Unfortunately, while the Defence garnered considerable comment and was excerpted in various periodicals, it was not a definitive rebuttal: the conversation and contestation continued.

Of usefulness and affect

Wallace's moral evolution in his Defence aside, the affective "use" of spiritualism remained largely implicit rather than articulated in nineteenth-century mainstream media. Some items gesture toward it, such as when the *Whitehall Review* allows that rumours of Queen Victoria's séance attendance, if true, would be understandable given that "the

[115] Gillian Beer summarizes Freud's identification of "three severe blows" to anthropocentric thinking: "the *cosmological*, associated with Copernican theory, the *biological*, associated with Darwinian theory, and the *psychological*, associated with psychoanalytic theory" (9). Arguably, Wallace combines the latter two in his theory, reminding readers that body and mind are entwined and co-evolving but not dependent solely on one another.

Queen has suffered a terrible bereavement." "We can well imagine," the item continues, "that the hope of penetrating, if only for a second, behind the veil, and of learning the condition of [Albert], may have drawn her unresistingly [and] converted the séance… into a solemnity of rare significance" ("Is the Queen a Spiritualist?" par 2). This recognition of spiritualism's potential affective "significance" in a mainstream periodical is all the more striking in that it names the bereavement "terrible" without reference to its duration – Albert's death had occurred seventeen years previously.[116] While the tone throughout is hardly complimentary to spiritualism, its language tacitly recognizes that grief might persist beyond the protocol of a mourning period and that communication from a loved one might offer solace and healing.

Spiritualist publications, unsurprisingly, accept the comforting potential of spirit messages as a given. The influential and long-running periodical *Light* offers an item "Consolatory Thoughts for the Bereaved" in which the author notes that those grieving most seem to wait the longest for messages from the deceased.[117] The author, cited only as "A.M.H.W.," suggests that the grief of the living might actually affect the dead,

[116] While Lord Alfred Tennyson's hugely influential *In Memoriam* (1850) includes the lines "O life is futile, then, as frail!/ O for thy voice to soothe and bless!/ What hope of answer or redress?/ Behind the veil, behind the veil" (section LVI) and famously arises from the poet's own long and profound experience of mourning, the *Review*'s item includes no quotation marks around the phrase, nor any overt reference to the poem. I shall examine more closely the era's usage of "the veil" as a boundary between life and death in the pages ahead.

[117] *Light* was founded by Dawson Rogers and W. Stainton Moses "after the British National Association of Spiritualists fell into disarray and discord, along with *The Spiritualist Newspaper* which had been its de facto organ" (Deveney par 2). By far the most durable of spiritualist periodicals, it ran weekly from January 1881 to 1943, monthly until 1952, and has been produced quarterly since (Deveney par 1). Circulation through the end of the nineteenth century is estimated at 5000-7500; the paper was aimed "more to the educated, less avowedly Christian and more urbane classes of London than to working-class or provincial audiences." Arthur Conan Doyle made "substantial anonymous [monetary] gifts" and briefly served as editor (Deveney par 2).

"becloud[ing] their Heaven" and hindering contact. As evidence, they offer a poignant story of a Swedish mother who dreamed a group of children with lamps, among them her own dead child whose lamp was unlit: "your tears have put out my lamp" he tells her, and the realization helps to assuage her grief (A.M.H.W. 38). Although dreams and spirit messages could not be measured empirically as "useful," spiritualist participants count them among the most welcome aspects of practice. Their stated affective value within the community predates but aligns with modern trauma theorists who note that an insistence on empirically verifiable narratives risks further silencing the voices of the suffering. As Leigh Gilmore observes, for instance, "conventions about truth telling… can be inimical to [bringing] trauma stories into language. The portals are too narrow and the demands too restrictive" to allow the deeply felt or inarticulable to be in any way expressed (3). Within a community that values the subjective experience and indeed may not ever pressure a recipient to share the message they receive via spiritualism's more unorthodox portals, the bereaved might well have found the sense of camaraderie and consolation both generative and healing.

Spiritualism's affective worth was not solely solace for the grieving, however. In the Correspondence columns of mainstream media, practitioners describe not only the emotional significance of personal spirit messages but also the sense of community provided by gatherings, decentering any medium as the caretaker of knowledge without denying her role. Correspondent William Howitt likens it to the "spirit of reverence and thankfulness" other Britons found in orthodox religion. He writes that "spiritualism has been to me…the most substantial blessing of existence. [Faced with] its luminous facts,

knitting up the present with the sacred past, binding up the life of to-day with the spiritual life of the great-souled and great-hearted in all ages and all quarters of the world" (qtd in "The Consolations of Spiritualism" par 2), Howitt celebrates shared experience and relationality, appreciating a richly affective communal experience that by implication enriches the participant's own soul.[118] His citation of community is far from unique; spiritualist periodicals such as W.T. Stead's *Borderland* also exemplify the impulse to unite like-minded spiritualists in their desire to contact the dead, emphasizing networks of support as beneficial to each other and also to the sympathetic atmosphere thought to be most hospitable to spirit manifestation.[119]

Further noteworthy in Howitt's letter are the implications of transtemporal and global qualities in the spiritualist experience, including a perceived link between the quotidian "life of to-day," the individuals in the Victorian séance room, and a far vaster, global human history and community. In this, it aligns with Wallace's contention that the search for and appreciation of the numinous is a fundamental human trait, but again I perceive parallels to the era's sciences in its evocation of human affiliations as ubiquitous,

[118] Howitt's description is distinctly Christian in its inflections. Though not uncommon in spiritualist circles, the letter may also have been strategically chosen as more palatable for the paper's readership. The editors may have been discomfited by its near-ecstatic tone, however, because the letter is immediately followed by a séance account from a "Dr Collyer" describing levitating furniture and pinches hard enough to leave marks on flesh (par 5-6). It is difficult to see why that potentially frightening account was included with Howitt's under the banner "The Consolations of Spiritualism," other than to counterbalance the tone of the first.

[119] As noted briefly in my previous chapter, scholars exploring Victorian notions of sympathy offer diverse readings of affect and self-conception during sympathetic "exchanges." Jaffe observes the Victorian use of "sympathy" was often problematically invoked for social improvement projects bound to classist ideologies, dependent on imagining oneself as less privileged without actually losing privilege. I would add that Jaffe's conceptualizing of the imagined self as "occupying another's place" – done almost unthinkingly, as it is "only a step away from imagining the self as merely occupying its own" (10) – resonates well with mediumship's fluid, absent, or shared selves, as the last section of this chapter will explore further.

even if unseen. One contributor writes to *Light* to evoke a similarly grand vision: "in the Summer-land of the Spiritualists we see the Paradise spoken of by our Lord to the penitent thief, the Elysian Fields of the ancient Greeks, India's paradise of the Hindu, the paradise of the Moslem, and the happy hunting grounds of the Red Skins in America" ("The Science of Spiritualism" 54). The "reconcilements of various faiths" imagined here suggest a softening of the material world's usual delineations, even as its language perpetuates geopolitical and racial categories; indeed, these and other metaphors of psychical landscape upcoming in this chapter echo English colonizers' fantasies of bringing light to dark and ignorant territories.[120] Still, Howitt's and others' suggestions that the spiritual plane does not find time and space any barrier to community resonate well with the era's paradigm-shifting scientific thought around complex natural systems which theorize a present informed by life and activity in the past. Darwin's "inextricable web of affinities" binds species in "complex and radiating lines," for instance (Darwin 433-4). As Gillian Beer has famously explored, narratives of community and kinship from a "common stock" characterize Darwin's landmark *Origin:* "For a book thematically preoccupied with the past, the present tense is extraordinarily predominant… [ever] on the brink of finding out, rather than sharing an already formulated and arrested discovery" (48). This atmosphere of generative curiosity, ongoingness, and connection seems akin not only to spiritualism's stated strengths, but also to the popularizing science

[120] Just how common visions of this globally inclusive afterlife were within spiritualist communities is difficult to judge; other writings exhibit an idyll only for the Christian faithful, shepherded by angelic guides. Luckhurst (2004) and C. Ferguson (2007; 2015) are among the few scholars to comment directly on the role of race in spiritualist practice and belief. My next chapter's examination of the era's speculative fiction offers some additional commentary on the intersections of race, spiritualism, and science, particularly in Marie Corelli's novel, *The Soul of Lilith*.

texts of my previous chapter. How scientists and spiritualists overlap in their described experiences of the world, and how they imagine interior landscapes to mirror or diverge from material ones, is the focus of the next section.

Straying: masculine grounds and feminine miasma

A common rhetorical device in the dialogue between science and spiritualism, already discernible in some of my examples, was the imagining of mental or psychical capacity as landscape. Scientific reasoning is regularly equated with knowledge and presented as solid ground, while spiritualism equates to uncertainty, on miry and dangerous territory. Either could be deployed to great effect from any side of the conversation. From the spiritualists came variations of a psychical landscape as yet unexplored but appealing to the curious knowledge-seeker, while the spokesmen of the science more often imagined its potential dangers: anyone venturing beyond the solid ground of empirical reasoning risked wasted effort at least, and a loss of masculinity at the worst.

In an address to the British Association, Tyndall assigns an aggressively masculine sexuality to breaching the darkness of ignorance: "The force of intellectual penetration into this penumbral region which surrounds actual knowledge is not, as some seem to think, dependent upon method, but upon the genius of the investigator" (*Fragments of Science* 110-11).[121] G. Stanley Hall goes further: "Science is indeed a solid

[121] The choice of "genius" here blends the ancient etymology of divine and/or supernatural intelligence, as well as the "male spirit of a family, existing in the head of the family and subsequently in the divine or spiritual part of each individual" (OED). Though its usage by Tyndall's time had transmuted to an

island set in the midst of a stormy, foggy, and uncharted sea, and all these [spiritualist] phenomena are of the sea and not the land. If there have been eras of enlightenment, it is because these cloud banks of superstition… have lifted for a space or a season" (xxxii).[122] That Hall, writing in the United States more than three decades after Tyndall, still evokes a seafaring tradition to link science to solid ground and spiritualism to uncertain and potentially dangerous mutability, attests to the durability of the metaphor. His "clouds" and "foggy" resonate with cognitive weakness, surrounding but notably not damaging the scientific body-mind traveling through them – intellect may be daunted but (presumably) prevails as light breaks through. The references to superstition and (E)nlightenment bolster those dismissals of spiritualism as archaically primitive, well behind the Western embrace of modern thought – although Hall's imagery implies that lingering backwardness may at any moment descend again, as he perceives spiritualism to have done.[123] Even those authors demonstrating slightly less bias against spiritualism – such as one pseudonymous columnist who describes it as "that school of philosophy which professes to have placed one foot on that dark territory which lies beyond the grave" (Free Lance "Social Subjects" 278) – envisage the landscape as a penumbral one. Implying that the geography "beyond the grave" is both dark and littoral, if not entirely

unusually heightened human intellect, it still carries its linguistic resonance with "geniture" and "genital" in Tyndall's imagined penetration.

[122] In his own investigations, Hall pricked mediums with needles and dripped acid on their hands in order to test their trance states (Blum 303-04). Believed to be the first American to earn a PhD in psychology, Hall's doctoral advisor was psychologist and spiritualist William James. Hall served as the first president of the American Psychological Association and was President of Clark University from 1889 to 1920 (*Encyclopedia Britannica* par 1-6).

[123] Although Hall is clearly outside my English Victorian focus, his connections to the spiritualist community on both sides of the Atlantic begin in the late 1800s and were many (cf. Blum op cit; Oppenheim 245). His use of these metaphors, even in the first decade of the twentieth century, confirms the widespread influence of scientific and spiritualist discourse patterns.

aqueous, reinforces an imagining of its material world opposite as composed of light and solid ground upon which to reason and observe the "useful" facts of empirical knowledge. Note, too, that the phrase "beyond the veil," frequently employed even today as a euphemism for the next life, is occasionally printed as "beyond the vale" in nineteenth century writing (cf. Willburn 2); the homophones seem to have equal relevance, resonating anew with an exploration of something beyond visible range – an uncovering of new surfaces either bodily or geographical, either the uncovering of a hidden face of nature, or the exploration of new territory.[124]

Discursively, these metaphors recall the feminine element in Aristotelian binary halves – passivity, nature, darkness, and especially fluidity among them – which Hélène Cixous' iconic work argues are consistently underprivileged in patriarchal systems (Cixous and Clément 63; cf. also Schiebinger 234). The Viscount Amberley contributes to the *Fortnightly Review* a lengthy account of his experience at a séance includes a sardonic reference to the medium summoning a spirit "from the vasty deep" in 1874 (88), but as early as 1853, The *Illustrated London News* proclaimed that "The matter-of-fact people of the nineteenth century have plunged all at once into the bottomless depths of spiritualism" (Anon 481). By mid-century, then, media commentators juxtapose a characteristic of the age as attached to "fact" and reason, and a limitless potential – of mystery or menace – attached to spiritualism.[125] Such references, with their frequent

[124] Cf. Londa Schiebinger's fascinating exploration of pre-nineteenth century allegorical representations of science as a woman, with its many associated metaphors (121-36).
[125] George Bernard Shaw's 1919 play *Heartbreak House*, when paired with the anonymous *ILN* contributor above, rather strikingly bookends the spiritualist decades of the nineteenth century with deep water: "[The second half of the century] was superstitious, and addicted to table-rapping, materialization séances,

reductively simplistic oppositions, rarely consider the vast power, generativity, and unconquerability of water, particularly the depths evoked here. Although it comprised the surfaces upon which England's ships could move at the height of its naval supremacy, commercial or state projects could not control oceans themselves; indeed, the metaphoric invocations of water as something dark, clinging, or mysterious refer to the rich world far below its "useful" surface, as yet unexplored because inhospitable to human life. As Robert Pogue Harrison observes, "In its solidity and stability the earth is inscribable, we can build upon its ground, while the sea offers no such foothold for human worldhood" and correspondingly little territory for the scientific thinker striding across an intellectual landscape (4). And yet "Water is a *matter* of relation and connection" (Chen, MacLeod and Neimanis 12), essential to human biology and organic survival, with enormous "capacity to connect and combine" (Chen, MacLeod and Neimanis 6), so to relegate the spiritualist to water's element renders the movement far more powerful than its critics likely intended.[126] Applied by a male-dominated profession to a community known for its predominantly female mediumship, aqueous metaphors also heighten every "drama

clairvoyance, palmistry, crystal-gazing and the like to such an extent that it may be doubted whether ever before in the history of the world did soothsayers, astrologers, and unregistered therapeutic specialists of all sorts flourish as they did during this half century of the *drift to the abyss*" (emphasis mine, xvii-xviii). Shaw asserts that spiritualism was an inevitable backlash against what he derides as the too-materialist sciences of the same time, which sought to convince the public that "human beings are produced by their environment, their sins and good deeds being only a series of chemical and mechanical reactions over which they have no control" (xvi).

[126] A growing number of eco-critical studies of water in literary and cultural studies provide myriad readings of its enormous influence. Harrison thoughtfully examines the convergence of imperialism atop and vulnerability to the sea, for instance. His quotation above is followed by, "No doubt that is why the sea, in its hostility to architecturally or textually imprinted memory, often figures as the imaginary agent of ultimate obliteration" (4). When Cecilia Chen and her co-editors observe that "scholarly and political debates contest whether water should be understood as a common public good or a commodified private resource," I cannot help but notice the parallels with knowledge as discussed in this project: attempts to commodify and control it can never fully succeed when it is both necessary and essential to all (Chen, MacLeod and Neimanis 3).

between visibility and invisibility, between light and dark, and also, between female procreativity and male productivity" (Keller 41), for instance when Tyndall's "intellectual penetration" imbues illumination with virility, the shadows parting at its intrusion. The more spiritualism is associated with obscured landscape, the more I see manifested Keller's observation that "the task of scientific enlightenment – the illumination of the reality behind appearances – is an inversion of surface and interior, an interchange between visible and invisible, that effectively routs the last vestiges of archaic, subterranean female power [as] the visible surface dissolves into transparent unreality" (41). Regardless of the tenets of the investigator, as Keller notes, the search for answers exposes layers for which established facts must be re-configured, whether in the molecular biology, particle physics, or the spirit world. Hall's "cloud banks" damn spiritualism not only for lacking clarity of vision (both literal and imaginary) but also for enshrouding a navigator seeking trustworthy terrain – yet with Faraday's electromagnetism, Crookes' spectrometry, and nineteenth-century science querying everything from atomic structure to planetary attraction, that terrain was constantly shifting as the elemental asserted itself.

Detractors such as Hall may thus have received with irony any mediumistic claiming of *clairvoyance* – literally, 'clear seeing' – as a path to knowledge.[127] Communications from clairvoyants challenged prevailing paradigms of natural order, of

[127] Wallace describes clairvoyants' abilities as varied: "Some mediums see the forms of deceased persons unknown to them, and describe their peculiarities so minutely that their friends at once recognise them… Others read sealed letters in any language, and write appropriate answers" ("Defence" par 83). Others claimed the ability now called "remote viewing," in which they might witness a scene happening at that moment anywhere in the world; this will reappear in next chapter's fiction analysis.

"fixed subjectivity," and arguably of the human sensorium itself (Willburn 52). Spiritualists such as Camilla Crosland expand that sensorium while rejecting the notion of an obscured spiritual landscape, arguing instead that "as the spiritual eye is opened the material eye is closed" (Crosland 89-90).[128] In Crosland's understanding, the bodily eye sees "mundane objects" even as it works in service to the spiritual eye, which has far greater reach (90). "[The phenomena] of clairvoyance," Crosland writes, "and even of ordinary dreaming, suggests how completely the spirit eye can see, totally unaided by outer light" (91). She proposes a human self with entwined yet separable physical and spirit aspects, with the former in service to the latter: the spirit does not require the light that science promises to bring to the "darkness" of ignorance, since it can perceive beyond it. In invoking "even ordinary dreaming," Crosland does not limit the capacity to a favoured or specially trained few but opens it to all who choose to transcend the physical – another distribution of authority rather than a claiming of specialized expertise in the scientific mode.[129]

Light persists as a significant metaphor deployed by all sides of the conversation. Where science imagines the illumination of the world as bringing a cognitive clarity,

[128] Willburn describes Crosland and her husband Newton as "a prominent mid-Victorian theologically inclined couple" (56). That seems a largely Christian theology, although the references to spiritual eyes do resonate with Hindu or even Wiccan notions of a "third eye" bringing additional knowledge, or indeed a Romantic notion of a spiritual eye such as that invoked in William Wordsworth's "Tintern Abbey" (1798) which, once "made quiet by the power/ Of harmony, and the deep power of joy,/ [allows us to] see into the life of things" (l.47-9).

[129] The innate psychical strength or weakness of the seer does play a part in their acuity, however (Crosland 90); she also suggests that crystals function somewhat analogously to prism lenses for some seers: she reports from acquaintances that "when a vision is about to be presented the crystal appears to expand, and then that it disappears; nay, that surrounding objects seem likewise to give way, and only the spiritual world to be visible" (89). I see a striking resonance with Keller's assertion, cited earlier, that deep investigation "dissolves" reality's surfaces.

spiritualists such as the newspaper correspondent cited earlier, or Crosland herself, more often imagine an enlightenment of the spirit or soul of the believer, affording affective sensation as well as potential knowledge beyond the empirical. As with the consolation of messages from the deceased, sometimes the numinous was accepted as sufficient in itself: as one author in *The Medium and Daybreak* wrote in 1897, his mind had become "illuminated with a Light that is simply indescribable…There was no longer any need for intermediate persons to stand between the Human Soul and Divine Light" (qtd in Barrow 202). Divinity in such Christian-inflected spiritualism becomes an internal source of enlightenment, distinct from the scientific claim to knowledge and instead a guiding element within one's psychical geography. Many spiritualist periodical names borrow illuminative connotations without necessarily retaining the religious one, for instance the simply named *Light* or *The Medium and Daybreak*, the latter in particular evoking dawn, with its growing light and multivalent senses of newness, realization, or simply ongoing natural events given new appreciation.[130] Crosland's own memoir of her spiritualist experiences was entitled *Light in the Valley*, a geographical image with strong light and shadow play, perhaps within a reference to the shadowed valley of mortality in Psalm 23.[131]

[130] The latter magazine added paratextual light, as early versions of its masthead represented a sun breaking through clouds atop a hill. One archivist notes a later masthead consisted of "a line of beautiful spirits emerging from a dawning sun to enlighten a hoary man surrounded by dusty tomes:" a visible comment upon pedantic (notably male) skeptics who would benefit most from enlightenment (International Association for the Preservation of Spiritualist and Occult Periodicals, *The Medium and Daybreak*).
[131] The King James Bible version is of Psalm 23:4 is "Yea, though I walk through the valley of the shadow of death," while the New International Bible version renders this line "Even though I walk through the darkest valley."

The malleability of the dark-light metaphor is such that spiritualists could subvert for themselves science's colonialist image of bringing light to darkness, such as when Myers and Edmund Gurney sent appeals for ghost stories to several periodicals, explaining the SPR intended to inquire "into a mass of obscure phenomena which lie at present on the outskirts of our organized knowledge" (Gurney and Myers "An Appeal"). The wording retains the undefined, potentially hazardous obscurity of ignorance while reinforcing the notion of the investigator as the intrepid explorer, whether spiritualist or scientific.

