TESTING REALITY’S LIMITS: ‘MAD’ SCIENTISTS, REALISM, AND THE SUPERNATURAL IN LATE VICTORIAN POPULAR FICTION

A dissertation presented

by

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ABSTRACT OF DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in English in the Graduate School of Social Sciences and Humanities of Northeastern University
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ABSTRACT

In the late Victorian period, approaching the fin de siècle, popular fiction frequently featured what critics would now call mad scientists. These mad scientist characters served as a vehicle for Victorian authors to explore the epistemological relationship between humans and the material world, often highlighting the shortcomings of the human eye or subjective perception of reality. By tracing the scientific and supernatural discourses surrounding representations of scientists featured in works by H.G. Wells, Bram Stoker, Robert Louis Stevenson, and Arthur Conan Doyle, this revisionist literary history demonstrates that Victorian popular fiction and “classic realist” novels share a common interest in human perceptions and representations of a material reality. Arguing that the genre categories traditionally applied to these texts are permeable and unstable, Testing Reality’s Limits continues work begun by scholars, such as George Levine, who redefined Victorian realism as a self-conscious experiment rather than a naively mimetic practice, and addresses literature not yet studied by such scholars.

While the project is rooted in literary criticism and Victorian literature, it also engages with contemporary popular culture and cinema. Each chapter concludes with a detailed analysis of notable film and television adaptations of each novel discussed, to place Victorian realism in context. By incorporating an adaptation studies perspective, the research offers a better understanding of both Victorian and contemporary trends, viewing popular culture as a series of intertextual relationships and an evolving history rather than isolated cultural moments.
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Introduction

What is a Mad Scientist? Dissecting a Pop Culture Icon.

The classic image conjured by the phrase “mad scientist” originates in late Victorian popular fiction. H.G. Wells’s *The Invisible Man*, for example, introduces its scientist protagonist, Griffin, as not the “stranger” that early chapters of the novel refer to but as a scientist, with a detailed description of his makeshift laboratory in a village inn:

> When Mrs. Hall took his dinner in to him, he was already so absorbed in his work, pouring little drops out of the bottles into test-tubes, that he did not hear her until she had swept away the bulk of the straw and put the tray on the table, with some little emphasis perhaps, seeing the state that the floor was in. Then he half turned his head and immediately turned it away again. (Wells 18-19)

This passage emphasizes an intense focus and disorganization symptomatic of the “madness” typically associated with a mad scientist. Griffin is “so absorbed in his work” that he is unable to notice a woman entering his room with a tray of food and certainly unwilling to stop to eat that food. The fact that he conducts his elaborate experiment in a hotel room rather than a more appropriate and sterile room at a scientific institution indicates that he operates on the fringe of a scientific community and that his work may not be scientifically respected or socially acceptable. The mysterious, nondescript “test-tubes” and “bottles” are telltale signs of an unorthodox, perhaps illegal, experiment, as is the “state that the floor was in” that Mrs. Hall notices. A reader can infer that the “state” to which she refers is a messy one, littered with “books – big, fat, books, of which some were just in an incomprehensible handwriting,” “crates,” “cases,” and “glass bottles” (Wells 16). This point of description indicates that Griffin cares not for tidiness; he only cares about his experiment.
This familiar image of the mad scientist, one that is so strong that no critic, historian, or scholar ever needs to acknowledge it as a culturally manufactured concept, has persisted in Anglo-American culture for over a hundred years. It is so ubiquitous that it is rarely challenged. The conception of who the mad scientist is – and what he looks like – is a forgone conclusion, an example of cultural shorthand. As the cited passage from *The Invisible Man* shows, Victorian literature, and especially late Victorian popular fiction, solidified if not created the mad scientist. A genealogy of this archetype needs to be traced, and the following examination of George Eliot’s *Middlemarch*, H.G. Wells’s *The Time Machine* and *The Invisible Man*, Robert Louis Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde*, Bram Stoker’s *Dracula*, and Arthur Conan Doyle’s Sherlock Holmes series serves as such a genealogy. In order to construct a complete genealogy, the study includes analyses of both these novels and notable film and television adaptations of them, as well as historical context on Victorian scientific discourse and culture.

In the late Victorian period, approaching the fin de siècle, popular fiction frequently featured what critics would now call mad scientists. These mad scientist characters served as a vehicle for Victorian authors to explore the epistemological relationship between humans and the material world, often highlighting the shortcomings of the human eye or subjective perception of reality. By tracing the scientific and supernatural discourses surrounding representations of scientists featured in works by Wells, Stoker, Stevenson, and Doyle, this revisionist literary history demonstrates that Victorian popular fiction and “classic realist” novels share a common interest in human perceptions and representations of a material world. Arguing that the genre categories traditionally applied to these texts are permeable and unstable, *Testing Reality’s Limits* continues work begun by scholars, such as George Levine, who redefined Victorian
realism as a self-conscious experiment rather than a naively mimetic practice and addresses literature not yet studied by such scholars.