Feminine agency, scientific appendages, and wandering wombs

While spiritualist and psychical investigation communities were significantly more gender balanced than were the professional sciences, for the most part women spiritualists remained, as described in an anonymous item in an 1897 edition of the *Pall Mall Gazette*, "sisters" to investigation. As such, they "[pry] into dark cupboards and behind curtains" ("Exit Ghost" par 2), but the mainstream media rarely positions investigative women as full partners or as driven by anything more than a child-like curiosity qualitatively different from the valiant British male striding into the dark unknown. [132] *Light* repeatedly uses the phrase "ladies and gentlemen" in describing spiritualist communities, but that may be because it is a spiritualist periodical aware of its audience; against mainstream media coverage, its inclusivity is an outlier. Even Wallace's

[132] Crookes' notebook in Cambridge University Library's SPR Archives meticulously details sitters, room arrangement and results, if any; over multiple séances in 1870, the ratio of women to men sitters hovers around 1:1. While many appear to be married couples or blood relations, some women's names do not match any other attendee, frequently indicating marital status but leaving kinship or the circumstances of their invitation unknown (MS SPR 13-1).

forty-page Defence entirely genders investigators as male. Women appear as conduits and vessels for communications – as mediums or seers – while the witnesses Wallace believes credible enough to satisfy any skeptic are "men in responsible positions" (par 61). Perhaps he deliberately chooses the only type of evidence-providers a skeptical reader would accept: as noted earlier, women were not sufficiently credible wielders of the yardstick of science. Unfortunately, in making no overt reference to the work of female spiritualist sitters and investigators, Wallace erases them from these activities just as they were erased from science.[133] Elsewhere, with a rhetorical step from dark cupboards and shadowy landscapes to mental instability, spiritualism was increasingly coded with hystericized, feminized and deviant sexuality: the shadowy séance rooms full of drapery and mysteries become womb-like in their acts of creation, with a strange and public sensuality coded into its associated activities.

The equating of scientific standing with masculinized authority could be overt, such as when John Tyndall bemoans in the *PMG* how many men insist on the truth of their spiritualist experiences despite having "heavy scientific appendages to their names" (qtd in Lamont 911) – an image in which professional reputation bestows not simply additional letters to one's name but a metaphorically potent organ of institutional affiliation that demands appropriately masculinized intellectual behaviour, of which

[133] They are, at least, not excluded from the afterlife: scholars have noted the consistent images of a harmonious, notably socialist community in the "Summerland" of the afterlife, with no division of class and equality between the sexes. Logie Barrow points out some visions which hierarchize zones to allow the most virtuous in life the most pleasant areas in death (cf. Barrow 248-9; also Edwards 105); C. Ferguson, in her study of the threads of eugenics underlying a disturbing number of spiritualist writings, also notes the ableist presumptions of an afterlife in which all impairment, cognitive or physical, is erased ("Eugenics and the Afterlife" 67).

spiritualist investigation is none.[134] Lacking said appendage, female practitioners of spiritualism are represented within fluid images of fecundity and miasma. Longtime spiritualist investigator Frank Podmore regretted that American medium Mrs. Piper was ever perceived by skeptics as "trailing behind her a nebulous ancestry of magnetic somnambules, witch-ridden children, and ecstatic nuns" (361).[135] Here, as Mrs. Piper's female body carries its own 'nebulous' cloud of irrationality, there remains no claimable solid ground for science: like a dislocated womb, her fog is already housing sleeping, cursed, infantilized, and dazzled female forms, none of which add to her authority. The prevailing medical sense of the female body did little to dispel metaphoric associations with fluid unpredictability, and associations with the moon, hysteria and emotionality were rarely far behind; as Alex Owen describes, medical practitioners were of the belief "that the vagaries of female biology left women physically vulnerable and emotionally labile" (147). In 1871, the *British Medical Journal* asserted that "Hysteria, in some one or other of its Protean forms, is doubtless the disease which more than any other furnishes the most abundant crop of fruit to the Spiritualists" (qtd in Owen, 142).[136] The statement

[134] I would note that Tyndall's choice of 'heavy' may unwittingly suggest the burden of such a proscribed identity under the scrutiny of the professional ingroup, but nothing else in Tyndall's writing supports such a reading.

[135] Interestingly, Podmore comments that Piper may have been better received if she "could have come to us out of the blue" (361) instead of after a long history of such – in his view, apparently – dismissible women and infants. Whether "the blue" here refers to the ocean or the sky is perhaps debatable; the first would further the watery associations already explored, but the more common sky interpretation evokes the heavens of prophets and miracles.

[136] The *BMJ*, as it is now known, began as the *Provincial Medical and Surgical Journal* in 1840. For decades, its only notable English competitor was the *Lancet*, begun in 1823. Owen's chapter on the medicalization of mediumship is fascinating; for further scholarly examination of the entanglement of (usually female) bodies and psyches in the era's psychology and beyond, see also Lisa Blackwell's *Immaterial Bodies* (2012). Numerous other scholars, including Elaine Showalter and Elisabeth Bronfen have offered resistant readings of hysteria to counter the too-often misogynistic scientized view. Elizabeth A. Wilson further argues for a deliberate re-connection of body and mind in feminist work, describing

is not inconsistent with other pointed dismissals of Spiritualism but is notable for its layers of scorn: its hysteria is "Protean" in a throwback to a pre-Enlightenment mythic system, rendered menacingly and unmasterably fertile, birthing others as unhuman – and indeed brainless – as itself in the pathologizing view of masculine science. Spiritualist belief was frequently cited among "symptoms" of imbalance when women were committed to institutional care (Owen 147-67). This lessened considerably after the Married Women's Property Act was enacted in 1882 and a high-profile legal case upheld the woman's suit for "libel, assault and false imprisonment" based on her spiritualist belief (Owen 164), but associations of spiritualist practice with instability persisted. Reportedly, even male investigators with careers in science academia were "in several cases expelled from colleges and churches and were confined as lunatics" (Wallace "Defence" par 17).[137] The significant, perilous social repercussions of being too linked to uncertain grounds serve as stark reminders that the hegemonic systems underpinning Victorian culture preferred their knowledges ordered on the solid footing of rational, implicitly masculine sciences that claimed them for their own.

Even if not institutionalized for hysteria, female spiritualists – perhaps led by those wandering wombs – could easily step outside the bounds of propriety. Marlene Tromp writes extensively on the transgressive sexuality of the séance room, particularly

hysteria as "the corporeal revelation of psychic and cultural conflict" and a form of "embodied insubordination" (4).

[137] The pseudonymous "Free Lance," writing for *London Society* in 1873, makes scathing light of the association: "[Believers] complain that thoughtful and scientific men treat them with supreme indifference; let them be satisfied with the reflection that our lunatic asylums are sufficiently full, and that there is, as yet, a popular desire to leave them at their liberty…" ("Talk of the Town" 282).

for those mediums who produced "physical manifestations," i.e., a full-body spirit that wandered the room, sat on participants' laps, or offered kisses when challenged to prove itself (Tromp "Spirited Sexuality" passim).[138] Unquestionably erotic for some, such activity also heightened in others a sense of the physical, psychical, and moral dangers séances might inflict; firsthand news items about being pinched hard enough to leave marks did nothing to alleviate these fears. When psychical investigators blindfolded or physically restrained female mediums, the opportunities for impropriety and transgressive touch rose considerably. Censure could fall equally on the female medium whose work prompted it or on the male investigator who perpetrated it, but the latter might at least successfully plead the case for scientific control of every variable in tests of fraud. Still, the air of illicit sensuality persisted, notably in an 1875 article for the *Fortnightly Review*, when Tyndall dismisses the pursuit of spiritualism as "intellectual whoredom" (Tyndall "Materialism" 599).[139] This single phrase, used briefly and without elaboration, assigns a deviant promiscuity – implicitly a feminized promiscuity – to minds used in the service of spiritualism. Tyndall's pronouns for thinkers throughout the 'whoredom' article are unequivocally male; the paragraph in which the phrase occurs describes the "best" men as seeking to explain the world either through scientific experimentation or moral

[138] Adding exotic flavour to these manifestations was the popularity of racialized female spirits. Luckhurst lists several associated with renowned mediums in England and the United States, including spirits claiming to be Native American, Indian, "Spanish Indian" and the "daughter of a fourteenth-century Arab sheikh" ("Knowledge, Belief" 202). If they manifested materially, they often moved around the séance circle, touching sitters' limbs or trailing their draperies across them, adding, literally, a touch of the sexualized exotic to communication with the dead (Tromp "Spirited" 77-80).

[139] The lengthy article directly responds to ecclesiastical attacks on Tyndall's Belfast address, and deals extensively with Tyndall's distaste for dogmatic adherence to Biblical renderings of the world when presented as incompatible with scientific discovery. He targets Catholic schooling, and in one striking image deplores the current "band of Jesuits, weaving their schemes of intellectual slavery, under the innocent guise of 'education'" ("Materialism" 597).

philosophy, of which spiritualism is neither. His terse implication of deviance proved remarkably durable: a decade after the article, SPR co-founder Edmund Gurney wrote to William James that the worst part of being a psychical investigator was "this perpetual association in the eyes of the world with 'intellectual whoredom'" (Same [Gurney to James]). Even allowing for despondent exaggeration, Gurney's claim that "the eyes of the world" have seen and retained a single phrase in a single paper reflects the power – or at least perceived power, which is arguably as important – of the press in representing science and spiritualism as incompatible.[140]

The susceptible, permeable self

The fear that even the rational British male might be susceptible to the dangers of "mediomania" (Owen 149) also surfaced in subtler ways, primarily by feminizing male spiritualists. The previously cited Home was repeatedly represented as effeminate for his "long hair, sensitive hands, and personal vanity… enough to cast doubt on his moral integrity" as being as suspicious as his work (Owen 10).[141] Media caricatures of spiritualist men did much the same, such as those which appeared alongside a satiric "Sketches of London Society" column in 1862 (see Appendix A). Except for the cues of tailoring – which not coincidentally might instead be read as New Woman adaptations of collars and cravats – it is not immediately obvious whether the illustrated figures are male

[140] The *Review* "appealed to an upper-middle class educated public" and was "politically liberal-radical, with a rationalistic philosophical creed" (Ellegård 13). Its 1870 circulation estimate of about 2500 would have been multiplied through its availability at Mudie's lending libraries (Ellegård 13).
[141] Notably, similar suspicions surrounded the trial of Oscar Wilde, which equated his queer body with his work and found both too dangerously influential on middle-class sexual and intellectual propriety (cf. Thurschwell 38-46).

or female, but the accompanying article uses entirely masculine pronouns in describing the men's deceitful motives and shifting, destructive moods. The implication that spiritualism might feminize male participants speaks to the broad gendering of the movement as female, but I would argue it speaks also to fundamental anxieties about spiritualist bodies being, by their own admission, permeable and therefore unpredictable bodies, too susceptible to influence by unseen forces and to uncanny bodily expression through spirit channelling, automatic writing, levitation, or the far rarer "ectoplasm" materializations of the late century.[142] Witness statements recurrently invoke the language of birth or "lying-in" to describe ectoplasmic extrusion, and the material might exhibit enough agency to touch other sitters or even – in the case of the always-controversial Eusapia Palladino – upend furniture (Delgado "Ectoplasm" 34; Richet 402).[143] While a few male mediums produced ectoplasm at their séances, the activity remained "intimately tied to the female (or feminized) body" (Delgado 36). The quasi-organic oddity of the material itself and the ability to produce it added to a perception of the medium as fluid and fecund – but not safely so – and to uncertainty as to whether the extrusion should be considered a spirit-produced object or a new aspect of the medium's self eroded scientific

[142] Primarily appearing from the breast, shoulder, or orifices, ectoplasmic manifestations were variously believed to be "evidence of the spirit world… a material projection of certain psychic states, [or] a manifestation of the spirit's will or life force rather than the physical embodiment of a spirit" (Delgado "Ectoplasm" 35). As Delgado notes, these extrusions of material were both grotesque – "disgorged [as] fat slabs of curdled plasma" – and evocative ("Ectoplasm" 34). Many were subsequently discovered to be mostly made of soaked cheesecloth that had been secreted somewhere on (or sometimes, within) the medium's person and removed in the darkness of the séance room.

[143] Palladino was the focus of scores of psychical investigations over the course of four decades, including a long series by Lodge, Myers, and Richet, often with Polish investigator Julian Ochorowicz. Repeatedly accused of and discovered as fraud, but also of frequently inexplicable activity, Palladino drove a wedge into the SPR's membership. Myers was eventually banned from publishing any Palladino results in the SPR *Journal of Proceedings.* The moratorium remained in effect for a decade (Gauld 242).

confidence in classifying the physical world. Indeed, mediumistic activity underpinning spiritualism as a whole disrupted "the stable sense of self – suggesting a more fluid, fragmented, and constructed self, a self that could be dramatically refigured – while honoring an undying 'self' that transgressed the boundary of life and death" (Thurschwell 183). A more threatening body than the average, the configuration unsettled those who had constructed their sense of self on the closed, completed, solidly material grounds of scientific paradigm. Worse, many spiritualist communities centred that mutable, feminized being as an agential subject, valuing knowledge from subjective experiences (during or after life) and celebrating those whose permeable selves seemed to allow extraordinary communication.

As the mid-century physical materializations and table-rapping faded, feats of mental ability and channelling remained the most durable – and heavily investigated – aspects of spiritualism. The spiritualist technique of automatic writing is a useful example of the permeable self as spiritualists envisioned it, as the sensitive serves as the conduit for the thoughts, words, and muscle control of another consciousness – often, but not always, a deceased person speaking from the afterlife – who uses the medium's physical body to write messages on paper. The medium would voluntarily attenuate but not sever the connection between mind and body, leaving the medium in control of both despite a temporary backgrounding of the active mind.[144] The process "collapsed together medium

[144] One spiritualist practitioner's book advised novices, "Never for a moment abandon the use of your reason" (Owen 82). That essential advice was repeated elsewhere, particularly in cases when detractors worried about potential lasting damage to the medium, whether grounded in religious danger to the soul or in medical trauma.

and [usually] dead author, as both inhabited the same body and spoke with the same voice" (L. Wilson 26), defying central tenets of rational empiricism, not the least of which was the claiming of authority on the basis of intellectuality: if two intelligences profess to share a body but maintain individuality, authority becomes a fraught question. This was the case in Stead's spiritualist periodical, *Borderland*, which gained considerable readership after he began printing messages he alleged to have channelled from the spirit of deceased American journalist Julia Ames.[145] Stead comments that the process works "almost invariably when [my hand] is disconnected, so to speak, from my brain" ("My Experience" 39).[146] This ability to background oneself was typically upheld as characteristic of the best mediums – those who found some way to combine, in Jill Galvan's evocative phrase, "the right kind of presence with the right kind of absence" (12), allowing others to speak through their bodies but never surrendering the conscious will championed by scientific thinkers.

Elsewhere, female mediums who produced writings from the spirit of a known, deceased male author, blurred distinctions of both gender and agency. Interpellating both the masculine authority and cultural legacies of their alleged spirit sources, automatic

[145] "Borderland" is an occasional synonym for "Summerland" to refer to the imagined territories of the afterlife, but in its inaugural issue Stead twists the invocation slightly, claiming the publication to be itself a middle ground of communication "between the scientific expert versed in all the secrets of psychology… and the great mass of ordinary people, among whom these phenomena are constantly occurring but which, at present, are neither noted carefully nor recorded accurately" ("Seeking counsel" par 7).
[146] The question of authority in Julia's messages is in constant tension with the theatricality of Stead's editorial performance, however: Sarah Crofton joins Victorian and contemporary critics in arguing that "Stead's own editorial voice [is] ubiquitous in the periodical" (4). See too my forthcoming article "'My Spook Writes Steadese.'" (Spring 2021). Contrast Stead's distinctive voice with spiritualist Florence Marryat's editorial work for *London Society*, which with fewer bylines and section headings left space for spiritualist-sympathetic articles and stories to appear in that otherwise mainstream venue (Palmer "Chieftaness [sic]" 148).

texts from female mediums "appropriated the voice of the authoritative dead man (whether the father, the boss or the bard) [and] consequently spoke with an authority that would otherwise be only problematically allied with femininity" (L. Wilson 19). They thus transgressed against both the deceased's legacy and expected gender roles in asserting a knowledge they could not have. Without those spirit sources, some argued, these women would not write at all, and certainly not with any credibility: reduced to conduits or receivers, the women were denied not only the ability to write but also any agency within society to participate as producers of texts.[147] The reduction to a passive object rather than active subject in the communication exchange recalls again the ancient binaries of passivity and subordination reinforced by the era's gendered iniquities of education and social conditioning. Notably, men such as Stead who claimed to channel female spirits yet whose own voices remained discernible were, if not dismissed as frauds, accused of remaining too obviously in control of the writing: that the reverse was not also true reflects widely held differences in how the "feminine" mind was perceived as unsuited to intellectual production. In contrast, personal messages from a deceased loved one channeled through a female medium were deemed legitimate enough to be welcomed as consolation, thus implicitly welcoming the medium as a facilitator of or conduit for affective care and nurturing – appropriately feminine roles outside the séance room. The metaphor choice of 'facilitator' or 'conduit,' however, depends on how much

[147] Not unexpectedly, the argument disregards the spiritualist community's insistence that volitional will remains intact, if backgrounded, within the trance state. However, it also disregards the reality of a burgeoning print culture landscape within which countless women contributed growing numbers of literary, critical, and journalistic works, under their own names and under aliases.

agency remains in the trance state, as the first retains the subjective agency practitioners insisted upon, while the second is more troublingly a passive object.

Issues of both of mind and agency concerned both the spiritualist and non-spiritualist. For Sigmund Freud, the ego at the center of selfhood must remain its anchor against the impulses and drives of the subconscious and unconscious minds as well as the buffeting of the world.[148] Within that paradigm, those who made the above protests about automatic writing essentially queried whether the channelers' egos were secure enough to sustain them through trance, only obliquely recognizing how those egos had already been shaped by significant overdetermination of "feminine" subjectivity in waking life. Frederic Myers, who brought Freud's and Josef Breuer's work on hysteria to the attention of the SPR before the two were widely known in England, developed his own theories of the unconscious mind, although he preferred the term subliminal, reportedly to avoid any implication it was not also a conscious self. He theorizes a "multiplex and mutable" subjectivity made up not only of its supraliminal (waking, habitual) self ("Multiplex Personality" 649) but also fragmentary dreams and memories, various personalities, and a wide array of physiological and of psychical activity that may remain unused and unsuspected.[149] Key to Myers' theory was that these subliminal aspects could be accessed

[148] "It is to [the] ego that consciousness is attached… it is the mental agency which supervises all its own constituent processes, and which goes to sleep at night, though even then it exercises the censorship on dreams. [With psychoanalysis, we discover] something in the ego itself which is also unconscious, which behaves exactly like the repressed - that is, which produces powerful effects without itself being conscious" (Freud *The Ego and the Id* 6)

[149] The British Library's online catalogue entry for "Multiplex Personality," which had originally been printed in the periodical *Nineteenth Century* in November 1886, notes its year of publication coincides with Robert Louis Stevenson's *The Strange Case of Dr Jekyll and Mr Hyde*, though neither inspired the other. After the novella's publication, Myers apparently corresponded with Stevenson about narrative elements that spoke to the "multiplex personality" case he presents in this article.

by the waking self, such as occurred during clairvoyance and automatic writing: they simply required the supraliminal self to relax control in order to engage with the subliminal self (cf. Gauld Chapter 12 passim; Hamilton "Development of Myers's Ideas" section). Psychical phenomena suggested that even extraordinary communicative ability was at least somewhat an act of will, and that the channeling mind determined which information emerges; however, the implications of how that mind and its associated body might be affected remained elusive.

Stories the press never told

The mediums themselves sometimes admitted to an uncomfortable sense of disjunction during the channelling process, though these rarely appear in media stories. The medium Elizabeth d'Espérance, in her book *Shadow Land*, describes the increasingly disorienting sensation of watching sitters embrace her manifested spirits during séance: "I feel curiously weak and powerless, and can only feel without having strength to act […] I feel my body swayed to and fro and all gets dark before my eyes. I feel somebody's arms around me although I sit on my chair alone" (345). The dual sensations she claims to feel beneath her own hands and around the form of her manifested spirit, Anna, seem simultaneously distant and real, yet insufficient, such that she "long[s] to put out one of these hands that are lying so helplessly, and touch someone just to know if I am myself or only a dream—if 'Anna' be I, and I am lost as it were, in her identity. I wonder in an agony of suspense and bewilderment, how long can it last? How long will there be two of us? Which will it be in the end?" (346-7). The passage is increasingly poignant, as the emotional mourners attend only to "Anna" and not to d'Espérance on the margins of the

room, her selfhood and confidence in her control steadily eroding. That the sensation of touch – one of the senses which for empiricists is so often a reality-tester – should itself betray her, yet promise relief from her hesitation, demonstrates just how divergent spiritualist conceptions of the human were from physiologically based paradigms.

The publication format is also significant: a book presumably aimed at already sympathetic believers. d'Espérance's overt anxiety over her doubled self is not something the media conversations typically included, and even her title forebodingly invokes a darkness contrary to the positive and comforting "Summerland" imagery seen elsewhere. Here too, only for the eyes of believers, is the indication that the ability to share consciousness – or, to borrow Myers' model, to become more attuned to the supra- or subliminal consciousness layers – is less a gift than a burden. d'Espérance's final question suggests the duality is not merely uncomfortable but a contest in which only one 'self' can prevail, and if, ultimately, the selves she perceives during the layering must be dissociated, "the end" strongly suggests a finality without peace. D'Espérance also claimed sensitivity to influence even from living bodies: she eventually required that her sitters abstain from alcohol and nicotine for weeks before a séance, claiming she would sicken from their remnants around her (307) and essentially positing that "the *circle* was the medium, rather than an individual person" (Tromp *Altered* 191).[150] Visible in her writing is how spiritualist bodies might viscerally resonate with Darwinian notions of

[150] "I learned that many habits, which are common to the generality of mankind and sanctioned by custom, are deleterious to the results of a seance, or at any rate to the health of the medium" (d'Espérance 308). This is a step further from other mediums' claims that a vague or undefined "negative energy" might impede spirit communication, as the circle would not be in "harmony," such as in Viscount Amberley's 1874 account (82).

interdependent systems and organisms – perhaps most when d'Espérance worries which of the selves fighting for resources within her will survive. As Christine Ferguson notes, "many spiritualists saw themselves as more Darwinian than the Darwinists themselves due to their willingness to challenge the established theories of human life and to extend the study of man into previously unimagined territory" ("Eugenics and the Afterlife" 69), although d'Espérance's experience illustrates how that imagined territory might be more unsettling than welcoming.

American spiritualist Theodora Bosanquet claimed to continue to receive messages from her employer William James after his death, as well as from others. One of her automatic writings offers a more cryptic but still discomfiting expression of her multiple selves during trance. Writing in dialogic form that distinguishes the physical, writing self from the other, Bosanquet poses the first question, asking for clarification about her doubling:

> Who is 'I'?
> In psychic trance 'I' appears. 'I' is not to be confounded with 1 or i. 'I' is single, is separate – is double, is fused. 'I' pursues its *own* purpose, speaking through the peeping fracture… Dream, vision, all that pertains to a state of somnambulance belongs, strictly speaking, to *dis*-conscious 'I'.
> What will happen?
> You will be *invaded*.
> By what?
> Solitude consciousness expanded… (qtd in Thurschwell 108)[151]

[151] Thurschwell's citation for this passage indicates her source is in the extensive Society for Psychical Research collection at Cambridge University: specifically, in the "Bosanquet Files, Box 2, Folder 4, `Impressions, Coming War ± 1939, Fragment, February 18, 1939." Although I did not view this file in my visit there, and although its recorded date is outside my scope here, it feels both relevant and extraordinary enough to include. Other scholars have studied how nineteenth-century spiritualism flowed into and adapted to twentieth-century anxieties; cf. for instance, Alex Owen (2007), Jill Galvan (2010), Beth Robertson (2016).

The paradoxical tensions of the spirit's responses are many. It seems only trance can produce an "I," which implies the usual subject designated by the pronoun is not the waking self that moves through the world, nor a singular self designated by the numeral one, despite visual similarities with the pronoun. The "I" is simultaneously single, double, and fused in a layering perhaps evocative of d'Espérance's but acknowledged also to be an invasion: a militant image with overtones of surveillance in its "peeping." What precisely is fractured is likewise unclear – the self? Consciousness? – but despite the later promise of expansion, 'fracture' holds a violence akin to invasion and breakage, without a sense of later repair. It is only the trance state that allows a "dis-consciousness" to surface and invade, and the grammar of the word suggests a cancelling of consciousness. While it may merely refer to the altered state of dreaming, of somnambulance as referenced, again I see echoes of d'Espérance's anxiety for a contested self with only one expected winner. These are hardly the concerns of a medium being caught in a fraudulent séance or failing to perform as demanded by investigators; testimonies like these suggest the spiritualist community was struggling with fundamental questions of cognition, subjectivity, and relationality for which objective knowledge had no responses.

As much as the trance state and dreams were forming integral parts of emerging psychological study (Blackman xvii-xix), the "invasion" of the mental self was qualitatively different for channelling mediums such as d'Espérance and Bosanquet. Critics such as Tyndall and Huxley might imagine a man of science striding confidently through the shadows of ignorance, but as Thurschwell notes, mediumistic practices "both

promised and threatened that the mind was not necessarily a sealed and protected space" (36). Indeed, England had suffered threats to mind during the earlier mesmerist era, during which the anxieties around thought control had prompted serious discussion about legal responsibility and agency, as Alison Winter has thoroughly explored (1998 passim). Memories of those controversies and a wish to distance themselves from mesmerists may account for the spiritualist silence in mainstream media around any discomfiture within a doubled or "fused" self, much less any hint of "fracture" within it. While memoirs and specialist periodicals shared the challenges of mediumistic praxis, the mainstream media remained for spiritualists primarily a site of defense against specific attacks, as per Wallace and Home, and a venue for the sharing of experience. Why this should be the case is unclear, although one might argue that spiritualists tacitly adopted the "representative" model of journalism, affording broad public input, rather than the "educational" model scientific writers seemed to prefer – certainly, the multivocality of the New Journalism in late-century newspapers resonates strongly with spiritualist fostering of community, as Stead's *Borderland* proved in both structure and tone.[152] Whatever the reason, spiritualist media reticence results in a disparity between male to female voices in this decades-long conversation: while periodical coverage confirms that spiritualist communities formed around figures such as Florence Cook, Mrs Guppy, Helena Blavatsky, and other women not referred to by name, I am acutely aware I have far too few examples of their own voices in the popular press. Women's voices, and the

[152] The periodical repeatedly called for reader input in the form of article content and letters and maintained for several issues a list of "Members Circles" to connect local clusters of readers for group study and investigation. Cf. again my spring 2021 article "'My Spook Writes Steadese.'"

deeper concerns for self and agency as demonstrated by Bosanquet and d'Espérance, are far more common in the era's speculative fiction, as my next chapter will demonstrate.

Conclusion

As Oliver Lodge noted in 1905, spiritualism "is not yet a scientific State. We are in the pre-Newtonian, possibly the pre-Copernican, age of this nascent science; and it is our duty to accumulate facts and carefully record them, for a future Kepler to brood over" (qtd in Maxwell ix). Here, Lodge positions spiritualism not only as an ongoing concern but also one of considerable, arguably cosmic, importance.[153] The men he invokes are notable because they are not only some of the most recognizable names in scientific history but also practitioners whose work was almost entirely theoretical at the time of creation and only later borne out as truth – precisely the argument Lodge, Sidgwick, and others made for psychical investigation.

Given the rhetorical recurrences I identify in this chapter, it seems little wonder that 'Free Lance' writes in *London Society* that predictable media exchanges about spiritualism leave readers unmoved: "Those of us who don't believe are certainly unconverted still; those of us who do believe are still more fanatical than ever; and those who suspend their judgment have seen no sufficient argument for hanging it on a higher or lower peg in the abode of reason" ("Talk of the Town" 279). Some years earlier,

[153] Furthering the metaphor, Lodge describes the widened sensorium most investigators believed to be at the root of mediumistic activity: "the 'Ptolemaic' view of the phenomena [is currently] that they all centre round living man, and represent an unexpected extension of human faculty, an extension, as it were, of the motor and sensory power of the body beyond its apparent boundary" (ix). His implication is that this view will be complicated by future work that de-centers the individual body, even as it furthers our understanding of its 'unexpected' faculties.

Wallace had concluded that those firmly against spiritualism have, "to use the admirable expression of Dr. [W.B.] Carpenter, 'no place in the existing fabric of their thought into which such facts can be fitted.' It is necessary therefore to modify the 'fabric of thought' itself" ("Defence" par 13). What he does not say is that such modification would require significant shifts of definition around knowledge, subjectivity – indeed, around "thought" itself – and a new permeable overlay for all three, to allow for influences currently disregarded in privileging empirical objectivity. Affect and unquantifiable experience would need enriching by education, valuing in decision-making, and recognition as a part of the intellectual process at least as illuminating as reason. In sharing this new epistemological dominion, material empiricism too would accept its own vulnerability to influence and bias just as any other part of the human, in a radical expansion of Darwinian and other theories of interconnection. But admitting vulnerability may require the embrace of an uncertain, susceptible self rather than the confident light-bringer striding into darkness. The latter metaphor has been long entrenched – it may resist movement, no matter how much such a different imagining may be integral to spiritual and communal growth.

There were, however, other indications that the English reading public's "fabric of thought" was being rewoven and reworked to encompass scientific paradigms as well as an expanded mind and sensorium. Encounters between the discourses of objective science and subjective spiritualism enrich the era's popular literature, where the permeable human is capable both of sharing consciousness and of co-existence with experimentation and rationality in the face of the seemingly inexplicable. None of the portrayals of their

intersections are fully negative or fully positive; they are simultaneously indebted to and liberated from the media conversations which so often present them simply as oppositional. With more nuance than the recurrent media juxtapositions, the era's fiction also addresses some of the conversational gaps I identify in this chapter. For instance, female authors comprise fully half of my upcoming fiction selections – more proportionally representational of women's voices than the media samples here, and indeed of England's literary landscape in the second half of the nineteenth century. And while mainstream journalism rarely presents the troubled medium's voice, contemporaneous fiction frequently depicts psychical 'gifts' as disruptive in the world and distressing to the self. Intriguingly, men and women seem equally likely to appear as powerfully mediumistic characters in fiction, but the 'scientific' characters mirror the male-dominated real-world professional elite, even if their attitudes toward experimentation do not. Replete with re-animatory blood transfusions, "adulterated" salts and invading consciousnesses, the stories in the next chapter explore the potential of human subjectivity beyond the acrimonious media dialogue between science and spiritualism. Through fiction, the late-Victorian English public volunteers for consideration its own theories of haunted selves.

Chapter 3 – Fiction at the Confluence

> I was so far in my reflections when… a side-light began to shine upon the subject from the laboratory table. I began to perceive more deeply than it has ever yet been stated, the trembling immateriality, the mist-like transience of this seemingly so solid body in which we walk attired.
>
> Stevenson 43

Given the late-Victorian cultures of science, literacy, and media already described, perhaps it was inevitable that ambivalent encounters between scientific rationalism and spiritualist themes proliferated in popular literature, its narrative elements shaped by the conversation explored in previous chapters. Populated by unearthly, mesmeric, or psychically vulnerable characters, speculative fiction also imagined a culture of science reflecting varying degrees of real-world orthodoxy. The above epigraph, in which the light of the laboratory table reaches Dr Henry Jekyll's musings on the human self, seems a representative tableau: an instant of luminous inspiration when accepted paradigms are made strange and science is adapted to new projects. Stevenson's tale, and the others I feature in this chapter, engage the language or praxis of science alongside the 'unscientific' language of the unexplained or otherworldly, in a grappling with material science as well as with the immaterial. In doing so they are reminiscent of Darko Suvin's theorizing the "fictional novelty (novum, innovation) validated both by being continuous with a body of already existing cognitions and by being a 'mental experiment' based on cognitive logic" in science fiction ("On What Is and Is Not" par 2). Genre classification is something of a fraught task for this chapter's works, but for the most part I find "speculative fiction," not science fiction, the most apt descriptor, albeit similarly

anachronistic in its recency.[154] Although not one I fully endorse for this chapter's narratives, Suvin's premise usefully forestalls, to a certain extent, the dismissal of any purely fictive elements as a failure to understand 'real' science, positioning them instead as science-adjacent mental experiments. The borrowing of scientific discourse consequently results in what I would term a science-inflected literature, in which the phonemes and signs of recognizable science appear throughout. However, I give equal importance to the ground such discourse negotiates: plots and characters that illuminate the era's mutable ideas of the human self's autonomy, permeability, and intersubjectivity. The fictional works here thoughtfully extend and resist their extratextual media-driven conversations, particularly those positioning science as an incontestable masculinized authority.

From the multitude of possible examples from the late nineteenth-century, I have selected four to read closely for this chapter: George Eliot's "The Lifted Veil" (1878), Stevenson's *The Strange Case of Dr Jekyll and Mr Hyde* (1886), Marie Corelli's *The Soul of Lilith* (1892), and Richard Marsh's *The Beetle* (1897). All reflect the deep reach of contemporary conversations around science and spiritualism into public thinking, each author assuming the contemporary reader's awareness of – if not personal familiarity with – trance states, clairvoyance, the laboratory, and scientific practice. This allows me a

[154] Although I have invoked Suvin's theory here to describe relevant broad mechanisms, "science fiction" as a genre label for this chapter's works would carry considerable discursive baggage; in fact, Suvin names some of this chapter's primary texts in his influential list of one hundred Victorian books *not* to be considered science fiction. Most of this chapter's works also operate "in the negative register of horror" as described by Kelly Hurley, in that they heighten any represented trauma but also "[supernaturalize] both the specific content of scientific theories and scientific activity in general" (Hurley 6). Her vision of the Gothic, which "consistently blurs the boundary between natural and supernatural phenomena, hesitating between scientific and occultist accountings of inexplicable events," might arguably also suit (16).

survey of the era's views both from and of science: that is, how authors steeped in a science culture that also included media-borne dialogue with spiritualism choose to portray fictional scientists and their interactions with non-scientists and "unscientific" phenomena. On those themes alone, this chapter has notable exclusions: Bram Stoker's *Dracula* might have served as another example, with its blood transfusions, early forensic psychology, and travel typewriters; H. Ryder Haggard's *She* (1886-7) likewise offers a man of science reckoning with the paranormal; but surely the most obvious omission is anything by H. G. Wells, early science fiction icon. With space enough, my discussion would include them all, but I made my choices to illustrate my argument of sociohistoric confluence and media conversation without the weight of too much existing scholarly commentary (Stevenson's novella is an obvious exception).[155] Speculative Victorian tales in which "spirit" presents within a range of meanings beyond simply "ghostly" – tales which implicate human will and indeed consciousness itself or posit human consciousness as a vulnerable, permeable space – are as yet under-recognized. It is to those I wanted to give space long overdue.

This chapter foregrounds spiritualism's fundamental inquiry into subjectivity and more particularly themes of consciousness and autonomy – even if spiritualism *per se*

[155] I attempt to avoid rehearsing the already well-studied, but Stevenson's relevance to my topic is too undeniable to exclude it. My text selections in this chapter also represent, to a lesser extent, writings from authors who were not exclusively known for speculative fiction and who might have found a larger audience for these tales as a result. At the times these works were released, Eliot, despite her interest in science, was better known for character-driven novels, and Stevenson for his adventure and travel stories. Marsh remains something of an enigma but had largely published "boys' adventure tales" short fictions before *The Beetle* (Wolfreys "Introduction" 9; 35-6). Corelli's career, on the other hand, was a success entirely built on her best-selling "imaginative, philosophical and mystical" romantic novels (Malerbo par 3).

goes unmentioned. In contrast to the frequent media presentation of the scientific elite's skepticism or scorn for the movement, most of the fictionalized men of science in this chapter seem as eager to investigate the apparently supernatural or the darkest recesses of the human psyche as they are to investigate chemistry or biology. None of them is the unequivocal antagonist, although neither are they entirely likeable or moral; Corelli's El-Râmi or Stevenson's Jekyll, for example, might arguably be read as both protagonist and antagonist of their own lives.[156] They are, however, all men, while their fictional foils linked to affect and psychical oddness are feminized, as is El-Râmi's otherworldly brother, Féraz, or Eliot's clairvoyant Latimer in contrast to his brilliant friend Meunier. This duplication of the real-world discursive gendering of the two ostensibly oppositional stances confirms the growing success of media-borne rhetoric marking science as a primarily masculine pursuit, yet the failures of morality in these fictional scientists imply their overly intellectualized masculinity is far from ideal. For instance, the ambitious man of science is most doomed to disaster – professional or personal – when his solitary work means he goes unchallenged by professional colleagues or friends: Jekyll is of course the archetype of the fatal over-reach, but El-Râmi is likewise too long resistant to urgings toward a more humane approach to his experimental subject, Lilith; his resistance proves fatal for more than one character. Meunier and Atherton – both men who embrace the dangerous tension of life and death in their experiments – seem at least momentarily shocked by the crises they provoke, but for the most part the works in this chapter show a

[156] Notably, the now-familiar trope of the evil scientist is absent in my sampling. Popular culture scholars such as Robert Jones (2001) and Christopher Toumey (1992) have compellingly argued that the 'evil' scientist trope saw its greatest development in the fiction of the American atomic age.

trend of thwarted scientific ambition that undermines the idealization of professional scientists as detached from and superior to their non-specialist communities. Moreover, the tales feature villains like Marsh's entity, who disrupts subjectivity and leaves behind gibbering wrecks, and Edward Hyde, with his apparent moral indifference, thus depicting the worst-case-scenarios of the susceptible self described in my previous chapter. These texts suggest that the ramifications of such psychical vulnerability were roiling in the public mind even if the media gave little space to mediums' discomfiting lived experiences. The narratives in this chapter emerge from a refusal of the discursive boundaries professional science was drawing and make more overt the fundamental questions about human nature raised by the spiritualist phenomena science so often dismissed.

My attention to the fictional sensitives and scientists in this chapter stands adjacent to, rather than fully aligned with, scholarship's recent critical turn to haunting and spectrality.[157] My selected works feature no traditional ghosts at all, better situated in a post-1850 literary trend Emma Liggins characterizes as proto-modernist, in which "the unknowability of the past is figured through the spectrality of empty, or strangely new, houses, indistinct shadows or spatial and temporal disruption in line with new formulations of the uncanny" (32).[158] Conventional ghosts are absent, yet the works in

[157] Spectrality, which moves well beyond the study of traditional ghost stories, claims roots in Jacques Derrida's writings. The field now includes Kelly Hurley, Avery F. Gordon, Arjun Appardurai, María del Pilar Blanco, Julian Wolfreys, and spiritualist scholars such as Roger Luckhurst. As Wolfreys posits, "the spectral is, strictly speaking, neither alive nor dead, even though this condition that we name spectrality or haunting is intimately enfolded in our understanding of life and death" (*Victorian* xi).

[158] Liggins may be referring to Freud's definitions for the uncanny, or *unheimlich*, which he claims result from the discomfiting ambiguity experienced at the triggering of repressed fears by certain events or patterns that make a familiar place, person, or object strange (Freud "The Uncanny" 241). His examples

this chapter may be considered haunted by visions of the future, traumas of the past, and trance states disrupting mundane life. In consequence, even the language I use to describe the works requires some thought: "occult" may seem apt, but it is strongly associated with "magic, alchemy, astrology, and other practical arts of a secret or mysterious nature" (OED) to which many self-identified spiritualists did not adhere.[159] While "supernatural" or "paranormal" may seem sufficient to the breadth of events described, they each imply counterparts "natural" and "normal" still under active negotiation by all sides of the conversation, and indeed within science itself.[160] Instead I use "unknown," "unexplained," or "inexplicable," intended to pair implicitly with the nineteenth century constructed scientific discourse claiming the territory of the known, explained, and explicable. The phenomena to which this language applies raise questions far greater than how the dead might return; instead, they evince a curiosity about the inter-relational potential between human minds and bodies, incorporating both the phenomena of the séance room and the science culture from which they emerge, exploring the profound affective potential of community on the porous human self.

include the animation of inanimate objects (226), the doubling or successive repetition of names, features, or behaviours across generations (234), or the power of one's mind to affect the world via an "omnipotence of thought" (240).

[159] Theosophy, which grew alongside spiritualism in England, was more inclined to use "occult" and typically was more directive in encouraging its members to follow a path reputedly based on ancient or lost knowledges (cf. Owen *The Place of Enchantment* 2004 passim). The word "occult" is largely absent from media accounts, including those cited in my last chapter, although critics of the spiritualist movement applied or alluded to it pejoratively. It rarely appears in the fictions of this chapter, and I follow their example.

[160] Corelli's positivist mystic El-Râmi spends half a paragraph musing on why he dislikes "supernatural" so intensely, although he differs slightly from the usual protests of the era (162). "Scientific laws" and "natural laws" were also terms debated between scientific minds (cf. Huxley, "Scientific and Pseudo-Scientific Realism" 1892), but that exploration opens up rather too many semantic rabbit holes through which to fall in a footnote.

George Eliot – The Lifted Veil

George Eliot's novella about a man struggling with his unusual mental abilities first appeared in *Blackwood's Edinburgh Magazine* in 1859, but was not anthologized until twenty years later, and it seems no coincidence that the spiritualist movement was then at its height, with professed clairvoyants, thought-readers, and the legitimacy of spiritualism part of the daily media conversation. That extratextual reality remains a largely unspoken underpinning for the narrative, however, as Eliot's main character, Latimer, suffers the miseries of his psychical insights with no confidant but the reader. Eliot's publishers resisted *The Lifted Veil*'s publication in book form so soon after *Adam Bede*, judging it "imprudent" to potentially risk the author's success with "so unsuitable a production [as *Veil*]" (Gray 70), but from the beginning, Eliot felt the story worthy of publication despite its psychical elements, not because of them.[161] Indeed, the quotidian intimacies of family, marriage, illness, and death drive the plot if not more than, at least in harness with, the strange insights of its narrator, who in his affliction exemplifies the discomfort of the permeable, psychically vulnerable self.

The novella is Latimer's accounting of his life, beginning as an often lonely and disregarded child whose heightened senses and emotional sensitivities develop into

[161] Eliot's instruction to her publishers was to print it "in harness with some other productions of mine, and not send it forth in its dismal loneliness" (qtd in Gray 71). Beryl Gray argues Eliot seems to "justify the story's painfulness, not its unorthodoxy," underlining its value as a journey of human affect rather than a treatment of psychical ability (Gray 74-5). It was not widely well-received; Henry James named it a "*jeu d'esprit*" with little extra comment, and even scholars from the 1970s and 1980s dismiss it variously as "a sadly poor supernatural story" and "the weirdest fiction she ever wrote" (Gray 70).

psychic visions after an illness in early adulthood.[162] He gradually determines that his visions are of real places he has never seen, and that the impressions he has of other people's thoughts seem to be indeed the thoughts themselves. Sporadic and uncontrollable, the visions into others' minds exacerbate his dim view of humanity, but also persuade him of the complex role his brother's then-fiancée, Bertha Grant, will play in his own life. Although his early impressions of her include both potential love and lasting pain, her thoughts are for a long time opaque to his insight, and only after marriage does he perceive the depths of her coldness. As Latimer retreats from society to mitigate the distress his abilities cause him, his sole university friend Charles Meunier – now a renowned scientist – visits the couple's home. Using an experimental technique, Meunier briefly restores to life a housekeeper who spitefully reveals Bertha's plot to poison Latimer. Within the last two pages of the novella, the housekeeper dies, the scientist friend departs, the marriage dissolves, and Latimer is left to live the remainder of his life in near-total isolation, awaiting the death he has long foreseen.