While the project is rooted in literary criticism and Victorian literature, it also engages with contemporary popular culture and cinema. Each chapter concludes with a detailed analysis of notable film and television adaptations of each novel discussed, to place Victorian realism in context. Almost every recent multi-billion dollar entertainment franchise of the twentieth and twenty-first centuries, such as *Harry Potter, The Twilight Saga,* and *The Hunger Games,* originates with a film adaptation of a novel or series of novels. By incorporating an adaptation studies perspective, the research offers a better understanding of both Victorian and contemporary trends, viewing popular culture as a series of intertextual relationships and an evolving history rather than isolated cultural moments.

The first recorded use of the term “mad scientist” dates back to a short story that circulated in periodicals as early as 1891.¹ The narrator, framed as an anonymous author of this “true” story, tells the tall tale of how he rescued his brother from a wrongful murder conviction. Later, on his deathbed, the brother explains that he had killed a man who had invented a way to light water on fire, and if he had not done so the world’s destruction would have soon followed. He uses the term once, in passing, during the story’s dramatic climax: “Nerving myself for the blow, I felled the mad scientist dead at my feet.”² After this, the usage of “mad scientist” would become increasingly more popular and would accumulate more and meaning, eventually becoming the self-evident term we use today.

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¹ Published in several newspapers and magazines by an anonymous author. See “Not Murder” from *The Florence Times;* “Not Murder” from *The Los Angeles Herald;* and “The Finger of Fire.”
² The OED cites “1893 Newark (Ohio) Daily Advocate 11 July 6/3” as the first use of “mad scientist,” but a magazine called *The Railway Agent and Station Agent: A monthly magazine devoted to the interests of ticket and freight agents and the traffic departments of the railway service* published the same story under the title “A Finger of Fire” in 1891. See also “Not Murder” from *The Florence Times;* and “Not Murder” from *The Los Angeles Herald.*
In this premiere usage of the term, there are several key similarities to Wells’s *The Invisible Man*. Both flammable water and an invisible body are phenomena considered to be scientifically impossible, defying basic laws of physics and chemistry. Both the mad scientist of the 1891 short story and Griffin in *The Invisible Man* become dangerously irrational, one bent on the world’s fiery destruction and the other on a violent rampage that capitalizes on his invisibility. These qualities, among others, have become a part of the ubiquitous mad scientist profile.

Alongside explicit articulations of the phrase, other non-fiction publications, such as the academic journal *Mind*, cultivated a new figure, a new trope by forming a “clinical association between genius and insanity” (Stiles 319). The literary and later cinematic mad scientist was itself a product of Victorian science. Generally received as “scientific fact,” (121), the *Mind* reviews and other scientific publications of the period created and proliferated the fin de siècle theory of degeneration, which “argued that mankind had evolved larger brains at the expense of muscular strength, reproductive capacity, and moral sensibility” (319). This branch of Darwin’s broader evolutionary theory created a class of scientists who have the intellectual advancement necessary to make scientific breakthroughs and a lack of a “moral sensibility” that would otherwise hold them back.

From its early development at the turn of the century through the twentieth century, film has fueled the mad scientist’s acquisition of cultural currency, often adapting Victorian literary figures and giving them a larger than life, iconic status on screen. According to a study by Andrew Tudor, mad scientists were the second most common “monster” or antagonist in horror films.

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3 Stiles cites in a footnote the “Review of The Insanity of Genius and the General Inequality of Human Faculty, Physiologically Considered, by John Ferguson Nisbet” (319).

4 See Monahan: “If literature created the mad scientist, the movies made him a star. From the earliest days of film, the mad scientist provided his cautionary tale. In 1910 the Edison Studios first put Frankenstein before silent-movie goers” (2).
films made between 1931 and 1984, second only to “psychotics” (Tudor 20).\(^5\) Tudor accounts for the dominance of psychotics by observing a shift in horror films before and after 1960; films made between 1931 and 1960 are dominated by science and the supernatural while films made after 1960 feature a psychotic or sociopathic antagonist. The development of a post-Freud culture with an increased interest in and better understanding of mental illness and crime is the most likely cause of this shift.\(^6\) One can locate a cultural boom of mad scientists, then, in the early half of film’s history.

There have been studies conducted on the mad scientist throughout film history and the mad scientist throughout a very broad literary history, but until this study there has not been an examination of the specific source of the fundamental characteristics unique to the mad scientist archetype popularized first in Victorian fiction and then in twentieth century film. One can stretch the mad scientist continuum as far back as the Laputans in Swift’s eighteenth century novel, *Gulliver’s Travels*, or the Faust legend and all its retellings, but the distinct convergence of fin de siècle scientific discourse, a cultural fascination with the supernatural, early film technology, and literary realism produced the status-quo defiant mad scientist character that would overtake popular culture for the next century.\(^7\) The words “mad” and “scientist” do not appear together as a singular term in any of the Victorian texts discussed within this study, but, as I will show, these texts created a foundation for the iconic mad scientist that gained cultural currency in twentieth century cinema and continues to circulate in popular culture today.