An unpractical order and an uncongenial medium

Eliot leaves her narrator nameless, classless, and genderless for several pages before revealing him as the second son of a privileged family, and his Christian name several pages further on. The initial focus instead is on her narrator's misery and unusual psychical ability. The twenty-year delay in re-publishing would further have sharpened

[162] Ironically, given his ensuing abilities and my exploration in the last chapter of the prevalence of sight in spiritualist claims, a childhood illness renders Latimer temporarily blind (201). His "acute sensitivities" share striking similarities with Edgar Allan Poe's Roderick Usher, as do story elements of a woman's death and resurrection. Still, although "The Fall of the House of Usher" predates Eliot's novella by more than a decade, significant differences make direct inspiration unlikely.

Eliot's gradual reveal of Latimer. By the time the story was anthologized in the 1870s, even non-spiritualist readers would have been so familiar with the much-publicized female sensitives within the spiritualist movement that they may have presumptively assigned femaleness to the narrator, requiring a cognitive shift as detail emerged, albeit one which may have wavered again as Latimer shared his sensitivities and almost feminine features. He describes others' impression of him as being a "half-womanish, half-ghostly beauty" (Eliot 295).[163] Like the male spiritualists caricatured in my previous chapter, Latimer's uncertain gender presentation links him and his ability to femininity, further distancing him from a family already dismissive of him as an extraneous son. As the heir, his older brother Alfred attends Eton and Oxford "for the sake of making connexions," and receives a classical education of "Latin satirists or Greek dramatists" as a mark of status (281).[164] In contrast, a childhood visit to the phrenologist determines Latimer's deficiencies and excesses, and his father determines science is the most ameliorating educational option:

> I was very stupid about machines, so I was to be greatly occupied with them; I had no memory for classification, so it was particularly necessary that I should study systematic zoology and botany; I was hungry for human deeds and humane motions, so I was to be plentifully crammed with the mechanical powers, the elementary bodies, and the phenomena of electricity and magnetism. (Eliot 283)

[163] Anna Despotopoulou offers an apt description: Latimer "embodies the characteristics of a classic gothic heroine with his romantic inclinations, his dreaminess, timidity, and fainting spells" (qtd in Woods 65).
[164] Latimer's comments about his brother's education and his own recall my earlier exploration of the era's university reform, as Britons began to question the "nursery-to-manhood educational mold which stamped out gentlemen" while neglecting more commercial skills required by the "modern world" (Brown 18).

The passage paints a resentful and simplified double portrait: Latimer's affective, humanistic leanings against the taxonomic, mechanistic realms of science. His university tutor insists that "an improved man, as distinguished from an ignorant one, was a man who knew the reason why water ran down-hill" (204). When Latimer grumbles he would have been content with the beauty of such running water, Eliot's commentary seems overt: the tutor reflects the mid-century popular view of scientific knowledge as necessary to 'improve' a man – the same deployment of "improvement" by the middle working classes who for the most part had to rely on self-education past their teen years, as explored in my first chapter – and science as an emergent profession appropriate for a second son. Latimer's only friend at university, Charles Meunier, has a "special genius" for medical science which prepares him for the illustrious career ahead, but there is no sense anyone believes Latimer's education in the general sciences would result in a useful public career. The pair's friendship is born not out of common interests but rather that both are awkward in livelier society and apparently mutually unburdened by much sympathetic feeling for others (205). Their amity suggests another point of overlap between the extreme manifestations of science and spiritualism: a detachment from society, one out of single-minded absorption in scientific pursuit and the other from self-preservation under the onslaught of stimuli.[165] When Albert dies unexpectedly and Latimer becomes the familial heir, his "improving" education proves of little use to land

[165] Arguably, the two men come to share an additional but unacknowledged bond when Meunier's re-animative experiment, like Latimer's insights, reveals only the grim secrets of the human mind, but this comes much later.

stewardship.[166] Latimer's enforced science learning also sits ill with his "sensitive, unpractical" nature that unwillingly "grew up in [its] uncongenial medium" (Eliot 284). The description strikingly evokes laboratory culture growths, and aligns with Eliot's deployment of scientific terms in other works, notably *Middlemarch* and *Daniel Daronda* – a discursive borrowing which some critics "applauded [for its] expansion of the genre's lexical range, while others deplored [for] the intrusion of alien jargon" (Duncan 16-17).[167] Note that, by a fortuitous accident of language evolution, the "grew up in an uncongenial medium" clause would be doubly accurate if "in" became "into:" given the poor critical reception of the work, it seems readers do indeed find Latimer an uncongenial sensitive, and by the time his story was anthologized, he might equally have been called a medium.

Triggered by an unidentified illness, Latimer's psychical abilities move through three broad stages, all variations on visuality and clairvoyant potential: first he experiences visions of distant places (now called remote viewing), then prescient visions of future events, and finally, thought-reading as the longest-lasting stage. Latimer describes his abilities in various ways, the most common being "double consciousness" (Eliot 221, 238, 239) and "insight" (212, 214, etc.). The first evokes a layering of cognitive connections transcending conventional sensory perception; it does not render

[166] As his brother had not yet married, Latimer also takes on the role of Bertha's husband, despite knowing from his visions that their marriage will be unhappy. His unfitness for property ownership adds to Bertha's perception of him as useless in the material world, beyond being simply withdrawn or misanthropic.
[167] Ian Duncan notes recent scholarship has elucidated Eliot's "mobilization of terms and concepts from evolutionary and cell biology, clinical pathology, neurophysiology, psychology, chemistry, physics, astronomy, political economy, sociology, anthropology, and comparative mythology" (17). He cites multiple authors from the past four decades that have explored Eliot's incorporation of various sciences, and his list is far from exhaustive. Derek Woods argues that Eliot's partner George Henry Lewes' complex theories of materialism were influential to her thinking, especially his attempts to "write the mind in physical terms" (61-2).

Latimer a puppet to another's mind à la mesmerism, nor does one consciousness exert its own will over the other – the two exist simultaneously and autonomously. His own thoughts continue alongside, "flowing on like two parallel streams which never mingle their waters and blend into a common hue" (221).[168] This is significantly different from other psychical abilities in the texts I will explore ahead, and indeed makes the narrative's use of "insight" elsewhere seem understated. However, "insight" too is significant for its harkening back to the primacy of vision in mediumistic work as explored in my last chapter, and the dissolution of individual boundaries of mind and body, described by Derek Woods as Eliot's play with "the involuntary removal of barriers to sympathy" (57). The phrase implies that a permeable mind will perforce be one open to more intimate knowing and inter-relationality, but as a man who seems naturally disinclined to be unsympathetic to others, Latimer inevitably finds his ability unsettling.

Elsewhere, Latimer likens his ability to a heightening of the usual human sensorium, not only of visuality but also "a preternaturally heightened sense of hearing, making audible to one a roar of sound where others find perfect stillness" (Eliot 217). This certainly makes him a 'sensitive' in all the nuanced meanings of the word, though ultimately Latimer is a cautionary representation of the mediumistic mind, seeing only what he apprehends as the worst of humanity and none of its goodness; the potential solace reported by extratextual spiritualist communities is for him completely absent in

[168] The image also brings to mind a comment by Huxley: "there are two worlds to be considered, the one physical and the other psychical; and that though there is a most intimate relation and interconnection between the two, the bridge from one to the other has yet to be found [and] their phenomena run, not in one series, but along two parallel lines" ("Scientific and Pseudo-Scientific Realism" 240). Fulmer notes Eliot's works frequently invoke water as a mode of transport between "one spiritual state [and] another" (199).

his self-imposed isolation. He views his condition as more an affliction than a gift, and indeed the story rewards to a certain extent a reading that accepts his judgment. Woods astutely argues that Latimer's abilities behave "like a chronic illness [in that] they are involuntary and return in different ways depending on his context and time of life" (62). His pathologization of his ability becomes especially obvious when his now well-respected physician friend Meunier comes to visit, some years into Latimer's and Bertha's marriage. The "curse of insight" (Eliot 246) that had previously seemed "a disease – a sort of intermittent delirium" (210) or the "diseased activity of the imagination" (212) reframes itself from a pathology that distances him from others into a curable affliction: "Might there not lie some remedy for *me*, too, in his science? Might there not at least lie some comprehension and sympathy ready for me in his large and susceptible mind? But the thought only flickered feebly now and then, and died out before it became a wish" (emphasis original, 241). As much as it aligns with some chronic illness sufferers' desire for remedy or at the very least "comprehension and sympathy" for unpredictable, untraceable symptoms, Latimer's wistful hesitation also suits the era-specific ambivalence toward science as exemplified in some of my last chapter's media items. His recognition of the capaciousness of a scientific mind renders his use of "susceptible" surprisingly positive, as not the phrenologist's determination of a deficient area, or Latimer's own vulnerability to enervating insights, but rather an openness to new thinking and inspiration. Notably, he does not seem to consider that sharing his symptoms in hopes of a remedy might instead subject him to the clinical

scientific experimentation Meunier later demonstrates. In any case, Meunier never learns of his host's condition, and his potential capaciousness remains untested.

Latimer's first vision seems entirely in line with the cognitive landscape images and revelatory veil/vale metaphors explored in my previous chapter: it appears gradually, like "the growing distinctness of the landscape as the sun lifts up the veil of the morning mist" (Eliot 208).[169] The illumination of a new and previously shrouded spiritual vista is familiar, but the veil here is a separator of minds rather than worlds, and notably, Latimer positions himself and his ability – not simple belief or practice – as the illuminating sun. While the solipsism is characteristic of him, the metaphoric sunshine here suggests a more hopeful view of his insight in these early days. Its light soon fades against the self-absorption and meanness of the minds to which he becomes reluctantly privy. It seems doused further by Bertha Grant, who is consistently and menacingly linked to water: Latimer sees her as akin to a "Water-Nixie," a girl with "fatal" eyes and "green weeds, [who] looked like a birth from some cold sedgy-stream, the daughter of an aged river" (Eliot 210).[170] Indeed, the pair of them regularly swap these environmental images of liquid and light: Latimer finds affinity with waterways throughout his life (204, 205, etc.), while Bertha for all her fluidity is ultimately a source of "barren worldliness, [a] scorching hate" (219). Yet her mind's putative opacity for much of the story makes her an

[169] Bertha's inner self is thus more striking when it finally appears to his insight not as a landscape but a "blank prosaic wall" (234).

[170] Latimer blames his mind full of "German lyrics" for the "Water-Nixie" association (Eliot 210). Although he does not specify the source, the brothers Grimm published "Die Wasser-Nixe" (the Water-Nix) in their 1812 anthology, and it remained in the second printing, 1857. Two children fall into a well and are captured by the nix – the water sprite – who uses them as household labour until they escape. The ensuing chase involves the transformation of a number of household objects into fantastic barriers the nix eventually cannot overcome.

"oasis of mystery in [Latimer's] dreary desert of knowledge" (217). This last is a striking inversion of the usual psychic landscape: Latimer's desert is formed not by ignorance but by knowledge – that is, formed by his "importunate insight" that provides knowledge he does not want while paradoxically allowing a hopeful if temporary illusion of a wife who might desire him (212).[171]

Penetrative power, masculine science

Once Latimer's insight confirms Bertha's true nature, the balance of power shifts between them as she discovers he has few of the manipulable emotional levers she has found in others. Latimer implies she cannot find any because she does not imagine him as an agential subject: "I was dead to worldly ambitions, to social vanities, to all the incentives within the compass of her narrow imagination, and I lived under influences utterly invisible to her" (Eliot 234). The suggestion here that his power may be not simply innate but endowed by outside influence – in some way paranormal or merely outside her "narrow," materially-focused imagination – is neither explored nor resolved.[172] Yet despite Bertha's disdain, Latimer's psychical ability during this renegotiation of power is described in terms both virile and threatening: "[Bertha] had begun to suspect… that there

[171] Given what proves to be the absolute truth of Latimer's initial reading of Bertha as "sharp," "acute, restless, and sarcastic" (Eliot 210), and moreover viciously contemptuous toward him in the one flash of insight he receives, pre-knowing her as his wife (219), his insistence that he cannot fathom her mind as he does others seems increasingly disingenuous, if not self-deluding.

[172] Latimer elsewhere references to his sense of "the presence of something unknown and pitiless" (Eliot 238), an "Unknown Presence revealed and yet hidden by the moving curtain of the earth and sky" (246). Although the latter seems akin to divine immanence, Latimer makes no attempt to define it, nor does he gesture to any underlying Christian sentiment that might have found its presence more comforting than it seems here to be, in its variation on the mental world as vale/veil metaphor. I would also contrast the tale's earlier use of "the curtain of the future" as opaque to child Latimer (Eliot 201), versus his adult perception of the "moving curtain" of the physical world hiding the ineffable.

was an abnormal power of penetration in me – that fitfully, at least, I was strangely cognisant of her thoughts and intentions, and she began to be haunted by a terror of me, which alternated every now and then with defiance" (Eliot 235). "Penetrative" as a cognitive or intellectual adjective is of course reminiscent of descriptions of the scientific mind as one thrusting into dark territories (cf. Tyndall's "intellectual penetration into this penumbral region"), but here readers receive, as it were, the view from the shadows, as Bertha feels threatened by potential mental intrusion, vulnerable to psychical violation. Rather than forcing this psycho-sexual power on her, however, Latimer retreats further from society, finding his "wretchedness subsided from the violent throb of agonised passion into the dullness of habitual pain" (Eliot 238). His self-imposed impotence, metaphorically akin to psychic castration, provides a certain safety but amplifies Bertha's loathing – Latimer fails once again to behave manfully, and reflects once again the accusations of femininity brought against spiritualist men: his feminized self implies that a mind too open to inexplicable, unverifiable knowledge may also leave the body unsettlingly malleable. When Bertha tells him, "I used to think you were a clairvoyant," perceiving his bitterness against other clairvoyants as simply "wanting to keep your monopoly" (239), the dramatic irony is palpable.[173] By definition, Latimer is a clairvoyant, with knowledge of other places and times intermittently visible to him in great sensory detail. Once again, the narrative offers parallels between the fictional and real worlds, as the skeptic's anxieties around the inexplicable are sublimated into a

[173] Bertha goes on to say, "[B]ut I see now you have become rather duller than the rest of the world" (239). The remarks foreground Bertha's understanding of the world as based in commerce and competition.

judgment of character, although Eliot inverts the more usual gendering of female sensitive and male critic. In doing so, she explores the potential human drama beneath the oppositional stances oversimplified in the media: the clash between the rational and the unverifiable moves off the journalistic page into the domestic sphere, the exasperated print arguments becoming intimate verbal abuse as both parties involved refuse to find a middle ground. Even the general spiritualist reticence to defend themselves in print is exaggerated in Latimer's retreat from society.

The story offers a final surprise when Bertha's murderous plot is revealed not by Latimer's insight into her mind but by the application of science with unintended consequences. More than any other moment in the story, the resurrection scene reflects the era's ambivalence toward the mysteries of science as masculine spaces of power. Meunier, perceiving that Bertha's maid Mrs Archer will not survive her illness, arranges with Latimer that they should be alone with the body after death to test a theory of post-mortem blood transfusion. His assurances beforehand that the experiment "will do her no harm – will give her no pain" (242) are patently untrue, given that the revived woman is in evident discomfort, and that his trial is driven entirely by a dispassionate curiosity that sees a cadaver only as a potential object of study. He urges Latimer to keep the plan secret from Bertha – "there are always insuperable difficulties with women in these matters" (242) – and personally ushers her and the other "female attendants" from the room once Mrs Archer has died (245). Thus, he creates the conditions for exclusively male knowledge-seeking, and moreover provides himself both an "assistant" and a witness in Latimer, who lacks the expertise to raise a valid protest against the rarified arts

of transfusion and artificial respiration (Eliot 243). Latimer reacts with "mingled awe and curiosity" to the science (243), perceiving only the "wonderous slow return of life… and the soul" (245), and in those moments, both affect and intellect respond in the face of the *novum*. Albeit brief, Archer's return to life is due to influences manipulated by a science Meunier understands but which remain as "utterly invisible" as Latimer's visions are to others (234). Amazed by the combination of science and the numinous, Latimer can hold within himself a blended reaction of the sort neither Meunier nor Bertha can: the former is too detached in his pursuit of science, and the latter rejects the inexplicable for the mundane.[174]

Eliot's "The Lifted Veil" thus takes up the threads of contemporary scientific education and innovation, the drive to "self-improvement" and mediumistic behaviour, to suggest the 'sides' of these conversations are not at all oppositional but entangled with human behaviour. Latimer's version of psychical ability has little to do with a belief in spirit, but in Archer's resurrection, he and Meunier witness a scientifically imposed life that seems a grotesque mirror image to what Bertha had perceived as Latimer's listless half-life. For those few moments, Archer is all twitching action and vitriol, full of spiteful revelation and accusations of unspecified rumours and "jealousy" against Bertha (Eliot 245). Where Latimer hoards his visions in secret and broods over their import, Archer spews by pure, bitter affect: neither are granted comfort or solace by their experiences

[174] Meunier displays his strongest affective reaction after Mrs Archer's vitriolic accusation of Bertha: Latimer notes that "Even Meunier looked paralyzed; life for that moment ceased to be a scientific problem for him" (Eliot 246). Whether he is more shocked by the horrible success of his experiment, the vitriol of the message, or Bertha's homicidal plan remains unexplored, as Latimer immediately returns to his own morose perspective: "As for me, the scene seemed of one texture with the rest of my existence" (246).

under influence, wherever it originates. Ultimately, however, the chill of both dispassionate science and "importunate insight" are balanced by the ruthlessness that resides in a person like Bertha Grant, suggesting that neither a capacious intellect nor an expanded sensorium is more remarkable than the limitless vagaries of the average human.

Robert Louis Stevenson – The Strange Case of Dr Jekyll and Mr Hyde

Stevenson's 1886 novella remains perhaps the most enduringly influential example of late-century literature querying scientific authority and ambition and carrying wider conversations around body and mind into fiction.[175] Its narration by voices of sober masculine intellectuality might seem to position it far from the hyper-sensitive, too-insightful Latimer, but it also reflects considerable change in the culture of science and its public authority over the decades between it and Eliot's work. In Stevenson's novella, the third-person narration holds several embedded stories told in first person by characters at varying distances from, and in varying minds about, Jekyll's 'scientific' work. Through its multiple viewpoints, the work reflects a range of contemporary attitudes towards science, drawing the reader into its explorations of science and the immaterial self – not the least of which is Jekyll's own recognizance, as a man of science, of the "trembling…transience" of that self, as per this chapter's epigraph. Lacking any scientific colleague to curtail his work, or indeed any spiritualist-inspired community to reframe it, Jekyll seeks to exploit his own vulnerable nature and in doing so assures his own death.

[175] Sara Clayson notes Stevenson was both a member of the SPR and corresponded with Frederic Myers about the "other fellow" who "seemed to be attempting to usurp control of [Stevenson's] body" (51).

Although famous for its pairing of Jekyll and Hyde as oppositional "selves", the novella also more subtly illustrates the complexity of the mind-body connection, the indivisibility of the intellectual from the affective self, and the painful, consciousness-rending consequences of the attempt.

The story is by now deeply entrenched in public consciousness, but its popular "revisionings" are reason enough to revisit its original details. The reputable lawyer Utterson hears about a brutal late-night assault on a young girl by Edward Hyde, whose grudging recompense to the victim's family is made with a cheque from Utterson's friend and client, local doctor Henry Jekyll. As Hyde is the beneficiary of Jekyll's will, Utterson begins a discreet investigation, concerned too by Jekyll's recent isolation and his falling-out with their mutual friend, Dr Hastie Lanyon. When a high-profile murder investigation names Hyde as a primary suspect, Jekyll promises to sever his ties. Lanyon abruptly sickens and dies, leaving a document for Utterson to read only upon the death or disappearance of Jekyll. Utterson and Jekyll's servants soon discover Jekyll is indeed missing and Hyde is dead, alongside a document for Utterson in Jekyll's handwriting. The narrative then presents Lanyon's letter, in which the doctor recounts Hyde's drinking an elixir which transforms him into Jekyll. Jekyll's own letter details his long fascination with human impulses, and his development of an elixir designed to separate base instinct from civility – Hyde is the result of Jekyll's self-experimentation. Having been unable to replicate the original formulation and no longer in control of his transformations, Jekyll concludes the narrative by deciding he will suicide rather than have Hyde executed for murder.

The cast of *Strange Case* is predominantly a network of professional gentlemen, scientific or legal. Although not all of the scholarship on that theme is relevant to my purpose here, there are cogent links to the idealized, enclosing scientific community of Stevenson's England.[176] Utterson's personal and professional discretion is mirrored by the story's other "gentlemen" reluctant to articulate their uneasiness about Jekyll, Hyde, or both. They invoke a code of genteel propriety that supersedes even legal investigation, leaving potentially incriminating information unshared.[177] Utterson's failure to confront Jekyll directly is rooted not only in his own reticent nature but also in his perception of science as a specialized field outside his purview. Although he is an outsider to the field, his circumspect investigation, like Meunier ushering all women out of his ad hoc laboratory, simultaneously grows from and protects a masculine space of work and knowledge such as those the professional sciences were constructing through narrowed educational access and professional standards. Indeed, Jekyll is a man of science whose reputation ensures his work goes unchecked by either his colleagues or otherwise dissenting voices.

The views from and of science

Stevenson deliberately establishes Jekyll as a legitimate and educated man of science early in the novella: on Jekyll's will, the doctor's name is followed by a string of letters denoting his formal education and honours, including his medical doctorate and

[176] Scholars of these homosocial bonds include Elaine Showalter (1992), Marion Shaw (1992), and later Andrew Smith (2004). Pascale McCullough Manning lists others, primarily Freudian psychoanalytic critics, who have explored the novella's representation of repressed sexualities (188).
[177] Utterson himself skirts legality in a few moments, notably by not sharing his recognition of the murder weapon as Jekyll's walking stick.

fraternity in the recognizably respectable Royal Society (Stevenson 8).[178] Readers later learn Jekyll is also known for hosting convivial dinners (13) and for his works of charity (22); he thus seems to embody the public ideal of the nineteenth-century British scientist described in my first chapter as distinguished by their reasoning, judgment, and labour for the common good.

Stevenson also reflects contemporary views of science culture by providing both Utterson and Lanyon opportunities to enter and describe Jekyll's laboratory; the strategy leaves readers free to decide how to apply evidential detail toward Jekyll's legitimacy. The lawyer's first impressions inevitably reflect a non-specialist view, noting only generalities such as the tables in the main lab being "laden with chemical apparatus" (Stevenson 19). Upon discovering Hyde's body, he is more specific, finding "traces of chemical work [and] various measured heaps of some white salt" (34), but detail about whistling kettles and the cheval-glass are more plentiful than insights into Jekyll's work.[179] Lanyon's accounts, in contrast, occur in a voice aligned with an experienced and clinical eye, recording "a simple crystalline salt of a white colour... [and a phial] of a blood-red liquor, which was highly pungent to the sense of smell, and seemed to me to contain phosphorous and some volatile ether" (38).[180] Colour symbolism here notably

[178] Manning's article examines Stevenson's private journals, which contain lengthy commentaries on science as both fascinating and frustrating to Stevenson as it proclaimed authority over the material world and its contents.
[179] The cheval-glass is of course an essential clue to Jekyll's work; Utterson and Poole, Jekyll's servant, seem to sense its import through its unusual placement, though they cannot fully understand its role.
[180] Rieger's essay borrows from object or 'thing theory' to look closely at the pharmaceutical detail and subsequent implications of Stevenson's considerable attention to drugs and chemistry: "looking closely at fictional medications means thinking about the aesthetic category of the narrative in which they appear. The potion… functions as a plot catalyst, a concept itself borrowed from chemistry" (410). Again, this seems an example of an authorial borrowing for new and deliberate purpose – a creative misprision of the reader's scientific world for the narrative's one.

feeds the cliché the narrative has become in current pop culture, of the 'good,' pure white Jekyll versus the bloodied 'evil' Hyde; indeed, the latter may be said to emerge from the volatile ether of Jekyll's troubled psyche.[181] Lanyon is arguably equally symbolic as he enacts the idealized man of science who recognizes complex substances and accepts the experimental log book as standard laboratory practice, regardless of his reported repudiation of Jekyll's work (38). In the space of Jekyll's laboratory at least, his behaviour and reputation remain above reproach both in Utterson's outsider view and in Lanyon's professional one.

Key to the narrative is that Jekyll's work remains unspecified for much of the story. Its first reference appears when Lanyon declares that Jekyll long ago "began to go wrong, wrong in mind," resulting in "unscientific balderdash," without divulging detail (Stevenson 9); in this case, a gentleman's discretion aligns completely with a professional circle against which Utterson, though a friend, remains an outsider. Notably, while Lanyon's speech is elsewhere almost parodically clinical (cf. his description of his own "subjective disturbance" characterized by a "incipient rigour" when he meets Hyde, 39) his label of "wrong in mind" in speaking to Utterson is ambiguous, implying either instability or immorality. Jekyll later reports a quite different accusation by Lanyon, one of "scientific heresies," which seems to conflate unauthorized science with spiritual transgression (14). However, as the only other man of science in the tale, Lanyon is primarily "the objective and reasonable voice of scientific naturalism" (Clayson 55) fated

[181] Manning's essay links Hyde instead to the miasma of the urban setting: "London drowns in the fog's noxious and dense mixture of soot, smoke, and mist, [but] Hyde thrives, growing in stature, his 'faculties . . . sharpened to a point,' his veins flooded with a 'more generous tide of blood'" (193).

to lose against Jekyll, who labels him an "ignorant, blatant pedant" and relegates him to outmoded plodding (Stevenson 14). Thus, even before Jekyll's work is revealed, Stevenson's contemporary readers – immersed in the media conversations between science and spiritualists – recognize their argument as a familiar one between "useful" materialist science and the pursuit of knowledge outside its claimed territories. Hyde articulates as much in forcing Lanyon to witness his transformation: "you who have so long been bound to the most narrow and material views, you who have denied the virtue of transcendental medicine, you who have derided your superiors – behold!" (Stevenson 41). His challenge is to the positivism that overlooks alternative modes of being or thought, but his commanding "behold" resonates with Biblical language of corrective revelation, implying that Lanyon, not Jekyll, is the heretic to be schooled. Indeed, in proclaiming his powers of creation, transformation, and judgment, he exemplifies a hubris reaching beyond the scientific, into the god-like – that the proclamation comes from Hyde's mouth rather than in Jekyll's may be a testament to just how removed from civil reasonability Hyde is, but if so, it is tenuous evidence, given that the rest of the narrative illustrates the impossibility of truly separating the two.

Connections between mind and body

Jekyll's final account could stand alone as a remarkable exploration of a psyche that, to its possessor, had always felt fractured before more literally becoming so. However, the tale presents several other explorations of complex mind-body connections. Few scholars remark on the trajectory of Dr Hastie Lanyon. His initially hearty

physicality deteriorates once he discovers the truth of the experiment and of Hyde: "He had his death-warrant written legibly upon his face," Utterson notes in alarm. "The rosy man had grown pale; his flesh had fallen away; he was visibly balder and older" (Stevenson 23). Most notably, he has "a look in the eye and quality of manner that seemed to testify to some deep-seated terror of the mind" (23). The last phrase posits not simply a gland-driven state of fear but a cognitive version of it, a paradigm-shattering knowledge that physically mars Lanyon. His illness is, effectively, embodied despair at knowing Hyde can exist at all. The response demonstrates the inextricability of the mind from the body: Jekyll's experiment is so transgressive that even the knowledge of it is fatal.[182] Lanyon declares that "[his] life has been shaken to its roots" (41). If, as the tale's only other scientist, Lanyon may serve as a narrative double for what Jekyll should have been, his transformation may likewise serve counterpart to Jekyll's: it is not the dramatic division Jekyll provokes in himself, but a withering of the self at the discovery that such division is even possible, however unsustainable.

Another of the work's mind-body connections is of course Hyde, as a manifestation of inner malice – even Jekyll, describing his first glimpse of his other self, writes that "evil was written broadly and plainly on the face" (Stevenson 44). The murderous Hyde has an air of "black sneering coolness" (5) and hands "thickly shaded with a swart [sic] growth of hair" (44); there is something "troglodytic" about him that

[182] Clayson astutely notes that "Lanyon's response to Hyde's transformation reveals the difficulty Spiritualists had in proving the existence of spirit phenomena to those who just could not accept its possibility: 'I saw what I saw, I heard what I heard, and my soul sickened at it; and yet now when that sight has faded from my eyes, I ask myself if I believe it and I cannot answer'[Stevenson 41]" (56).

seems "hardly human" (12). Numerous scholars have examined the ways Hyde reflects the era's post-Darwinian anxieties about social and individual decay, particularly xenophobia against 'lesser races' propagated by colonialist political and (pseudo)scientific projects.[183] However, reading the story through too narrow a lens of degeneration anxiety may reduce Stevenson's work to a "chronicle of loss… a modern gothic fable about a backward slide down the evolutionary ladder," and overlook the complexity of Hyde as an entity in his own right (Manning 184). That the original draught enabling Jekyll's first transformation was made with impure ingredients (Stevenson 54) implicates Hyde as a physical and metaphysical impurity, his lack of human feeling eventually enough to erode even in Jekyll's initial delight in his apparently successful result. Kelly Hurley's term "abhuman" may better apply here, denoting "a not-quite-human subject, characterized by its morphic variability, continually in danger of becoming not-itself, becoming other" in a movement away from humanity and towards something indefinably else (3-4).[184] Notably, Jekyll concludes the compound itself had "no discriminating action" but that instead his own darker intentions – a misdirection of the intellectual "will" behind all the self-improvement projects of the era – shaped Hyde (Stevenson 45). Composed of the furtive, violent affect Jekyll has long tried to suppress, Hyde is a failure of both psyche and science who demonstrates the indivisibility of the psychical subject – no matter how discomfiting to endure, or the "heady recklessness" of

[183] Work by Julia Reid, Robert Mighall and Steven Arata are often-cited examples of these critical ties. Scholars have primarily focused on the narrative's reflection of contemporary models of degeneracy and the 'new sciences' such as criminology, criminal anthropology, sexology, etc., as they sought to identify post-Darwinian threats to "middle class values and social order" (Manning 183).
[184] Hurley's influential work will return in my upcoming discussion of Marsh's *The Beetle*.

its freeing (44). That Hyde's origin is a modern English gentleman distinguishes him from the villains the other texts in this chapter present, and Jekyll's theory that everyone may harbour such malice – that man is "not truly one, but truly two" (42) expands the shadow of Hyde to threaten the whole of orderly society.

The threat lurking beneath middle-class Victorian respectability means that even the reputable scientist might conceal within him the capacity for evil as well as the wherewithal to manifest it. Perhaps the most unexpected metaphor is the figuring of the two elements of good and evil as "polar twins" in "the agonised womb of consciousness" (Stevenson 43). The images of cognitive landscapes I have elsewhere demonstrated as rhetorically common to the era are replaced here by an intellectual incubator that adds capaciousness to even a masculine intellect – a surprising, perhaps ironic image in this male-dominated tale. Juxtaposing its presumptive birthing of ideas against real-world scientists describing themselves as manfully penetrating the shadows of ignorance results in a metaphoric haze of procreative processes: does the man of science's penetration of ignorance result in Jekyll's birthing of Hyde? Is everyone born pregnant with potential to do the same, as Jekyll seems to theorize? Jekyll and Hyde as the children of (however inadvisable) scientific experimentation resonate unexpectedly with critic Evelyn Fox Keller's assertion, cited earlier, that science's pursuit of the "reality behind appearances" has as its primary project "an inversion… that routs the last vestiges of archaic, subterranean female power" of nature, pulling secrets from its endlessly generative womb (41). Further complicating the situation, Jekyll ultimately suggests a theory of mind which casts the human mind-body not as a single cohesive agent, or even as twins, but a

"polity of multifarious, incongruous, and independent denizens" (Stevenson 42). This multiplies Latimer's bemoaned doubled consciousness, and more than anticipates Freud's theories of the conscious and unconscious selves (still some years from publication) in positing a complex, multifaceted self. Notably, Jekyll proposes this polity with no speculation around whether all its "denizens" co-exist in strife or whether some people may carry a more peaceful community of selves.[185] Like Latimer, he has isolated himself from any other potentially sensitive members of his society who – like the extratextual spiritualist communities with which Stevenson was very familiar – might have re-theorized his ideas of humanity around affective, rather than objective, knowledges.

Agency and the dual self

Part of the enduring fascination of Stevenson's novella is its overarching question of whether Henry Jekyll and Edward Hyde are two distinct people. The uncertainty permeates the work, not least in Jekyll's inconsistent pronouns and naming during his final "Full Statement." If it were a confession, Jekyll would acknowledge Hyde as a part of himself throughout, using "I" instead of "he" to accept agency and responsibility; if a scientific report, the reverse would occur, detaching the observer from the experiment. Instead, Jekyll's grammar illustrates his inability to consistently separate the two entities. Trapped in the body of Hyde, he removes the "me" from his body for a third-person, even dehumanizing distance: "Hyde in danger of his life was a creature new to me… Yet the

[185] Manning suggests a reading of Hyde as "an organism in generative symbiosis with its environment… in conversation with Darwin's own models for variation, modification, competition, struggle, dependence, and adaptation" within its London environment (184). The argument is intriguing one, but arguably the bodymind environment is the one into which Stevenson provides the most insight.

creature was astute; mastered his fury with a great effort of the will" (52). Jekyll at last acknowledges the insufficiency of language in describing his doubling: "he [Hyde] set forth in the corner of a closed cab… He, I say—I cannot say, I" (52). Only in the aftermath of transformation does Jekyll return to the first-person "myself" (52). The meandering pronouns and agency markers reinforce Jekyll's offense against subjectivity and remove him further from the realm of practical science Lanyon represents and which had secured his selfhood until Jekyll's revelation undid him.

Eliot's Latimer might count himself lucky: though he finds the double *consciousness* disconcerting, parallel thought streams do not provide him with a doubled *self*. Stevenson's novella raises fraught questions of agency under the control, influence, or body of another: while Jekyll cannot control Hyde's actions, he remembers them when reverted to his original form. The shifting pronouns in his final statement and his complicated guilt for Hyde's actions underscore the impossibility of safely dividing the psyche, reminiscent of the previously cited Victorian mediums struggling to maintain a sense of self during spirit communication. Hyde's nocturnal transgressions recall Bosanquet's statement that the "'I' is single, is separate… 'I' pursues its *own* purpose" implicitly different from and uncontrolled by the quotidian consciousness. (qtd in Thurschwell 108). Indeed, Clayson notes that "a spirit control such as [Florence Cook's] 'Katie King' was often referred to as 'the double'" but that Stevenson draws this figuration to "its extreme… in which the self and double are one" (55). Although Jekyll hopes simply to repress Hyde to avoid the legal ramifications of his actions, he cannot

live as the detached and controlled Jekyll, "confined to the better part of my existence," because Hyde, once acknowledged, cannot be confined either (50).

Jekyll's final statement recalls how he first celebrated the experiment's results as "[being] apart from ordinary laws," relishing his newfound social freedoms because "I did not even exist!" but he does not apparently wonder what would happen to his current self if it continued to 'not exist,' displaced by another (Stevenson 46). Ultimately, however, Jekyll's guilt signals the failure of his attempt to treat the two entities as discrete autonomous agents, his "transcendental science" (41) remaining mired in the language of singular human consciousness and selfhood. On its release, the novella's critical reception did not discount its real-life plausibility. One 1886 review in *The Times* reminded readers "we are still groping by doubtful lights on the dim limits of boundless investigation; and it is always possible that we may be on the brink of a new revelation" (qtd in Clayson 55). Standing on the same brink was the spiritualism movement from which Stevenson borrowed to question the stability of the self. The boundary between science and spiritualism in Jekyll's tale, as in the extratextual world, is a slippery one.

Marie Corelli – The Soul of Lilith

Marie Corelli's 1892 novel, *The Soul of Lilith,* also explores human agency and the limits of selfhood, though in a longer and more moralistic form than Stevenson's. In Corelli's novel, the "will" is an intellectual determination – similar to its usage by the scientists and self-help authors in my first chapter – but she deploys the term within a cautionary tale about using one's psychical will as oppressively as does her central

character, El-Râmi-Zarâno. Against his stern science, Corelli juxtaposes Lilith as a channelling, mediumistic figure. The result is an at times scathing, at times evangelical, portrait of fin de siècle London, with science and the inexplicable living side by side in an uneasy pairing that ultimately argues the inextricability of the objective mind from the affective body. Lilith, like Hyde, compels her man of science to acknowledge the limits of experimentation, but she does so by appealing to, rather than subordinating, the affective urge.

El-Râmi-Zarâno navigates London as an intellectual, an immigrant, and a man with a secret.[186] He is confident in his investigations into "the Spirit that dominates Matter" (Corelli 55) largely through his interrogations of Lilith, whom he keeps hidden in a trance state in the house he shares with his unworldly (and frequently otherworldly) brother, Féraz, and their servant Zaroba, who is Lilith's caregiver. Contemptuous of English society, El-Râmi also curtails his brother's and Zaroba's exposure to it via sensory dampening and mental control. When Féraz begins to question El-Râmi's power, Zaroba reveals Lilith's existence in hopes of rousing him to rebel. Her plan fails, but the brothers' ensuing confrontation reveals that Lilith is several years dead, and that El-Râmi uses an elixir to maintain her body as a relay of information about the afterlife. El-Râmi's former mentor visits, chastising him for his oppressive and exploitative experiments, and El-Râmi consequently invites Féraz into society with him, with mixed results for both. Lilith increasingly asserts herself against El-Râmi, eroding his confident worldview.

[186] As the novel makes clear, his full name is rarely used in address, and critics follow the narrative simplification of "El-Râmi." I do the same here, though arguably it reflects yet another aspect of the exoticization by English acquaintances I discuss in the upcoming pages.

Finally admitting he loves and has misused Lilith, he frees her, but as her spirit rises, her body decomposes into dust. Shocked, El-Râmi loses his memory and faculties. Zaroba flees the house and dies alone in the city, and Féraz takes his brother to the fraternal order that had earlier chastised him. A year on, El-Râmi has no recall of his previous life but attends only to the signs of Lilith he perceives around him, eager for their reunion in the afterlife.

The ornamental spectacle of El-Râmi

The above summary alone demonstrates several differences between Corelli's fiction and Stevenson's, although they broadly share a plot of an ambitious man reaching for answers about the limits of human life. Corelli's cast – indeed, her depicted London – is diverse, offering characters who challenge El-Râmi's work from various perspectives. Most significantly, El-Râmi is established as an exotic alien, which immediately forecloses others' regard of him and fosters his distance: while Jekyll is widely well-respected, El-Râmi seems accepted largely for his perceived gentility and his mysterious clairvoyance, both of which are attributed to his racial otherness. His acquaintances describe him as "a pure Oriental thoroughbred… an Oriental of the very old stock" who during his rare social forays has "perplex[ed] and fascinate[ed]" the elite with apparently impossible knowledge (Corelli 9).[187] He is an ornamentally uncanny addition to the

[187] Galvan ("Christians" 2003) notes that while El-Râmi is consistently described as "Oriental" in the novel, Corelli's character of an apparently similar ethnicity in *A Romance of Two Worlds* is described instead as "Chaldean." Galvan argues the label difference denotes gradations of sympathetic appeal: "[El-Râmi's] zealous calls for proof combine Victorian positivism with archaic infidelity… [likely evoking] for fin-de-siècle readers sundry truisms about the moral barbarisms of Eastern cultures," while the other character is more philosophically likeable (88).

palmistry, séances, and other upper-class social divertissements referenced in the book.[188] Akin to the era's spirits of Indian princesses or sheik's daughters conjured by mediums to add exotic titillation, the brothers' presence at a party rivals even a Royal Personage's brief visit (154). Allusions tie El-Râmi to Faust (68) and his demonic counterpart Mephisto (53) as well as to Prospero (71) – a list thematically linked by over-reach and by alchemical, unclean, or magical influences.[189] Consequently, despite El-Râmi's repeated insistence that he merely demonstrates ancient "sciences," the word is never applied to him as a professional practitioner. One acquaintance admits, "I don't know what he is… I have always looked upon him as a sort of magician" (9), relegating him to the shallow appeal of spectacle.

Publicly, El-Râmi avoids all mention of Lilith, but his demonstrations of power meld fin-de-siècle spiritualism with its sciences. His "thought-transference" involves his grasping someone's wrist over their pulse point, "directly touching the nerves and arteries running through [the] heart from [the] brain," which gives him access to the brain's stored impressions, experiences, and emotion (Corelli 35). Equating brainwaves to astronomic light waves, he explains that it is but an ancient science that allows a sort of "calculation" to view the stored past or predict the future (12, 33); in so doing, he distances himself as much from England's elite as they do when they dismiss him as a magician. Claiming

[188] The references reflect Corelli's "expressed distaste" for mediums and séances, but nonetheless the novel's language reflects much of that movement (Galvan "Christians" 87). Theosophy, on the other hand, is repeatedly and openly reviled (Corelli 234-5, 262).

[189] In contrast, Féraz's brief acquaintance with the jaded artist Ainsworth earns him his own literary allusion: Parsifal. Also spelled Percival or Perceval, Parsifal is the Arthurian knight famed for near-childlike innocence and chivalry. In most versions, he becomes the keeper of the Holy Grail upon its recovery ("Perceval").

science as his territory does not have the intended effect, however, because the demonstration carries an illicit sexuality of caught breath and dilated pupils that recalls the transgressive intimacies of the séance room. El-Râmi offers explanations rooted in chemistry or electromagnetism but the effects are not so easily explicable: one exercise involves "red powder," "little green globules," and "amber liquid," but results in a misty female form with alluring eyes, lips, and hair (117). Despite his claims of a framework of recognizable sciences from which to conjure new structures, the sensual results dovetail with contemporary readers' uncertainty about the limits of science. The process is presented as more magic, or alchemical, than predictable, and the result is more than a little illicit – once again positioning El-Râmi on the borders of the science he claims as territory, both for his perceived foreignness and for his struggle to fully detach his experiments from his emotions.

The views from and of science

Corelli's underlying argument about the unsustainability of science without affect arguably depends on El-Râmi remaining scornful of human emotionality for much of the narrative. He assesses "the characters of people in the same way that you [assess] figures [to] arrive at a sum-total of them in time" (Corelli 11). When his resistance to feeling begins to waver, El-Râmi wonders, "Of what use was all the science he had discovered and mastered, if he was not exempt – utterly exempt from the emotions common to the most ignorant of men?" (187). The statement directly juxtaposes the contemporary constructed image of the ideal scientist as one detached from affect and from the rest of humanity, thus able to assess its weaknesses. Such moments scaffold the book's critique

of excessively unfeeling scientific thinking, though not necessarily of science itself.[190] Moreover, El-Râmi claims an affection for both his brother and a Russian immigrant scientist named Kremlin, whose work likewise melds recognizable sciences with the apparently inexplicable, but those relationships are tense with power differentials and El-Râmi's long interference in both men's natural bodies and minds. When the more spiritual Féraz verbally challenges El-Râmi's worldview, El-Râmi warns him that "every scientist worthy of the name" would try to "break off your spiritual pinions" and assert rationality (19); indeed, El-Râmi's longstanding mental control over him suggests some form of wing-clipping has already occurred. El-Râmi does not perceive it as such, as I will later explore. Moreover, he seems unaware that his own metaphor implies a limited, earthbound scientific view in contrast to a soaring spirit.