For critics, the mad scientist character has historically served as a target of cultural anxiety about science. David Skal, for example, writes, “…the mad scientist has served as a

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\(^5\) From a database of films, Tudor counts 169 films with mad scientists as the primary antagonist and 271 films with psychotics as the primary antagonist.

\(^6\) See Tudor 48.

\(^7\) See Goodrich 73; and Toumey 417.
lightning rod for otherwise unbearable anxieties about the meaning of scientific thinking and the uses and consequences of modern technology” (18). A narrative centered around a mad scientist, according to the few scholars who have written on the figure, either presents a moral dilemma that human civilization encounters in the wake of scientific or technological advancement or depicts science as unequivocally threatening. Through my collection of Victorian mad scientists, I would like to offer an alternative paradigm. While there are many mad scientist narratives that portray science and technology as dangerous and destructive, that is neither the only nor the primary cultural discourse that the mad scientist creates.

**Madness as Subversive and Problematizing Reality**

Though it may seem counterintuitive, the mad scientist drawn as he is from the pages of fantastical, escapist fiction, actually serves as an interesting measure of a Victorian interest in reality’s mechanics and limits. Narratives featuring mad scientists create dialogues on reality – what reality is, how we know it, how we measure it, how we relate to it, and how we represent it. Mad scientist characters represent radical, new understandings of reality through their status as “mad” or outside social and scientific convention. Readers and literary critics recognize the character of the mad scientist by the way other characters within a text treat him; they consider his experiments to be crazy and treat the scientist himself as a social pariah. However, the narratives featuring mad scientists’ experiments suggest that an author’s representation of the perception of the mad scientist as mad by other characters can serve as a commentary on the limits of human understanding of the material world. While these scientists see their own work as perfectly rational, others perceive it to be outrageous in its purporting the unreal to be real and the impossible to be possible.
Based on a close reading of the texts and historical context, it is evident that the authors discussed in this study cared about issues regarding reality that Victorians, according to literary and scientific discourse, were continually trying to work out – interrogating the functionality of the human senses and universally accepted laws of physics. The Victorian preoccupation with realism and the problem with reality that one finds in the writings of critics such as John Ruskin, Walter Pater, and Charles Algernon Swinburne cultivated an intellectual environment conducive to the mad scientist as a literary trope. Victorian literary discourse and cultural criticism wrestled with the discrepancy between visual or verbal representations or perceptions made by humans and the material world that those representations and perceptions attempt to articulate, and fictional narratives featuring mad scientists exhibit a struggle with this discrepancy as well.

Many of the traits associated with the character of the mad scientist allow the narratives about them to facilitate the exploration of reality and the relationship between humans, the material world, and their perception of that material world. In order to be marked as radical and forward thinking, authors of mad scientist narratives create characters that exhibit disorganization, a preoccupation with nothing save their experiments on the real, superior intelligence, and eccentricities that ultimately lead to isolation and disrepute. When I refer to mad scientists I do refer to the crazed, frazzled men hunched over in a laboratory, but, more importantly, I refer to what I infer to be their authors’ desire to challenge the scientific status quo and force those around them to question fundamental assumptions about reality.

That a fantastical figure such as the mad scientist has ties to realism is unexpected and paradoxical; the detailed portraits of everyday life conventionally associated with Victorian realism have very little in common with the mysterious, suspenseful, and supernatural adventures chronicled in Victorian popular fiction. The mad scientist narratives discussed here, however,
show a deep engagement with the problem of reality that would not be possible without a mad scientist protagonist. In everything they do, mad scientists question and challenge our human understanding of time, space, and the very fabric of reality. In doing so, they perfectly align their experimental goals with the fundamental concerns of Victorian realism and such an alignment merits a revised literary history that includes popular fiction in the same intellectual and artistic movement as the classic realist novel.

If we return to the passage from *The Invisible Man* that we began with, one can see that all the qualities that make a mad scientist mad, dangerous, mysterious, or threatening also position him as a disrupter of socially accepted notions about physics and the self-world relationship. He is a pusher of boundaries, a tester of reality.