Kremlin is El-Râmi's single scientific colleague in the narrative. Although they are ostensibly peers, Kremlin depends on a version of El-Râmi's elixir to maintain a youthful energy. His solitary work and arcane scientific instruments make him a social pariah to the uninitiated in his small town, a "too-daring student of the stars" (232).[191] He is abruptly killed during the failure of his experiment one stormy night, and the locals, more wary of his work than ever when they arrive on scene, eulogize him with "whether

[190] Anastassiya Andrianova's discussion of a lesser-known Corelli novel, *The Mighty Atom* (1896), describes it as the author's "manifesto against positivist education," i.e., education too influenced by empiricism or "the logic of positivism" with too atheist a bent (99). Andrianova finds it "a serious critique of pedagogical methodology and its philosophical underpinnings," (100); I would suggest that the earlier *Lilith* shares similar ideas without direct reference to formal schooling, as suggested by El-Râmi's re-shaping of Féraz, discussed in the pages ahead.

[191] "It was natural he should be avoided; and avoided he was," as locals "shudder[ed] away from the merest suggestion of superior intelligence" (Corelli 50). Kremlin serves as perhaps Corelli's strongest critique of the scientist/non-scientist divide.

it was God's work or the devil's, it's all over now" (233), suggesting that Kremlin had met the only possible end to his scientific ambition, in the tragic traditions of Jekyll or Frankenstein. Yet Kremlin admits to a past love affair, a deep spiritual faith, and a worry for El-Râmi's arrogance: all traits contrary to the idealized detached scientist. His death prompts El-Râmi to briefly doubt his own repudiation of a divine hand, particularly one that might intervene against his manipulations of Kremlin's and Lilith's natural lifespans.

Those who work most closely with the novel's men of science offer widely different views of their work. Kremlin's servant Karl, who repeatedly belittles his own wit in awe of his genius employer, makes the chasm between the working man and the intelligentsia seem insurmountable. In contrast, El-Râmi's servant Zaroba decries her employer's aloof intellectuality as lacking both affect and faith, and she overtly leverages what she perceives as fundamentally human urges toward love.[192] Zaroba encourages first Féraz and then El-Râmi to embrace a love for Lilith, insisting that El-Râmi especially is unsuited to science's dispassion and what she calls the usurping faith of the "cold, white Christ" (323): her accusation underscores that El-Râmi exists in his chosen scientific space too far detached from either the stiff propriety of English society or the shared heritage of his householders, risking isolation from both. Zaroba's affective core, however, may arguably kill her: the shock of Lilith's death drives her into unfamiliar

[192] Zaroba's faith, like that of El-Râmi and Féraz, is only vaguely delineated. The monk's visit underscores the brotherhood's reverence for the cross, Christ, and Biblical teachings, as will be further evident in the pages ahead. Zaroba is statedly "pagan," "heathenish," and recalls fondly the (unspecified) gods and goddesses of her youth (e.g., Corelli 319).

streets, and she dies within sight of Cleopatra's needle (330).[193] Both Karl and Zaroba are deeply mistrustful of the science they live so near, but Zaroba's end, like Lanyon's, reminds readers of science's unintended consequences on the witnesses of its power: whether like Lanyon they cannot bear the truth of its existence, or like Zaroba they cannot bear its effects on others, more than just the scientist and his subject are ultimately affected.

"Faith was so warm and fact so cold"

The primary commentator on El-Rami's scientific self is Féraz. He challenges El-Râmi not on his intellect but on his arrogance and single-minded pursuit of knowledge, bemused that his brother clings to it so adamantly when "faith was so warm and fact so cold" (Corelli 19). Féraz's position is complicated by the revelation that El-Râmi began his psychical interference during his brother's childhood, a process during which "the animal faculties which were strongest in [Féraz] became subdued and tamed, and the mental slowly asserted themselves," in a triumph of so-called civilized thought over nature in a manner far more invasive than Latimer's forced science education (77). However, El-Râmi admits the re-education was not a complete success, theorizing that Féraz's recurring dreams of another world emerge from his original, uninfluenced self –

[193] Although Corelli describes how Féraz belatedly notices her absence and begins a search, the size of the city, his lack of experience and Zaroba's undocumented status prove insurmountable, her remains ultimately unclaimed (331). The sequence is sobering in its loneliness for a character who had already been so mistreated, having been struck deaf by El-Râmi before the narrative began, struck temporarily mute as punishment for showing Lilith to Féraz, then forced to sweep up the decayed remains of her charge. The setting of her death seems a deliberate comment on colonial acquisition and human displacement, but I cannot fully decipher what Corelli intends with this character, other than an indictment of extra-textual science and imposed Christianity, both framed in the novel as too far removed from joy.

and indeed it was this potential persistence of the soul which prompted El-Râmi's experiment on Lilith (78). In El-Râmi's view, interference was justified by need and subsequent benefit; that Féraz is now unsure what his true self is, or where his thoughts originate, El-Râmi deems of little consequence, and Corelli leaves the question open.[194] The ambiguities around the 'true self' or soul and the inextricability of the self from thought permeate the book, making visible important questions about the origins of thought and the persistence of selfhood. This happens most provocatively when El-Râmi loses his reason and Féraz simultaneously loses much of his artistic inclination, as if El-Râmi's interference years before was still intimately tied to his thought processes.[195]

Further complicating the book's exploration of science and faith are passages such as this: "As a rule, men of science work not for God so much as against Him… Great intellects are seldom devout, for brilliant culture begets pride and pride is incompatible with faith or worship. Perfect science, combined with perfect selflessness, would give us what we need, a purified and reasoning Religion" (Corelli 112). Though it sounds much like El-Râmi himself, the declaration is in the third-person narrative voice and is but one of the frequent invocations of a Christian philosophy contrasted against El-Râmi's science, and indeed against the scientific luminaries of the era who occasionally presented

[194] Evident too are the echoes of nineteenth-century conversations around "influence," first by mesmerists and later by mass media and popular culture (cf. Winter *Mesmerized* passim). This is later made explicit when Féraz wonders whether El-Râmi's good intentions, despite his intrusive method, are nonetheless better influences than the culture of shallow sensuality Féraz finds in London's high society (198-9).
[195] The parallels with George du Maurier's *Trilby* are numerous, including the racial otherness of the man exerting mental power, and the long-time oppression of their victims' original selves for selfish reasons. However, given that readers are not privy to Svengali's motives or regrets because he is not the focalizer of the narrative as El-Râmi is, he is more definitively villainous and unredeemable.

themselves in direct conflict with dogma.[196] The head of the fraternal order to which El-Râmi previously belonged bluntly calls Féraz a mind-controlled "slave" (Corelli 121) and warns El-Râmi, "you will be called upon to render up the soul of Lilith" (127). This reframing of the experiment into one of dehumanizing mastery over his household is particularly potent given the objectification El-Râmi himself suffers from London's aristocracy; moreover, the chastisement is not simply about human equality and decency but a more spiritual obligation. The use of "render up," reminiscent of Matthew 22:21, links the material and spiritual worlds to which El-Râmi should be responsible.[197] "To you," the monk also remarks, "[Lilith] is a 'subject' merely, no more than the butterfly dissected by the naturalist" (135). Besides capturing some of the era's anti-vivisectionist activism, the accusation refuses to participate in scientific 'objectivity' that privileges the experimenter over the subject and underscores how El-Râmi has disregarded the innate subject status, i.e., the *subjectivity*, of Lilith by subsuming her agency beneath his will.

The monk also warns El- Râmi that "the Veil of the Eternal, though it may lift itself a little for you from other men's eyes, hangs dark across your own, and is impervious to your gaze" (Corelli 124). This accusation borrows the familiar "veil" metaphor from Corelli's extratextual world, describing the barrier between material and spirit realms, but she applies it to new purpose as his mentor implies El-Râmi's arrogance

[196] Julia Kuehn notes that since Oxford Classics' reprinting of Corelli's *The Sorrows of Satan* in 1998, multiple critics have applied the lens of religion to her writings, particularly attending to the multiple ways late-century secularization manifested as "crises of faith," new interest in world religions, and the spiritualist movement (578).

[197] The now often-truncated phrase is spoken by Jesus: "Render unto Caesar the things that are Caesar's; render up to God the things that are God's." Though open to multiple interpretations, some concerning the payment of taxes and tithes, others the more abstract categories of material and spiritual selves, the phrase evokes the sense of duty or responsibility in at least two realms.

has created his own veil and he thus lives wilfully shadowed either in ignorance or in malice. His self-imposed curtain stands between him and a radically different knowledge enlightened by affect, and moreover it will remain an obstacle to self-actualization until his "stubborn spirit" changes (109). In this, Corelli evokes those subjective knowledges that spiritualists found as valuable as the objective facts of science. That the monk's teachings align with Lilith's descriptions of an afterlife full of love and beauty further suggests that El-Râmi's search for proof of hell and death is constrained by his misguided worldview.[198] The consensus between El-Râmi's earthly (albeit enlightened) and purely spiritual sources should confirm that his experiment has found the truth, but as he continues to disbelieve, he confirms the monk's suspicion that El-Râmi chooses to live beneath the "veil" of self-delusion, especially in regards to his feelings for Lilith.

The figure of Lilith

Lilith is, inevitably, a figure of mystery in the book, both "tranced" (Corelli 91, 153, 248, etc.) and entrancing, both sensually alluring and de-humanized in ways familiar to the extratextual world of spiritualist mediums. She serves a mediumistic role in the book and is gazed upon as real-life mediums often were in their trance states, but she did not choose to become simultaneously subject and object, both the spirit called to witness and the intermediary relay of that spirit. El-Râmi had met her as a gravely ill Syrian girl traveling with Zaroba, and, failing to cure her, prevented her soul escaping after death and

[198] Lilith reports the afterlife is a "bright new world" of idyllic landscapes and jewel-like cities, populated by "many thousands" of "beautiful and happy" people in a deathless space (Corelli 26). Other than Corelli's repeated use of "star" to locate these worlds apparently on another planet, Lilith's visions correspond with the era's optimistic spirit messages, with their repeated "narratives contain[ing] detailed accounts of these utopian civilizations, where class division and sexual inequality had been abolished" (Edwards 105).

restored basic vital functions with his elixir; as a result, she is, in El-Râmi's words, "partly free and partly captive" in will and movement (81), although the controlled restriction he imagines is inaccurate, as I shall show.[199] Although both Féraz and Zaroba perceive her as a human worthy of care, her liminal consciousness and apparent stasis complicate her personhood for some of her visitors. El-Râmi assures Féraz he has merely seen "the dead Lilith, the human chrysalis of the moth" (81) – a melding of the human and non-human that further distances Lilith from the paradigms of humanness and introduces an entirely new stage of her already-interrupted life cycle. The monk's view of Lilith's form is of an inanimate object, a "brittle casket made of earthly materials," and refuses female pronouns: "it is really a chemically animated corpse; it is not Lilith" (130-131).[200] Notably, El-Râmi's use of "chrysalis" promises a notion of rebirth in a new form, whereas the monk's "brittle casket" will not be reused, the essence of its previous inhabitant already elsewhere. Such differences indicate, even so slightly, the cracks in El-Râmi's detachment when it comes to Lilith.

Despite El-Râmi's claims that Lilith is dead, he views her with increasing eroticism throughout the narrative, admiring her pale perfect skin, long golden hair, red lips, pure white gown, and her sighing, languid movements (Corelli 22-26; 91; 186-7,

[199] In both conditions, he adds, she is "always the servant of my will!" (Corelli 81). Both the monk and Lilith dispute this, and Lilith articulates their shared caveat: "[y]our will, and also – God's will!" (111).
[200] The description intriguingly recalls Eliot's Mrs Archer, but the narratives' differences are perhaps too great to pursue the link further. El-Râmi's "science" and purposes are vastly different than Meunier's, although the overarching question of whether what returns from the dead "is" the original person has continued to fascinate even in modern speculative and horror literatures.

etc.).[201] His sensual view of her occurs in multiple instances of a possessive male gaze on a passive female body consistently surrounded by illumination and rose-scented air evocative of both Christian saints and manifested spirits.[202] Both as a speaking subject and an object of reverence, Lilith blurs the boundary between the knowledgeable self and the passive relay. While some read her as a "travesty of sequestered womanhood," an extreme example of the era's domestic angel (Galvan "Christians" 90), the novel also complicates the trope, as Lilith grows unexpectedly resistant to El-Râmi's demands ("Christians" 84). Like real-world spiritualist channelers, her complex positionality provides her more power than El-Râmi at first realizes. Indeed, El-Râmi invokes "medium" in multivalent ways I have explored elsewhere in this project: he maintains Lilith's body "to receive through its medium the messages of the Spirit" (Corelli 29) and relay those messages "in mortal language such as I can understand" (80-1). The female body is thus understood to be both the material means of and the conduit for communication between worlds, women being tacitly or overtly believed to personify, as noted in my previous chapter, "the right kind of presence with the right kind of absence" for mediumistic messaging (Galvan *Sympathetic* 12). Whether a relay or a chrysalis, Lilith's liminality dehumanizes her in the eyes of her male beholders: she is "a flower …

[201] Lilith's listed features conform to the idealized "English rose" of femininity. The narrative includes only a single mention of her Syrian origin but even that makes hers a racialized female body under the male gaze, objectified into an ornamental spectacle in its extreme, even fairy-tale, Anglicization.
[202] Lilith's chaste beauty is in deliberate contrast to the lushness of her chamber, the doors to which are "designed as to resemble a fine trellis-work, hung with pale clambering roses and purple passion-flowers" with one "meditative cupid" kissing a flower while "his twin brother wept childishly over the piteous fate of a butterfly that lay dead in his curled pink palm," enclosing an interior of rich colours and fabrics (20). The text presents the décor as suited to the "Eastern" householders, but the symbolic foreshadowing of *eros* and Lilith's less-than-passive nature is a more persuasive reading of the room.

forced [to grow] under a hot-house" (82), "an angel" (74), and a "masterpiece of form and colour" (104). Notably, the first image evokes an artificially encouraged display of body and behaviour; the latter two are images of atemporal grace, but all are ultimately inhuman. Hers is not the miasmic, chaotic body of the spiritualist medium from my previous chapter, but one which persists only because El-Râmi "keep[s] the machine of the Body living" (29) – the definite article rather than personal pronoun before "Body" again suggests an inhuman mechanism, and one largely obedient to her master's demands.

However, Lilith increasingly resists El-Râmi and disrupts his plans. Early in the narrative Féraz admits that he sometimes hears her voice in his dream states, "ask[ing] for freedom and for peace" and wonders what scientific laboratory as yet kept secret from him in the house could produce such a haunting request (Corelli 37); El-Râmi assures him it is as imaginary and fanciful as the distant star Féraz is convinced he sees in dreams. Reminiscent of but more calculated than professional science's dismissal of the spiritual realm as pure fancy, El-Râmi's deliberate untruth both maintains the secrecy of his ambitious experiment – and his jealously exclusive access to Lilith herself – without any valuing or acknowledgment of Féraz's sensitivity. That sensitivity, however, marks him as closer to Lilith beyond the ways already explored, and demonstrates his facility for a type of intimate, psychic knowledge from her to which his brother will never have access.[203] Perhaps the most striking evidence of Lilith's resistant character is the most

[203] The irony is heightened when if the reader recalls the earlier scene where El-Râmi dismisses his brother's visions of a putative non-Earth planet. El-Râmi, in an attempted kindness, tells his brother, "It is

subtle, occurring late in the book when El-Râmi begins to admit his love for Lilith. He yet sees emotion and research as separable elements in the best scientific tradition, but he now recognizes Lilith may have the power to bridge the two, to his ruin: "Let me not lose everything I have gained by long study and research," he pleads, "I dare not love you!" (187). This recognition that the woman he has been treating as an object of study may instead have considerable, complex power over him renders him "incoherent" as he leaves the room, and for a brief but significant moment, the narrative focus does not follow him out but remains to reveal "how divinely, how victoriously Lilith smiled" at his departure (187). The seemingly small moment imbues Lilith with a newly nuanced character and underscores the book's overarching argument for the persistence of the soul.[204]

Corelli's readership, steeped as they were in the spiritualist-infused scientific culture of the late-century Britain, would likely have noticed that the explanations El-Râmi offers, both for his "ancient sciences" and his rationale for using Lilith as he does, resonate with nineteenth century developments in spectroscopy, astronomy, anatomy, and spiritualism.[205] Yet the novel allows multiple, even contradictory readings of both her plot

for you to dream, and for me to prove… There may be truth in your dreams – there may be deception in my proofs – Heaven only knows!" (Corelli 19.)

[204] Lilith's behaviour often parallels discussions between El-Râmi and Irene Vassilius, the feminist writer he befriends at a party of London's alleged artistic and social elite. Despite El-Râmi's flatly misogynistic comments elsewhere, he offers Vassilius more equitable views of women and their work, noting the latter is undervalued and overcriticized because of iniquitous social expectations (Corelli 204-9). Vassilius is an intriguing and arguably underutilized character, but unfortunately her contributions lie largely outside the scope of this chapter.

[205] As noted earlier, one of the pioneers of spectroscopy – the field of light wave study – was William Crooke, long-time member and eventual president of the Society for Psychical Research. Corelli's repeated references to invisible energy strings, vibrations, and "waves" not only reflect the era's scientific work with electromagnetism and spectra, but also seem startlingly akin to modern day string theory, which posits a

and her intentions, given the voices of characters from varied social classes and ethnic backgrounds. Despite its frequently moralistic tone, it presents no unified message about science, faith, or any of the themes identified here: each character's experience of gender, faith, and culture intersect to inform their view. Corelli's version of fin-de-siècle London ultimately feels the richer and more real for its irreconcilabilities, which so closely mirror the ambivalence of an England caught in the eddies of colonialism, science culture, and spiritualist influence.

Richard Marsh – The Beetle

Like Corelli's novel, Richard Marsh's *The Beetle* explores spiritualist and scientific themes in a fictional late-century London infused by extratextual economic and gender politics. Marsh's book, however, begins with the struggling working class, only later moving into monied circles where characters have the leisure the consider the parameters of life, death, and the spirit from an intellectual, rather than an urgently survival-driven, perspective. When Robert Holt, the unemployed clerk who begins the tale, remarks, "It is very far from certain that feeling necessarily expires with what we call life… Does the body die, and the brain, – the I, the ego – still live on?" the wording certainly resonates with real-world media conversations informed by spiritualist and scientific commentators (57). Extracted from its context, the question is a philosophical musing about the human essence, but within the novel, Holt asks it while his body and will are leashed under the psychical control of the villain: the query is thus inextricable

quantum-level interconnectedness of matter and energy that may ultimately unify subatomic and gravitational theories.

from mortal precarity and the horror of a suspended autonomy within a doubled consciousness. Holt's question comes from crisis, and later stands in contrast against scientist Sydney Atherton who, secure in his apparent natural resistance to psychical control, says, "My attitude toward what is called the supernatural is an open one. That all things are possible I unhesitatingly believe" (176). His comment is reminiscent of media voices and those of skeptics who so often made a magnanimous concession while denigrating the spiritualist movement and its believers.[206]

The Beetle may lend itself to a more nuanced presentation of life, death, and afterlife matters partly because it is written in first person, moving through a series of characters with varying stakes in and proximity to the villain's machinations. This allows for gradations of opinion about scientists and the inexplicable as well as class and gender inequities – some thematic parallels to Corelli in these moments are visible but are arguably more effective under Marsh's less moralizing hand. Crucially, the "I" is never that of the villain, the 'Beetle' entity itself; readers never gain insight into it as was possible with the conflicted Jekyll or even the arrogant El-Râmi. The entity's ability to inhabit the consciousness and manipulate the body of its victim, however, complicate any definitive statements about point of view. Arguably, during Holt's narration, the villain's point of view underlies the view of its inhabited victim; the surges of rage and jealousy its

[206] For instance, the article "Is the Queen a Spiritualist?," referenced in the previous chapter, walks a central line of allowing a spiritual existence after death is "probable" while dismissing the "manipulations of professional mediums" (par 1). Note too the qualification in Atherton's use of "supernatural" in light of its contentious usage in spiritualist circles, described in an earlier footnote. Atherton does not show the same dislike of the word as El-Râmi, but his framing of it suggests an awareness of its presuming a definition of 'nature' too limited in scope.

borrowed body perceives as real but somehow external in origin are presumably glimpses of its inner self. Thus, even a discussion of the novel's structure reflects a portion of the often-unsettling explorations of autonomy and identity it offers.

The narrative begins with the unfortunate Holt being refused a bed by one of London's casual wards and taking advantage of an outwardly empty house for the night.[207] He is physically and psychically attacked by an entity which takes sometimes human, sometimes beetle, form.[208] Rendering him unable to resist yet still conscious of his actions, the entity uses Holt's body to burgle the home of prominent politician Paul Lessingham, assaulting the latter with a cryptic phrase that inexplicably terrifies him. Fleeing the scene, Holt encounters Atherton, an acquaintance and romantic rival of Lessingham's, who does not hinder the escape. Atherton's narration, which begins soon after, showcases his arrogance and his lethal scientific work. The entity later visits him in human form, seeking a co-conspirator against Lessingham, but Atherton resists its psychic influence and refuses its offer. Marjorie Lindon's narrative then begins, bridging the previous narratives by detailing Atherton's and Lessingham's vying for her affection. She assists a weakened Holt, calling on Atherton for help, but subsequently falls prey herself to the entity's control. When she goes missing, Atherton and Lessingham

[207] Julian Woolfreys' footnote in the Broadview edition explains Casual Wards (or District or Nightly Asylums) were to ensure shelter and food for the poor, separate from workhouses that required hard labour in return for shelter (Marsh 41).