When Mrs. Hall took his dinner in to him, he was already so absorbed in his work, pouring little drops out of the bottles into test-tubes, that he did not hear her until she had swept away the bulk of the straw and put the tray on the table, with some little emphasis perhaps, seeing the state that the floor was in. Then he half turned his head and immediately turned it away again. (Wells 18-19)

Griffin works out of a rented room at an inn because his experiment – to create a substance that can make a visible man invisible – subverts a “common sense” notion that only that which one can see actually exists in the material world. To question or challenge this notion is so radical that an experiment that does so would never be sanctioned or supported by a scientific institution such as a university or hospital. Griffin’s absorption in his work at the expense of eating (he ignores the dinner Mrs. Hall brings), social awareness (his failure to acknowledge Mrs. Hall’s presence, immediately turning his head away again), and general hygiene (the “state that the floor was in”) are signs of his commitment to overturning the assumption that the optical
feedback the human eye gives us corresponds to the material world around us. The fringe social
status specific to mad scientists, as this scene with Griffin illustrates, allows them to alter the
way in which humans conceive of their epistemologies and strategies for interacting with their
material reality. A “normal” scientist who works in a “normal” laboratory environment would
never be able to cast doubt on the reliability of the human senses in the way a “mad” scientist
can.

To engage with the trope of the mad scientist is to engage with the problem of reality.
What Griffin shows when he renders himself invisible, what the Time Traveller shows when he
travels in time, what Dr. Jekyll shows when he shares a body with Mr. Hyde, what Van Helsing
shows when he proves vampires exist, and what Sherlock Holmes shows when he uses forensics
and deductive reasoning to solve cases is that there is a considerable amount of baggage that
humans bring to reality that inevitably obscures it. All these mad scientist narratives in one way
or another illustrate what exactly that baggage is.

The framing of characters such as Sherlock Holmes as mad scientists allows me to link a
series of popular Victorian texts written concurrently with and shortly after the inception of the
term “mad scientist” in 1891 to more comprehensively establish the literary origin of the term so
frequently used today.8 By grouping the Victorian novels featured in this study together, I am
able to literally bring together madness and the scientist, the supernatural and the scientific, the
irrational and the realist, all of which were crucial to the development of Victorian literature and
realism. Casting and in some cases recasting a series of literary characters as mad scientists
allows me to identify a common pattern in the intellectual, philosophical, and cultural work done
by a group of authors, work that the mad scientist archetype served well. On the one hand I’m

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8 Published in several newspapers and magazines by an anonymous author. See “Not Murder” from The Florence
Times; “Not Murder” from The Los Angeles Herald; and “The Finger of Fire.
offering a lineage of mad scientists, and on the other I’m demonstrating how the mad scientist as a trope facilitated Victorian popular fiction’s engagement with an important intellectual movement of the period – realism.

**Conceptions of Realism**

In contemporary contexts, the term realism has multiple, fluid meanings. As Pam Morris says, the terms realist and realism are “slippery,” at best, and “inhabit both the realm of everyday usage and the more specialist aesthetic realm of literary and artistic usage” (2). In its everyday usage, the term “realism” is often synonymous with “realistic,” describing twentieth and twenty-first century works of art and literature that convincingly represent a “harsh reality” or life as it “really is.” An artist, author, or filmmaker who uses realism creates a diegetic universe that a reader or spectator can recognize as closely resembling his or her own. The “more specialist aesthetic” usage of realism, on the other hand, has a richer and more complex history, as what the Oxford English Dictionary calls

…a philosophical theory reacting against 19th-cent. idealism which, while agreeing in affirming that external objects exist independently of the mind, differs in accounts of appearance, perception, and illusion; the theory that the world has a reality that transcends the mind’s analytical capacity, and hence that propositions are to be assessed in terms of their truth to reality, rather than in terms of their verifiability. (*OED*)

This definition is less a description and more a problem – of how to proceed in a world that “transcends the mind’s analytical capacity.” There is a material reality in existence, but “accounts” of that reality vary in “appearance, perception, and illusion.”

The more specialized usage of realism is one that, as the OED definition mentions, emerged from nineteenth century philosophy, in reaction to nineteenth century idealism. In the
Victorian period, realism was about investigating and mapping out the relationship between self and world, and the abilities and limitations of artistic representation to capture a real, material world. Realism in representation, literary and artistic, was a particular concern of Victorian literary culture, but the critical landscape of Victorian realism has undergone several evolutions over the years. Criticism, in its look back at the nineteenth century, gradually moves from a partial definition that focuses on mimesis to a fuller, more robust definition that considers mimesis as a process rather than a product, an experiment in flux rather than an artistic prescription.

The study of realism begins as the identification of a historical movement, accounting for the turn to the mundane and everyday life in the arts partly as a reaction to the idealism of the Romantic period. Founding father of studies in the novel, Ian Watt, begins his work with a very brief and cursory history of realism, citing “the French school of Realists” (10) in 1835 to describe Rembrandt’s “verite humaine,” “as opposed to the “idealite poetique” of neo-classical painting” (10). The formation of this paradigm does not necessarily mark a singular and definitive origin of realism, but Watt, who, in literary studies, operates as the authority on the novel’s origin, chooses to orient his historical narrative in this way, finding the birth of a literary movement in an artistic one. Alison Byerly also identifies a rise in realism in the nineteenth century, which, she claims, “shows how highly the Victorians valued art’s mimetic capacity” (1). Critics such as Watt and Byerly frame realism as a time when artists were preoccupied with mimesis.