[208] Although its shape and gender presentation frequently change, articles about Marsh's novel largely refer to the antagonist simply as the Beetle. I will follow this practice, though I prefer the more generic 'entity' – it seems important to note the narrative itself rarely uses "the Beetle" as an appellation for the villain, perhaps because most of its work is not done in that form. Hurley's commentary consistently uses the female pronoun and identifies the being as "a priestess of Isis" (124), which is wholly appropriate to her reading of its Gothic transgressive sexuality, but not a practice I adopt here.

separately seek the help of "confidential agent" Augustus Champnell, who assumes the final narrator role as the three band together. Lessingham reveals his youthful trespass at an Egyptian temple of Isis. Although he has long repressed the incident from memory, it seems the root of the Beetle's vengeance. The men track the entity, find the fatally depleted Holt, deduce the Beetle's use of Lindon as its current disguise, and begin a pursuit by train that ends in derailment. Champnell then summarizes the aftermath: Lindon is recovered from the wreckage, physically safe but psychologically traumatized. The latter might also be true of Lessingham, though the two marry as planned. Atherton marries a woman who can fund his work, and the Beetle in any form is never found.

Like this chapter's previous works, Marsh's novel blends the inexplicable with the scientific and presents an uncomfortably shared consciousness, though here the discomfort is from physical and psychical invasion, rather than an unwanted 'gift' or experimentation. It differs in the addition of a clear villain, the exotic "Eastern" or "Arab" character whose mutable age, gender, and even species defy classification, thus calling into question the certainties of post-Enlightenment scientific fact.[209] Particularly, the entity's ability to infiltrate another's consciousness reveals the permeability of the mind and the possibility that the much-vaunted English will can be subjugated (such as how Julian Wolfreys has explored elsewhere). These themes link the Beetle to scientists and villains this chapter has already examined, in that they demonstrate the era's fascinations

[209] Recent queer scholarship of the novel elaborates on its upendings of identity on several points. See, for instance, Victoria Margree's exploration of gender and sovereignty (2007); W.C. Harris and Dawn Vernooy's discussion of the gender, imperialism, and the "queering of violence" in the novel (2012); Thomas M Stuart's reading of "transtemporal and transgender" resonances between the Beetle and Dracula as characters (2018). I will take up some of these threads in the pages ahead.

with human vulnerabilities both physical and psychical, and the failures of too narrow a science to offer any adequate defense.

English autonomy and the exotic threat

While El-Râmi's public exoticization reduces him to an ornamental spectacle, Marsh's Beetle in its human form is racialized in ways that amplify fears of the foreigner into fears of contagious foreign thought and behaviour. Paralleling the real-world anti-Chinese scrutiny of the Limehouse neighbourhood (cf. Auerbach passim), or persistent personifications of cholera as a miasmic Eastern menace (cf. O'Connor 21-59), xenophobic sentiment frames Marsh's villain as both hypervisible and elusive. The trio of men searching for Marjorie Lindon are assisted by a policeman who recognizes their quarry as a figure regularly monitored by the police and known to them as "the Arab" (Marsh 282). Atherton, with a "scientific" eye for taxonomy, spends part of the entity's initial visit cataloguing outward phenotypical characteristics as if they would predict behaviour, à la Cesare Lombroso's racialized physiognomy theories (Marsh 105-08); indeed, as with Edward Hyde, every personal encounter with the entity prompts derogatory language about its outward appearance. But Holt's first encounter in the darkened house removes any visual cues, foregrounding instead the repulsive sensations of its insectile form. He recalls it "enveloped my face with its huge, slimy, evil-smelling body, and embraced me with its myriad legs" (Marsh 52).[210] Holt's narration, which

[210] The passage quoted here, as Thomas M. Stuart notes, especially invokes sexual assault, further heightening the threat (219).

opens the novel, adds considerable, intimate weight to the entity's threat from the very beginning.

Malodourous engulfment by a vaguely infectious giant insect would be terrifying enough, but when the entity at last speaks to Holt, and he has "no doubt it was a foreigner," the metaphoric colonization of his body and mind begins in earnest (52). Reminiscent of how El-Râmi's mentor perceives Féraz's curtailed volition as enslavement, Holt too recounts feeling "enchained" (54) and a "slave" (62) to the entity's will. His subjugation is a "nightmare" (51), "phantasmagoric" (82) as the historical power roles between British colonizers and native residents – in the entity's Egypt and elsewhere – are upended.[211] That its puppeteering adds housebreaking and theft to Holt's already downtrodden social position feeds into imbricated fears of degenerate criminal races and classes, although when Lindon and Lessingham also feel its effects, it is clear class privilege is not protection from the fundamental loss of subjectivity it brings.[212] It is that loss of both mental and physical control of self, of one's very self-image as an individual agent, that the narrative's structure foregrounds from the beginning and explores in subtler ways throughout. Kelly Hurley argues that the era's Gothic literature

[211] Scholars such as Judith Halberstam (2002), Rhys Garnet (1990), Julian Wolfreys (2004) and Hurley herself have further elaborated on this colonization reading. Despite Holt's language here, I would not overlay "slave" too closely onto him or Lindon, as there are patently obvious differences between their experiences and historic realities. That he selects that metaphor when attempting to describe his loss of agency in the world, however, is in itself a testament to the comfortable paradigms of liberty and autonomy to which even he in his downtrodden state is accustomed.

[212] I have mentioned anxiety-fueled conversations around mesmerism before, but it is worth adding that some people seriously considered its potential legal repercussions, as Alison Winter and Susan Poznar have explored. If anyone committed a crime under mesmeric control, the legal system would be faced with a paradoxically innocent agent whose body acted under duress (Poznar 140). Holt remains aware enough under the Beetle to be mortified at his criminality.

was "centrally concerned with the horrific re-making of the human subject, within a general anxiety about the nature of human identity" (5). Notably, that fear was born of a science culture struggling to reconcile theories from "[e]volutionism, criminal anthropology, degeneration theory, sexology, pre-Freudian psychology – all articulat[ing] new models of the human as abhuman, as bodily ambiguated or otherwise discontinuous in identity," its histories and kinships extending past childhood trauma and into the non-human, its parameters ever changing (5). Hurley's definition of the abhuman – cited earlier as the not-quite-human, morphically variable, and on the brink of becoming other – is especially useful for Marsh's novel, describing not only the mutable, malicious entity but also its victims as they struggle to maintain their sense of self beneath its power.

The entity itself is the novel's most obvious embodiment of Hurley's Gothic abhumanity. Holt's first glimpse of the entity's human form leaves him unsure whether the "creature" in the bed is male or female, or "indeed…anything human," and whether the insectile form is itself or a minion (Marsh 53). Throughout the work, the entity appears as uncertainly or fluidly gendered, carrying a "nauseating amorphousness" that defies taxonomy (Hurley 130). Holt's later impressions are of a younger face, "essentially feminine," which makes him recant his first impression (61, 86), and even Atherton is forced to abandon his presumption of maleness after his visitor's robes fall away to reveal a nude female form, "by no means old or ill-shaped either" (152).[213] Atherton expresses

[213] Atherton witnesses the entity's transformation twice in quick succession: once when the 'male' human form dissolves into a large beetle which then shrinks small enough for Atherton to attempt to catch it, and then again when it escapes the trap by reverting to human, but this time in female form (Marsh 150-1). Atherton has an instant to study its beetle form, noting that its features indicated it may be female before the human form confirms it (151). This moment perhaps more than any other in the novel reminds the reader

the frustration of these gendering attempts when he shares with Lessingham his theory that the entity has taken Marjorie Lindon as its next victim: "I believe that that Oriental friend of yours has got her in her clutches, – if it is a 'her'; goodness alone knows what the infernal conjurer's real sex may be" (Marsh 253). Here again, the villain is defined by its non-Englishness and a feminized fluidity; it is no coincidence that Atherton's invocations of 'goodness' and 'infernal' are aligned with certain knowledge and magic, respectively.[214] As Hurley notes, other characters are simultaneously repelled and fascinated by the entity – a reaction almost "indistinguishable from commonplace xenophobia" (131) – but as the upcoming discussion will indicate, its greatest threat is not to the body but to the mind, disrupting autonomous thought and with it, English personhood. For most of its victims, it especially threatens rational masculinity.[215]

The uncomfortably shared consciousness

"My condition was one of dual personality," Holt says, describing his psychical hijacking. "[W]hile physically, I was bound, mentally to a considerable extent, I was free" (Marsh 69). The statement takes up the slavery metaphor he had previously used, while the first clause references a far less familiar psychic state. He watches helplessly as his body acts outside his control, yet he perceives even his retention of even a small

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that the 'man of science' was still loosely defined; Atherton's attention to chemistry apparently does not preclude his knowledge of entomology.

[214] Atherton later admires foreign skill at "prestidigitation:" in that area, he claims, "we Westerns [sic] are among the rudiments – we've everything to learn, -- Orientals leave us at the post" (Marsh 263). The remark recalls Corelli's repeated claims that El-Râmi has access to his culture's arcane knowledges as a matter of course, which westerners do not and could not understand.

[215] The narrative does not return to Marjorie Linden's viewpoint after her capture, so her response to the entity's invasion is uncertain. One wonders, for instance, if her strong faith added a layer of self-defence as it did for Mina Harker in *Dracula*, or perhaps an additional layer of vindictiveness in the Beetle's exertion of control, given its own pantheism and particular adoration of the goddess Isis.

aspect of mental agency as freedom. The remark resonates with mediums' descriptions of channeling as being simultaneously open to influence while maintaining a sense of separate self, and also with the common use of mesmeric plots in Victorian fiction.[216] The contentious notion of 'influence' at the centre of the era's mesmerist and spiritualist conversations also infuses the tale. Marjorie Lindon asks whether Atherton has "ever seen a clairvoyant," and when he nods, she says Holt seems to be "in a state of clairvoyance," adding that "he struck me as being under what those sort [sic] of people call 'influence,' and that whoever had him under influence was forcing him to speak against his will" (165). While her usage is somewhat unclear here – she apparently conflates a trance state with being under outside control – and while her comments do not indicate an entirely positive view of "those sort of people," Lindon and Atherton are nonetheless both familiar with their practices. Atherton's later diagnosis, expressed with his typical tactlessness, is "the beggar's hypnotised" (224). As with Bertha Grant's wariness of Latimer, and fraught conversations about psychical control in Corelli's work, Marsh's novel removes any impression of hypnosis or trance as entertainment and treats the resultant mental state as legitimately unnerving.

Lindon experiences a different set of sensory and affective oddities, even under second-hand influence. After working with Holt, her sensorium is expanded such that she

[216] Poznar identifies these as built around a central fear that a dominant consciousness might take "'ownership' of [the subject's] thoughts, feelings, words and actions [i.e.,] individual autonomy and free will" (139). Marsh's entity differs from a mesmerist, however, is that it can exert such control at a distance, describing itself to Holt as a menacing sort of mediumistic spirit guide: "I will be your guide. Unseen, in the darkness and the night, I will stalk beside you, and will lead you to where I would have you go" (Marsh 65). The description proves false when the entity settles itself *within* Holt rather than beside it as indicated.

hears the entity "singing in [her] ears," a "droning" that "haunt[s her] all the time" (164), and later she has seemingly clairvoyant visions of Lessingham (204). Again, note that the threat does not have to be in physical proximity to affect an individual mind. However, readers do not witness Lindon's possession as we do Holt's: her narrative stops dramatically at the moment of encounter (231). Why Marsh decided to elide her capture and hijacking remains an open question. The likeliest explanation seems a sense of decorum, as the invasion of a female body would be too overtly close to physical (as well as psychical) rape; if so, that polite withholding is a specious one, given the violation of male characters repeatedly implied in Holt's narrative and Lessingham's recollections.[217] No witnesses attest to Lindon's outwardly burdened self the way they do Holt's, and readers must decide whether her experience matches his.

Real-world critics warned that spiritualist belief feminized male practitioners, but Marsh's entity perverts the intimacy of the séance room and the permeability of the mediumistic self into horrific violation. Holt recounts that, under the entity's control, "I was no longer a man; my manhood was merged in his. I was, in the extremest sense, an example of passive obedience" (54) as the entity in its androgynous form touches and kisses him, trespassing upon his physical form as well as his psychical (57). As its control persists, he feels his "manhood…slipping faster through [his] fingers" (66). Holt's use of 'manhood' is at least doubly laden. Given the eroticism of the Beetle's exploration of his body in the dark, the phallus itself is implicated, but so are conventions of masculine

[217] Hurley notes the typically late-century Gothic narrative traits of "textual euphemism, elision, or indirection in representing and naming sensational, perverse sexualities, despite [its] nonetheless unmistakably sexual and perverse content" (125)

strength and virility, which Holt cannot summon in the moment.[218] I would argue too that Holt's conception of 'manhood' includes human-ness, i.e., belonging in the 'race of man' in the era's term. Deprived of will and autonomous movement, Holt no longer feels fully human, and it is a far more profound loss than a failure to perform a gender role. He describes himself as an "invertebrate" (52), moreover a "torpid" one (58), and later a ventriloquist's dummy, as he speaks in a voice not his own (76). Concomitant with those feelings are fundamental disconnections between mind and body: his limbs felt "as if they were not mine" (50), such that "my brain [was] awake, my body dead" (56). He struggles to describe the separation of essential components – the brain from the body from the mind – as not only a physical disruption but a loss of fundamental vitality and selfhood.[219]

Although Holt's prior exhaustion and intimacy with the villain may 'explain' his feminized weakness, the much-admired politician Paul Lessingham is unmanned by even its invocation after his youthful trauma. Despite a reputation that holds his "impenetrability [as] proverbial" (Marsh 75), his fear during the robbery – after the inhabited Holt utters "THE BEETLE!" – turns him bestial and "childish" (78), reducing him to shuddering in a corner, his hands "twitching aimlessly, as they were stretched out on

[218] The scene evokes erotic violence in multiple ways, given descriptions of physical touch as well as comments such as "His eyes had power of penetration which were peculiarly their own, – that I know" (Marsh 55). Similar to Latimer's use of the noun as denotating mental intrusion rather than sexual, the parallels between the bodily and psychical selves linger – especially when the next sentence is a one-word command to Holt from the entity: "Undress!"

[219] That Holt's experience is triggered by his economic circumstances, especially juxtaposed against those of Atherton and Lessingham, strongly invites a Marxist reading, and I regret such a reading falls outside the scope of this work. Hurley posits the abhuman as an inevitable result of the parameters of humanity being built upon uncertain ground; she deems worthy of exploration "the immense cultural labor required to produce and maintain that entity variously known as the liberal humanist subject, the modern bourgeois subject, and the autonomous individual, whose features include self-sufficiency, self-continuity, a complex yet self-contained interiority, and the potential for full self-knowledge" (8).

either side of him, as if seeking for support" (sic, 77). His fear for Lindon while she is under the entity's control likewise renders him pallid and feverish, "rapidly approximating to the condition of a hysterical woman" (292): for him, it is not the channeling of the entity that feminizes him but the anticipation of an attack which, like the one he endured years before, would leave him immobilized "in dumb agony" as the entity "did with me as she would" (243).[220] In striking contrast, Atherton's encounter with the entity leaves him intrigued and receptive to further interaction, because the creature alone presents a scientific mystery. He has no prior experience of it to hinder him, and the narrative has already positioned him as capable of wielding science against a threat, his experimental weapons sought by the state as new methods of "legalized murder" (102), eminently useful to war projects. Moreover, he is confident that "The sensitive something which is found in the hypnotic subject happens, in me, to be wholly absent," so he is, implicitly, both defensively and offensively prepared for the entity's attack in whichever form it comes (105). His stated lack of 'sensitivity,' however, might be read either as connoting his often-callous manner, or as indicative of an impermeable (i.e., closed) mind, regardless of his claim, cited earlier, that he is willing to believe all things are possible. Capable of a unique assessment of the entity, and of deploying electricity,

[220] Again, the evocation of sexual assault seems clear during Lessingham's account to Champnell (241-3); that he also felt feverish and ill to the extent he cannot trust his own memories to attest to the reality of the events adds a new dimension to the cognitive hijacking: uncertainty as to whether his mind is even awake, much less under his own control. Like Layton's physical decline after the shock of knowledge, and Latimer's illness which triggers his sensitivity, the themes of bodily illness tied to psychical change run throughout many of the works in this chapter, and further underscore the fundamental inseparability of body and mind.

chemistry (145) and later the maximized velocity of a train against it (314), Atherton is a scientist unlike any this chapter has seen so far.[221]

The views from and of science

While in some ways a hero against the obvious foreign threat, Atherton remains in other ways a variation of the overambitious scientific thinker. He survives the book with a partially redemptive arc, but his first-person narration brings the reader uncomfortably close to his fixation on his own work's destructive potential. A charitable reading may note it also reveals a sense of humour and a broad curiosity, but while Henry Jekyll presents himself at least publicly as the respectable, hardworking Victorian professional gentleman, Atherton may be his opposite, with no real interest in politics or public welfare (127). Often callous and cynical, he speaks his mind ("You're an idiot" 103), drinks to excess, and encourages others to do the same (135). He admits to violent impulses and takes persistent glee in his work with no evident musing upon humanitarian cost (109).[222] Yet with every scene of his work in the laboratory, Atherton's esoteric knowledge is underscored by scientific detail almost impenetrable to the uninitiated. His list of chemicals leaves Jekyll's "white salt" and El-Râmi's "green globules" seeming like children's toys: Atherton cites "carbon-monoxide, chlorine-trioxide, mercuric-oxide, conine, potassimide, potassium-carboxide, cyanogens" (sic, 102), with no indication of

[221] In contrast, Marjorie Lindon invokes prayer to protect herself when she first feels even the vaguest threat of the Beetle, and it seems to work for a time (Marsh 166-7). The parallels to Mina Harker are striking; in both works, of course, the hope is that Western religion may hold an Eastern threat at bay, and in both works the strategy ultimately fails.

[222] In drunkenly demonstrating his chemical weapon's power, Atherton kills a cat as an experimental subject, and almost does the same to his friend as his reluctant witness (Marsh 139).

any of their properties but that they are "gases a sniff of which meant death" (102). Similarly, instruments and procedures are scattered throughout his narration, adding to his establishment as a man of science and leaving non-scientific characters (and simultaneously Marsh's readers) to either understand them, or fail to and thereby add to Atherton's highly specialized cachet.

Even more than Jekyll, Sydney Atherton is surrounded by non-scientists who fail to ask the right questions about his experiments, making explicit the divide between the practitioner and the layperson. His eventual wife Dora Grayling, enamoured of Atherton and apparently willing to disregard his gruesome work, calls his lab a "wizard's cave" (154), lending it air of romanticized and subterranean alchemy. Lessingham calls it "the threshold of the unknown", a place where "a man...[matches] himself with nature, to wrest from her her secrets," an invocation of violent appropriation resonant with historically gendered expressions of scientific intent (Marsh 109; cf. Keller 41, Harding 12, etc.). Presumably university-educated, given his social and Parliamentary status, Lessingham remains ignorant of scientific materials: "What is this curious arrangement of glass tubes and bulbs?... Is it some kind of an exhauster?" (175).[223] Both the spaces and implements of science thus place Atherton outside – if not metaphorically above – his circle of uninitiated acquaintance.

[223] Unlike Jekyll or even Eliot's Meunier, Atherton is never explicitly referenced as having gone to university or having any official qualification in scientific study. His name is followed by "Esquire" (Marsh 91), rather than the string of academic letters Jekyll is granted. Whether or not that missing detail is meant to indicate an amateur status that may explain his moral failings is impossible to say; it might equally highlight the novel's contemporary moment – fading rapidly – that still allowed a man to be a known but institutionally unaffiliated 'scientist' without having fully completed the standard educational pathway, particularly if the work was deemed socially useful.

Moreover, Atherton's allegiance to his profession is clear. During the entity's visit to the lab, Atherton thwarts its attempts at psychic control, disdaining the visiting "mesmerist" by saying, "I'm a scientist. I should like, with your permission – or without it! – to try an experiment or two on you" (Marsh 105).[224] His arrogant disregard for consent suggests a view of science as the pursuit of knowledge detached from morality; regardless of Atherton's claim to "science" that provides a more socially acceptable appropriation of control, his attitude mirrors the entity's disregard of its victims' will. The entity's first visit convinces Atherton that the "Arab" is "worth studying" (109); the second, during which he witnesses the inexplicable transformation of its form from human to beetle and back, leaves him more shaken. He quickly notes anyone would have been, even "the most level-headed scientist" (152), and that he soon "retained [his] presence of mind" – that mind implied as his most crucial tool against this inexplicably psychic as well as inhuman being.

Atherton's mind, the narrative implies, helps him deal more efficiently with the entity than does any other character – he almost captures it in its beetle form, identifying its species and noting its now evident female form, switching pronouns immediately (Marsh 150-1). Far from letting his worldview or identity be shaken, as was Lanyon's by the transformation of Hyde, Atherton embraces the moment of paradigm shift. The mechanics of the change have yet to be discovered, but the fact of its existence is full of

[224] Although *The Beetle* appeared late in the century, Atherton's use of "scientist" is, as was noted in an earlier chapter, rather on the vanguard of the term's acceptance by the profession (cf. Barton 2003). Given the little that is known about Marsh as the author, I cannot say whether it reflects an embrace of the term by the non-specialist public, or some insight into its gathering traction within the professional community.

potential. He chastises himself for briefly losing his detached professionalism: "if only I had retained the normal attitude of a scientific observer I should, in all probability, have solved the mystery of my oriental friend" (154).[225] Seeking explanations, he considers both delusion and trickery but is ultimately left uneasy by the impression that he had lost "a game at which civilisation was once more proved to be a failure" (154). That the loss of detached equanimity heralds the failure of civilization is predicated upon a belief in western sciences as the height of civilized intellectuality, and the threat of the Beetle is one of a foreign invader disruptive to the individual mind as well as the social collective. The reference leaves the failing "civilization" unnamed; it is perhaps another way the novel calls attention to the ongoing violences of science's potential ethical failings such as those Atherton himself exhibits, and those of the weakening British empire at the fin-de-siècle, or indeed those of England's inability even to adequately house all its citizens, to which Holt's narrative attests. Ultimately, both the English social body and individual bodymind are left vulnerable to attack in this "game."