They weren’t wrong; one cannot discuss realism as an intellectual concept without also discussing mimesis. It is a point of origin for any study of realist literature, as evidenced by most introductory or survey texts in Victorian literature. Louis James’s edition of *The Victorian Novel*
says, “In the arts, ‘realism’ referred to…‘a description of facing up to things as they really are, not as we imagine or would like them to be”’ (29). The Victorian Novel, edited by Francis O’Gorman, observes that “Realism involved the scrupulous attention to detail of actual life, it resisted idealism, and appeared to have faith in the human capacity to know the material world as daily experienced” (98). One should note that while acknowledging mimesis’ crucial role in realism, O’Gorman hints at something more – realism “appeared to have faith” as opposed to actually having faith. In the late twentieth century, scholars began to question these appearances, wondering whether or not mimesis as an artistic practice thoroughly encapsulated realism’s prerogatives. J. Hillis Miller, for example, warns against “the sterile oscillations of the traditional paradigm of realism” (Byerly 160). With an interest in revitalizing the field, critics such as George Levine evolved their thinking beyond the “traditional paradigm.”

A new operating definition of realism has emerged in Victorian studies over the past three decades, one that figures realism as not an unproblematic literary mode but rather as a more volatile and nuanced intellectual project that sets out to investigate how reality and representations of that reality function. George Levine was one of the first to suggest that Victorians themselves were much more sophisticated than he would have expected: “Ironically, when I began this study it was to call Victorian realism into question, but as I proceeded I found the great Victorian realists to be immensely compatible” (4). Levine assumes that Victorians must have lacked a self-awareness about the mimesis they practiced, but, criticizing and correcting his own assumptions, he says, “We need to shift the balance in our appraisal of realism. It was not a solidly self-satisfied vision based in a misguided objectivity and faith in representation, but a highly self-conscious attempt to explore or create a new reality” (21-20). Attempting mimesis is certainly still very much a part of realism, but this new conception of it
characterizes the movement as a generative and volatile process rather than one exclusively pursuing naïve or unproblematic modes of representation. The point of realism is not just to imitate life through art, but rather to use the process of imitation as a way of self-consciously reflecting on that process.

**Victorian Publishing and a Literary Hierarchy**

One can trace any residual hierarchal tension between “classic” and “popular” fiction back to the period in which the works discussed in this study were written as well. The high cost of publishing in the nineteenth century produced what was called the “triple-decker” novel or the three-volume novel, “priced out of range of the average reader” (Brantlinger and Thesing 3). These novels were printed in well-fashioned hard cover editions and were published in three volumes of three hundred pages each to increase the profits of lending libraries such as Mudie’s Select Circulating Library. Cheaply made and much shorter novels or novellas emerged later in the century, and when they did they were thought of as inferior to the triple-decker novels.⁹

Matthew Arnold wrote that “A cheap literature, hideous and ignoble of aspect, like the tawdry novels which flare in the book-shelves of our railway stations, and which seem designed, as so much else that is produced for the use of our middle class seems designed, for people with a low standard of life, is not what is wanted” (254). Arnold argued that making books cheaper was not a good thing, but would in fact decrease the quality of content; he feared giving the lower classes access to literature and thought that a more socially equitable publishing industry would only demean and degrade the art of reading.

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⁹ “When original fiction appeared in this format, it was typically by minor authors. Like *Mysteries of London*, the yellowbacks bordered, at least in their cheapness, on the even more disreputable “penny dreadfuls” and “shilling shockers,” which were increasingly aimed at boy readers and which continued to be roundly condemned by those who worried about copycat crimes or the prospect that you become what you read” (Brantlinger and Thesing 5).
Taking cues from their Victorian predecessors, it is easy for contemporary critics to conceptualize the intellectual jurisdiction of triple-decker novels, such as George Eliot’s *Middlemarch*, and the cheaper shilling shockers like Robert Louis Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde*, as mutually exclusive, one making significant contributions to Victorian realism and the other providing literary entertainment to the masses in a way not previously possible. Once Mudie’s and other price-fixing lending libraries closed down due to a competitive effort by publishing companies, however, the popular fiction did become a mainstay in the literary world. Authors were given the opportunity to publish shorter, one-volume novels and have those novels taken more seriously than they would have been in a triple-decker Mudie’s world. This turning point in British publishing history produced the science fiction of H.G. Wells, the detective fiction of Arthur Conan Doyle, and the Gothic horror of Bram Stoker and Robert Louis Stevenson.\(^{10}\) There is no reason this newer form of novel could not have also contributed to a conversation on Victorian realism.

Acceptance of this new definition of Victorian realism implies a radical change to the way in which we think about genre in Victorian literature. Popular fiction that has historically never been considered as objectively representing reality becomes ripe for exploration. Caroline Levine has already begun this work in *The Serious Pleasures of Suspense: Victorian Realism and Narrative Doubt* with sensation fiction. She compellingly argues, for example, on behalf of Wilkie Collins, previously considered a sensation novel writer, as “an exemplary Victorian realist” (43). Levine constructs her argument by providing an exhaustive and detailed reading of

\(^{10}\) “One-volume novels, unmediated and unblest by Mudie’s, rapidly became standard after 1894. Shorter forms of fiction came to the fore, as in H.G. Wells’s science fiction and Arthur Conan Doyle’s Sherlock Holmes stories. With the renewal of Gothic romance in such works as Robert Louis Stevenson’s Dr. Jekyll and Mr. Hyde, Oscar Wilde’s Picture of Dorian Gray, and Bram Stoker’s Dracula, came as well, especially in the 1890s, versions of Zolaesque naturalism, as in George Moore’s Esther Waters and the novels of George Gissing, Thomas Hardy, and Arthur Morrison” (Brantlinger and Thesing 6).
Victorian critics like John Ruskin and Walter Pater that calls for a rereading of Gothic and sensation fiction as engaging realism without explicitly attempting mimesis. She claims, for example, that “Victorian writers and readers understood suspenseful narrative as a stimulus to active speculation….a rigorous political and epistemological training, a way of fostering energetic skepticism and uncertainty rather than closure and complacency” (2). A novel which relies heavily on suspense, despite being anti-realist in its content, forces readers to participate in the process of excavating reality.

Levine discusses novels by Bronte, Collins, Dickens, and Eliot, but one can carry her work even later into the nineteenth century and further into the popular realm with authors such as Wells, Doyle, Stevenson, and Stoker. Srdjan Smajic’s “Supernatural Realism,” published in Novel’s Spring 2009 issue, may be the most recent addition to this reconsideration and new conception of realism; he even goes so far as to name his first subheading, “realism reloaded” to make clear to readers that his work hopes to destabilize realism as a fictional mode, and avoid the “myopic” (1) view of previous scholars looking for a concrete definition. This project will take up Smajic’s invitation “to propose an improved, more flexible, and capacious definition of realism” (3) and carry on the work he begins with Silas Marner, Jane Eyre, and Waverly to include late Victorian authors.

Realism is as an unstable category – one that cannot have a singular prescriptive definition but rather needs a looser, more exploratory one that considers the “scientific supernatural” in late Victorian popular fiction. Just as Caroline Levine argues for suspense in sensation fiction as a realist device, I argue for the fusion of science and the supernatural in novels usually categorized as science fiction or horror as an implement of realism as well. Witnessing characters in novels use science to open one’s mind so that one can accept the
supernatural as real affords readers the same “rigorous epistemological training” that suspense
does.

This is not to say that considering realism and the fantastic equally is an entirely new
concept. Critical debates in studies in Victorian literature have been, for several decades now,
advocating for an expansion of the canon to include genres previously segregated from the
classic realist novel. The high brow/low brow divide has already been questioned and to a certain
extent broken, as evidenced by critical trends towards considering popular fiction in order to
construct a more nuanced conception of the Victorian novel as a genre\textsuperscript{11}. This discussion does
not, then, set out to simply reiterate that cry of outrage on behalf of the until recently less
regarded popular novel, but rather hopes to use that as a starting point in continuing to examine
how these popular genres, now that they've been invited to the table, add to critical conversations
on the novel, genre, narration, and realism.

**The Scientific Supernatural**

One can trace mad scientists back to medieval alchemists, whose chemical experiments
were often mistaken for witchcraft and sorcery (Schummer 102). This supernatural aspect of the
mad scientist persona proves crucial to an understanding of Victorian realism in late Victorian
popular fiction. The term “scientific supernatural,” crafted specifically for the purposes of this
discussion, refers to a usage of the supernatural not unique to but prevalent in Victorian fiction.
Popular fiction featuring mad scientists often presents supernatural phenomena in scientific
terms or scientific practice perceived by others as supernatural ability – time travel is the result
of a theory of the fourth dimension, invisibility is made possible by chemicals and optics rather
than magic spells or incantations, vampires have evolved in a Darwinian fashion, the “evil”

\textsuperscript{11} See, for example, Fantina and Harrison, eds.; Ferguson; and O’Gorman.
inside every man can be physiologically separated with a drug, and monstrous hounds are revealed to be phosphorous-laden dogs while deductive reasoning seems like mindreading. This coexistence and codependence of scientific and supernatural discourses in a narrative is what I will call the “scientific supernatural,” a tradition that continues through the twentieth century to the present.