Atherton is the only main character to survive the entity physically and mentally intact, and his science plays an inarguable role, but so does his own nature. While his allegiance to scientific thought and his wielding of practical science as weaponry are his explicit defenses, they are bolstered and mediated by his acceptance of phenomena such

[225] Atherton uses the phrase "oriental friend" (capitalization varies) six times to refer to the Beetle. Occasionally he directs the nominally amicable relationship toward himself, as cited above, which may obliquely acknowledge their similarities in psychical power (cf. 105) and destructive potential. In his conversations with Lessingham, however, the words carry an accusatory tone, such as when he reports Lindon's disappearance by saying "that Oriental friend of yours has got her in her clutches" (253). The addition of the female pronoun for the Beetle emphasizes the entity's transgressive perfidy while adding licentiousness to Lessingham's pre-existing relationship with it, even though Atherton has not yet heard his complete version of events.

as mesmerism and clairvoyance – indeed, both he and Marjorie Lindon suggest he has mesmeric powers of his own (Marsh 105, 194). If so, Atherton would hold the power to not only disrupt the physical body with his chemical weaponry but also disrupt the psychic one, on a whim, and that raises his destructive potential akin to that of the Beetle. As Lindon observes in her narrative, "[I]f Mr Atherton chose to become a specialist, to take up one branch of inquiry and devote his life to his, his fame, before he died, would bridge the spheres" (194). Her final phrase curiously evokes the material and physical realms referenced by spiritualists and the mediums serving as bridges between them, and although the overlay is not perfect it fits Atherton quite well. Although Lindon imagines Atherton devoting himself to a scientific specialization, his acceptance of – and potential skill in – the psychic or inexplicable suggest that those paths to knowledge would be ones he would embrace with equal enthusiasm and likely with equal disregard for human life. Indeed, Lindon follows the above remark with a more ominous one that overtly equates his menace to that of the entity: "if he chose to exercise it [his hypnotic power], he might become a danger to society" (194). Instead, because the villain is framed as an insidiously infectious agent, the mesmeric qualities in Atherton work as an immune barrier, strengthened by modern scientific thinking. He admits to less than complete success in his direct encounter, and most significantly, even the technological might of locomotion fails against the entity, leaves its ultimate fate unknown.[226] What, if anything, *The Beetle*

[226] *The Soul of Lilith* and *The Beetle* are rare examples of late-century speculative texts which reference, even passingly in the denouement, the mental scars left by the plot's traumatic events. In the latter, the victimized Lindon could only have been further traumatized by the train wreck which buys her freedom from her hijacker. Jill Matus' work explores the beginning of Victorian trauma theory in the wake of large-scale accidents such as train wrecks (cf. 2001, 2008, etc.)

intends to say about English scientific superiority and its narratives of civilized progress remains inconclusive, at best; its messages about the terrors of hijacked autonomy and the forcible sharing of consciousness are far clearer. The resulting ambiguity, however, is entirely representative of its origin in an England infused by science, spiritualism, and skepticism about both. In refusing to reconcile them, it makes visible the vulnerabilities and potentials of the bodymind as firmly intertwined, but also the potential strengthening of self that might come from embracing all forms of knowledge, whether objective or subjective. Its uncertainties leave the possibilities of human selfhood open to exciting new thought as the turn of the century loomed.

Conclusion

As this chapter's introduction indicated, these four narratives represent only a small sample of the late-century works exploring the ways science intersected with spiritualist thought and practice. All largely set in London, they reflect the diverse humanity of the metropole, allowing for considerations of social position and gender expectation my first chapter explored in its confluent contexts, and the public querying and expansion of media conversations shared in my second chapter, leaving behind the surface quibbles of ghosts or séances. Instead, they fictionalize both science and spiritualism to explore the more fundamental, often unspoken questions of the parameters of human bodies and minds.

The more nuanced treatments of cognition and science in these works indicate that the public absorption of print media in the second half of the nineteenth century was

qualitatively similar to the present day: a combination of fact-seeking and "fact"-rejecting behaviours that spurred conversation as well as further writing and reading. These texts selectively choose conversational threads to reweave into creative, dangerous sciences and precarious, inexplicable consciousnesses. The affective depth with which authors imbue these stories invites readers to imagine and strive and fear alongside their characters, drawing them further into considerations of thought, spirit, and autonomy more than most media conversations could. The rechanneled flow of discourse from newspaper to fiction is both traceable and fascinating, in the metaphors of veil and light and landscape, in the characters of science practitioners and the defined circles of masculine professional untouchability in which they work, and in the unexpectedly capacious and ambiguously gendered minds of the psychically permeable – willing and otherwise. It is texts like these that ensured the discourses of science and spiritualism – with all their myriad fears for the self regardless of sex – settled durably into the public mind.

Parting thoughts

> What are the particular ends to which the language of objectification, reification, and domination of nature is particularly appropriate, and perhaps even useful? And to what ends might a different language – of kinship, embeddedness, and connectivity, of [in Barbara McClintock's phrase] 'feeling for the organism,' – be equally appropriate and useful?
>
> Evelyn Fox Keller 35

> It is in vain that we boast of the progress of education… The love of the marvelous is not to be eradicated by the schoolmaster.
>
> Anon. 481

I had always intended that this conclusion would not only summarize the preceding project but also underscore my argument that the nineteenth-century privileging of "objective science" as "useful knowledge" over subjective or affective experience was ultimately successful enough that it has endured unto the present day; that no matter how strange Victorian clashes over séance chicanery and dubious mediums may seem to modern sensibilities, the underlying contest between knowledges was profound, the implications for education and the public perception of science and non-science almost too far-reaching to grasp. I had intended to provide examples from the recent campaigns to celebrate the (still disproportionately low number of) women in STEM careers,[227] the

[227] The initialism is widely accepted shorthand for "science, technology, engineering, mathematics" – an array of possible subject areas collectively perceived as "the sciences." According to Statistics Canada, women comprised 44% of first-year students enrolled in STEM courses (Wall "Overview") and about 36% of degree holders between the ages of 25 and 64 ("Introduction" par 3). She notes "their representation decreases as they progress from high school to postsecondary studies and from there into the labour market. Women's self-identification with math and sciences is lower than that of men" which some studies have found is "is related to women not self-identifying as scientists, feeling isolated or out of place in STEM

ongoing popular culture representations of séances and mediums as camp or low-grade horror entertainment motifs,[228] and the recent intriguing movement for "science communication" as the desirable and specialized skill of being able to convey scientific ideas to non-scientists.[229] Acknowledging that scientific labour involves the translation of science into understandable terms for the non-scientist seems ironic in view of this project, which considers multiple ways in which literacy, language, and specialized discourse were crucial vectors in the development of science as cultural authority. The paradoxical foundations upon which England's professional scientists constructed their own image – and that of their field as worthwhile for everyone to learn, yet truly achievable by only a special few – are aging like those of an old farmhouse, their cracks increasingly visible.

As I begin finally to write this conclusion in June of 2021, the latest COVID-19 pandemic lockdown in Ontario set to lift within days, more timely proofs are writ large in

classes (due to being greatly outnumbered by male peers, or to unequal treatment by professors and/or peers)" ("Introduction" par 6).

[228] Literary examples range from caricature in Agatha Christie and Dorothy L Sayers in the 1930s to the more nuanced "psychic" characters of present day fiction. See also HBO's *Penny Dreadful* and Russia's *Detective Anna* (2016), both set in the late-1800s. Both explore the culture of trance, possession, and their effects on the human body. The 2020 movie *Host*, named for the evocative label for a meeting organizer on Zoom, depicts an online séance during which, in the words of the movie's tagline, "someone new has joined the meeting" (Savage).

[229] The "public understanding of science" (PUS) is the preferred term in the United Kingdom, as in the Royal Society's 1985 public statement: "It is clearly a part of each scientist's professional responsibility to promote the public understanding of science" (qtd in Stilgoe & Wilsdon 19). Richard Holliman and Eric Jensen find that, in a group of 15 science professionals ranging from post-graduate students to career scientists, tutors and teachers, each of them identify "science outreach" as part of professional duty toward a public with "little or no scientific knowledge" (Holliman & Jenson 41). Simon Locke suggests the communication breakdown occurs because science practitioners assume that the 'sides' are characterized by binary contrasts: "facts and values, objectivity and subjectivity, and rationality and irrationality" (92).

daily life, scrutinized and queried in ways perhaps unimaginable even five years ago.[230] From contact tracing to infection rates to anti-vaccination conspiracy theories, questioning of scientific data and one's willingness to believe in its authority suffuse our conversations. In the public wrangling over what the pandemic science can (or cannot) tell us, we see exemplified Evelyn Fox Keller's point that the discourse of the scientific ingroup, so long "assumed to be transparent" through its claims of detached neutrality and objective knowledge, has become instead "impervious" to most outsiders, and (in yet another paradox) may thereby weaken its own credibility (28). In the outward ripples of the current crisis are further indications of the types of knowledge our culture has prioritized: industry and technology sectors are infused with financial support while theatres, museums, and concert halls – venues of collective, intangible experience – face permanent closure.[231] Their social offerings, deemed non-essential, are not a priority for rescue – and of course, as Helen Lewis astutely observes, "Money, and sympathy, are finite" amidst global devastation (par 7). The effects on education have been likewise devastating, with one outcome already apparent and especially striking in the light of my argument here. Students of every age, obliged by the pandemic to attend classes "online" instead of in person, tell parents, teachers, and researchers that they are sorely missing the

[230] Environmental scientists have of course encountered this sort of derisive scrutiny about climate change, particularly the human-driven, and there is likely some overlap between deniers and those resisting epidemiological modelling, but given the immediate, visible human evidence of illness and fatality (as opposed to what is apparently more ignorable environmental degradation), the resistance to pandemic science has often appeared from unexpected sectors.

[231] Sharon Heal finds some optimism in the way many UK museums and libraries have adapted their public outreach to keep their ties to community strong during lockdown, but she notes they have "already documented 4,000 redundancies in the sector and we know there are more to come. Six in 10 museums are worried about their very survival" (par 2).

indefinable social learning that face-to-face classrooms allow: the flow of half-formed ideas and growing knowledge arising from discussion, the generative conversations that spill into hallways and coffee shops, unmediated by screens and bandwidth allowance.[232] That students are overtly connecting learning with interpersonal, subjective experiences within their classrooms – rather than with solitary asynchronous tasks or automated quizzes about discrete pieces of data – is evidence of a widening disconnect between the governing forces fixated on practical, "useful" knowledges which are purportedly requisite for careers in growing sectors, and participants seeking the often-unquantifiable yet equally illuminating knowledges of experience, which may do more to sustain the human spirit.

And one last point of proof: mid-way through the writing of this dissertation, but before the pandemic arrived in Canada, my grandmother died. A few of us in the family still speak of her stories and wonder about what she had experienced in her long life in the Ferguson farmhouse which, it is generally agreed, feels significantly different without her. We could not quantify that statement if anyone asked us what it meant, but no scientific thinking could disprove it, either.

* *

[232] Although my own circle of friends forms a solid anecdotal basis for this claim, cf. also McMaster University's own 2020 Fall Experience Survey: "46% of respondents shared that they are struggling to connect with their students pedagogically and/or interpersonally. This encompasses class participation and attendance but also extends to mentorship of graduate students and the connections that develop organically through frequent social interaction. Instructors also acknowledged that students are missing peer engagement" (30). One faculty respondent noted even the lack of in-person office hours resulted in an "[i]nability to interact with students (in this case, graduate students) through more informal occasions in our departmental offices, which is where much mentoring and learning takes place" (30).

This project could not claim to identify a single moment when the mode of thought commonly called "scientific" solidified its cultural domination in Western society – no project could. It does, however, identify nineteenth-century England as an extraordinary time of confluent social and political conditions that provided the most fertile ground for its roots. As my first chapter argued, without the growth of public literacy, without the forum of the print media, scientific thought and method would have remained confined to the fortunate few: those who had the time and wherewithal to do it, and perhaps those who lived near enough to a pedagogically minded practitioner to view a demonstration and walk away, wondering. Once literacy and print media were established, however, the control of such knowledge by the fortunate few was never in question, no matter how much they might have argued (might still argue) it could be. Girls and women increasingly found their ways into the classroom and the laboratory, despite English society's numerous systemic barriers, and indeed today scholars increasingly find that efforts to suppress them in the scientific historic record likewise fail.

My subsequent examination of the multifaceted conversations between science culture used the spiritualist movement as a significant case study of resistance. The discursive patterns of those print conversations repeatedly position science and spiritualism as inimical, even as contributors sought to redraw the boundaries between them. But science's claims to epistemological authority on grounds of objective rationality – so closely bound to idealized British masculinity – could be contested by those who, like spiritualists, refused to believe the limits of the human were already

known and insisted on the ongoing importance of subjective, unquantifiable experience as an equally worthwhile form of knowledge. Accounts by mediums and spiritualist participants take up the metaphors of illuminative light and territorial exploration used by the sciences and in doing so remind readers that knowledge might arise in places other than the laboratory. Moreover, such knowledge can be neither masculine nor feminine but merely human, an inevitable consequence of being.

I then followed the threads of these public conversations as they were woven into speculative literature. In analyzing works by Eliot, Stevenson, Corelli, and Marsh, I find they imagine new scientific projects, old knowledges, and the myriad susceptibilities of the human mind and body in ways that reflect yet enrich the era's real-world media dialogue. In characterization and plot, they present the spectrum of nineteenth-century views from and of science – its strengths, its horrors, its potential – finding it exhilarating and terrifying, and notably prone to failure against human (or superhuman) nature in all its as-yet unknown dimension. As Hilary Grimes observes and my third chapter analysis confirms, like those real-world men of science working in the nascent fields of the mental sciences, late-century fiction writers concerned themselves with the "boundaries of science, identity, and the mind," but fiction at least could openly speculate with relish about "the obscure thrills of the 'Unknown'" (1). In exploring that potential, the works in my third chapter exemplify late-century fictions which add nuance to the public perception of scientific and the spiritualist (by any other name), and in leaving room for ambiguity and irresolution, find far more reconcilability than their media positions suggest. While that rich potentiality is welcome, the fictions in this chapter nonetheless

replicate science as a masculine pursuit and feminize those perceived as more spiritual or otherwise oppositional to science, such as Eliot's Latimer with his androgynous appearance, and Corelli's otherworldly Féraz. Thus the gendering of science and non-science solidified further in the public mind through these fictions, while the epistemological struggle between knowledges proved far richer and more complex than perhaps expected.

* *

The primacy of textual production and discourse to this project should be clear, given the print media's crucial importance as a vector for rich and enduring public engagement with spiritualism. That vector, of course, has not changed in importance since. Almost 150 years after its inaugural issue, the science journal *Nature* celebrated with a collection of essays from key researchers of the twentieth century recalling their globally influential work. Its editors explain that they requested a retrospective, narrative tone for the essays because "textbook accounts of the progress of science are too often forced to leave out the messy details of the human side of discovery" (Garwin and Lincoln xiii). This is an extraordinary statement. First, for its acknowledgment of any discursive deficiency in the "textbook style" that for more than a century has been widely upheld as the way to promulgate knowledge to a learner in an appropriately detached and objective format. As William Whewell wrote in 1842, "when our knowledge becomes perfectly exact and purely intellectual, we require a language which shall also be exact and intellectual;—which shall exclude alike vagueness and fancy, imperfection and superfluity;— in which each term shall convey a meaning steadily fixed and rigorously

limited. Such a language that of science becomes" (479). Arguably, such a language has filled textbooks in schools across England and its colonies for decades, promoting linguistic as well as taxonomic, chemical, or biologic standardization.[233] But the *Nature* collection editors' rationale for the genre shift is equally notable for its implication that the "messy… human side" of science is in fact separable from its objective data, and thus is absent from textbook writing. Science is here once again implied to be both a part of human endeavour and apart from it, its practitioners somehow so detached that the work itself becomes agentless. Yet in the same introduction, the editors recognize what my many primary commentators in this project rarely, if ever, did: that science is neither solitary nor agentless. Rather, "in a very real sense, a [scientific] discovery does not exist until it has been published, and validated by one's peers" (Garwin and Lincoln xiv). This ongoing reliance on publication and readership, ably facilitated by educational and print media reforms during the professional sciences' earliest days in England, has persisted just as so many of its metaphors have. Acceptance by one's peers, so crucial to the ingroup formation that supplies every member's sense of professional identity, recalls my earlier examples of luminaries like Tyndall rushing to the defense of the deceased Faraday, but equally evokes Carpenter's attempted assassination of Crookes' character on the basis of professional qualification: peer validation or skepticism is a double-edged tool to be wielded as appropriate, in the defense of scientific authority against those seen

[233] "Confidence in the transparency and neutrality of scientific language is certainly useful in enabling scientists to get on with their job; it is also wondrously effective in supporting their special claims to truth. It encourages the view that their own language, because neutral, is absolute, and in so doing, helps secure their disciplinary borders against criticism" (Keller 28). The discourse of science textbooks – and their ostensible pedagogies – from the nineteenth century to today would be a fascinating companion study to this project.

as interlopers.[234] Nineteenth-century science was ultimately a collective movement as reliant on interpersonal community as was spiritualism but less likely to acknowledge as much.

Eschewing the specialized tools and training of the laboratory, spiritualism offered an opportunity for encounters with the numinous and aspects of the human mind as yet unexplored – and for the gaining of knowledges which may have been spirit borne, may have been unverifiable, and may have been intersubjective, but which for participants were no less legitimate than those of scientific discovery. In gaining those knowledges, participants did not distance themselves but were fundamentally necessary to it: "the séance and practices such as automatic writing and thought transference were seen to be key sites for the disclosure of psychic realities which were seen to reveal the multiplicity of the subject" (Blackman 30). That multiplicity stood in notable contrast to the individual authority of any scientific luminary's announced "discoveries" and in contrast to the power of the ostensibly autonomous will to control one's behaviour and emotion in the service of duty. Spiritualism's plural subject might share authority, speak with many voices, or voluntarily attenuate the will to welcome the influences of others.

Such a self, in recognizing its own permeability, might gain insight into themselves as well as into the spirit world, because "the mind was not necessarily a sealed and protected space" but rather one open beyond what physiology had already described

[234] Luckhurst's summary of the campaign against Crookes is especially apt here: "reassertions of empirical method and restatements of the uniformity of natural law [as well as] abuse under the cover of anonymity, the spread of rumour in the periodical press, the blocking of official routes of publication, and the denial of access to any forum controlled by the scientific community" (Luckhurst 32).

(Thurschwell 36). Using their own bodies in ways variously seen as troubling, transgressive, marvelous, or supersensory, mediums communicated in ways that defied of established paradigms, and in so doing "seemed to possess knowledge of which they were not ordinarily conscious" (Matus 1263). With such embodied knowledge potentially available to every human, the systemic biopolitical or professional barriers to the so-called objective, empirical knowledges privileged by society at the urging of science become nonsensical. Instead, the body itself becomes episteme. In choosing to speak in print for growing audiences across England, the plural voices of nineteenth-century spiritualist communities countered univocally masculine epistemologies, creating space for the consideration of new knowledges whose echoes linger significantly in even contemporary thought.

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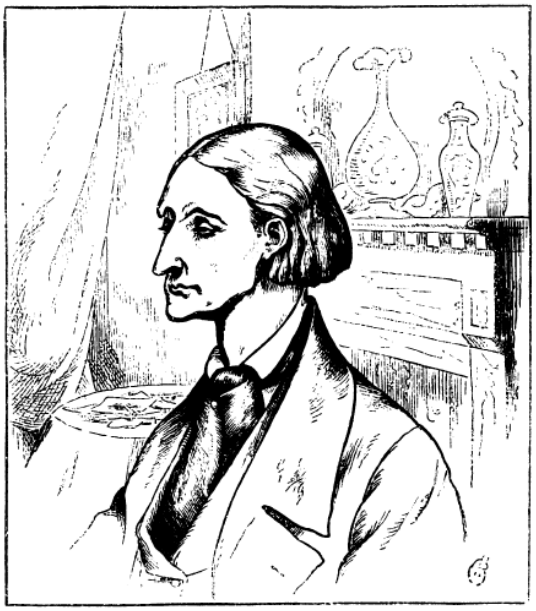
Appendix A: "Sketches of London Society: Mediums"



From the accompanying article: "These be your prophets. That man in the built-up stock [left, above] is in reality a solemn idiot, coarse, uneducated, vulgar, but with all the conceit, assurance, and low shrewdness of an overpowering humbug. The very heaviness of his impudence is deceiving. His trickery is concealed under a cloak of passive ness. His face betrays nothing. His hypocrisy is a dull, stagnant pool which detection cannot stir (454). […] The younger one [right, above] is of another type. The nature of the fox is partially hidden by a veil of moroseness. This is a sullen fellow, who would revel in deception, who would deceive others until he deceived himself. He looks gloomy enthusiast enough to lose what little brains he possesses and cut his throat some day" (455).

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Artist cited in article as "Mr Bennett."