**Contemporary Adaptations and Victorian Realism**

Contemporary adaptations, especially in their departures from the novels that inspire them, allow readers of the novels to see more clearly how a distinctly Victorian interest in realism permeates the novels and how films subsequently downplay or eliminate it altogether. As Julie Sanders writes in *Adaptation and Appropriation*, “Adaptation is frequently involved in offering commentary on a source text,” enacting an “editorial practice” (18). In this sense we can treat film adaptations, as I believe I do here, as pieces of literary criticism in their own right.

One aim of this study is to demonstrate the value in coupling a comparison of novels and their adaptations with the historical context I provide about Victorian attitudes towards science and the supernatural, ultimately adding to our understanding of contemporary culture. In the past decade there has been a major resurgence of “popular genres,” such as science fiction, fantasy, and horror in mainstream culture globally. As mentioned previously, a series of multi-billion dollar entertainment franchises have sprung up as a result. All of them center on a film adaptation of a novel or series of novels, with Peter Jackson’s adaptation of J.R.R. Tolkien’s *The Lord of the Rings* trilogy being the most influential and perhaps the initiator of a renewed interest in popular genre fiction.

Film as a technology was invented, developed, and popularized for the first time during the fin de siècle, making the form historically relevant to late Victorian popular fiction. The
experimentation with the process of representing material reality that was prevalent in literary
realism concurrently sparked interest in early film and photography because for the first time
Victorians had a new way to capture that material reality. Though anachronistic, film theory,
such as Eisenstein’s intellectual montage and Deleuze’s time-image, often perfectly describes the
illusion/reality/fiction/documentary tensions with which early filmmakers were experimenting.

The stereotypical image of the mad scientist has been heavily cultivated by film,
especially in the horror genre, a pop culture phenomenon which accounts for the significant
amount of time and energy devoted to film adaptations of the novels discussed here. There are
more film adaptations of some of these mad scientist narratives than any other fiction adapted to
film; Dracula and Sherlock Holmes in particular carry the honor of most frequently adapted
fictional characters in film history (Leitch 207). Why do mad scientists suit the cinema so well?
The scientific supernatural lends itself to the horror film genre, where the manipulations of
image and sound can so easily confront and haunt a spectator. But it is the unique ability of film
form in general to manipulate illusions and literally create new realities, new and artificial
segments of time and space that makes film extremely relevant to any discussion of mad
scientists and Victorian realism.

Considering the supernatural in Victorian fiction and the process of film adaptation
together allows for a better understanding of current trends and an awareness of their origins. It
is not enough to say that vampires were enormously popular then and they are again now, but
rather critics must bridge centuries in order to understand why body snatchers, time travel,
invisibility, vampires, monsters, and eccentric detectives capture the popular imagination and
what a fascination with them says about our own cultural values. This study can hopefully serve
as a stepping-stone in that process.
Chapter Descriptions

This study begins with George Eliot’s *Middlemarch* because showing that a classic, if not *the* classic Victorian realist novel features a scientist, Dr. Lydgate, who shares qualities, albeit not as extreme, with the mad scientists of late Victorian popular fiction makes a stronger case for the popular novels as a part of the same Victorian realist tradition. Chapter one examines Dr. Lydgate’s attitudes towards his own work as both a practicing physician and a scientific researcher as well as the Gothic characterization of his use of cadavers and studies in anatomy in order to frame him as a proto-mad scientist.

Chapter two demonstrates how H.G. Wells investigates basic assumptions about time and space through mad scientists whose experiments take on those very constructs. In *The Time Machine*, the Time Traveller introduces a theory of the fourth dimension, and explains that time travel only seems impossible to humans because the human consciousness is limited to three dimensions, providing a partial or skewed representation of reality. Wells questions human perceptions of space in *The Invisible Man* when Griffin becomes invisible and upsets the assumption that only that which is visible exists. Both these mad scientists show readers that what we see and experience is not necessarily all there is. We also see Wells making a more explicit connection between his mad scientists’ experiments and his own literary experiments, as *The Time Machine* utilizes a meta-fictive narrative frame that allows readers to easily consider the subjectivity of literary narration along with the subjectivity of visual perception.

The novels examined in chapter three confront the realist implications of the supernatural itself more directly, making the question of whether or not ghosts, vampires, or demons exist a primary narrative conflict. In Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde* and Stoker’s *Dracula* one can see how encounters with the supernatural challenge the human senses
and preconceived notions about where reality begins and ends. In these texts we see mad scientists not only use science to substantiate the supernatural, but also explicitly and proactively persuade other characters of a broader reality than they had originally conceived.

Whether or not these authors actually expected their readers to believe in vampires does not affect the realist implications of their narratives and therefore is not up for debate here. Rather, these authors have carefully positioned the reader somewhere in between the mad scientist and the “common view” so that he or she may benefit from the conflict between the two and learn an epistemological lesson. Usually the reader can identify with a “rational man” character who, like the reader, begins with the common, unenlightened view and over time puzzles out realist problems when confronted with the mad scientist’s radical, reality-breaking ideas. The transformative experience of characters like Filby or the narrator from *The Time Machine*, Kemp from *The Invisible Man*, Dr. Seward from *Dracula*, Mr. Utterson from *Dr. Jekyll and Mr. Hyde*, and Dr. Watson from the Sherlock Holmes series provide a model for readers to follow so that they may also keep an open mind when processing the feedback provided by their senses.

The interrogation of visual perception and its reliability reappears in chapter four, which demonstrates how Sherlock Holmes exercises his powers of observation to show that the normal human eye is weak and cannot reconstruct a past reality – a crime scene – on its own. Doyle shows through Holmes that observations do not have singular, fixed meanings, but rather vary depending on any given interpretation of them. Only when the observer has the ability to seriously consider all possibilities, all interpretations, no matter how implausible or unrealistic, can he or she successfully represent the material world. The scientific supernatural is also in full force here, albeit in the reverse direction. Doyle’s narration strongly suggests and sustains a
supernatural account of events until Holmes reveals a “rational” explanation at the end, allowing for the two discourses to coexist. Like the mad scientists before him, Holmes encourages readers to consider a more imaginative approach to scientific analysis.

Where is Dr. Frankenstein?

One might wonder why a study such as this does not begin with Mary Shelley’s *Frankenstein; or The Modern Prometheus*. Dr. Victor Frankenstein is certainly a mad scientist; critics who discuss the origins of the mad scientist in literature and film, in fact, often begin with him. Published much earlier than the texts I discuss in 1818, *Frankenstein* serves as the prologue to chapters found here, an early point on the continuum of the modern mad scientist’s cultural history. After Dr. Frankenstein, no other mad scientist figures appear until the Victorian period, and this reemergence of the figure in the latter half of the nineteenth century, leading up to the modern period, merits an exclusive study.

Furthermore, Shelley’s novel follows the Romantic tradition of Gothic horror, depicting, for example, exotically desolate landscapes abroad, rather than the domestic locales of late Victorian popular fiction. Her work bears little on the kind of Victorian realism discussed here. Shelley’s concern, and the concern of criticism about *Frankenstein*, focuses more on the monster figure and the cultural anxiety that monster represents than on the experiment that created that monster. She does not explicitly discuss the relationship between the apparently real to the apparently unreal in the way that Wells, Stoker, Stevenson, and Doyle do, making her an ancillary author.

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12 See Touney 417; Skal 33; Monahan 1; and Goodrich 71.
Chapter One: Dr. Lydgate, Bodysnatching, and the Proto-Mad Scientist in George Eliot’s *Middlemarch* (1871-1872)

George Eliot’s *Middlemarch* is the first Victorian novel to ruminate on science as a discipline, as a profession, and as a way of life that challenges or conflicts with the status quo and convention itself. Tertius Lydgate, the preoccupied doctor and rumored body snatcher of the novel, is a prototype for the fictional scientists that appear in popular fiction in the 1890s. Through the ambivalent attitude that Middlemarch’s people harbor towards him, the novel carries strains of genres not traditionally associated with the “classic realist novel” or even the “classic English novel,” both of which are titles *Middlemarch* has earned in its critical history. With frequent references to the macabre nature of anatomical experimentation, Eliot’s novel has a subtle undercurrent of the Gothic, horror, and perhaps even science fiction in the broadest conception of the term.

*Middlemarch* contains within it several genres, shifting fluidly between them all to create the sprawling, multi-layered text that literary critics discuss as the quintessential realist novel. M.M. Bakhtin observes in “Epic and the Novel” that the novel as a form is defined by its ability to amalgamate other genres, modes, and discourses. The genres included in *Middlemarch* fall onto a continuum ranging from forms of realism varying from Eliot’s own brand, like the social realism of Mr. Brooke’s tenants, to genres that are not realist at all, such as Lydgate’s study of anatomy given Gothic, horror, or science fiction overtones by other Middlemarchers. In addition to the social realism of Mr. Brooke’s disenfranchised tenants, Eliot’s frequent discussion of financial hardship and social reforms evokes the social condition or social problem novels by Dickens or Gaskell. Many moments, such those surrounding Mr. Brooke and his political career, diverge from the marriage plots of Dorothea, Casaubon, Ladislaw, Lydgate, and Rosamond and often, through the voices of the third person narrator or characters conversing with one another,
evoke the political or socioeconomic essay. Two melodramatic scenes adopt the narrative style of the sensation novel and give the reader chills that only the uncanny can deliver – Featherstone’s death the morning after Mary Garth refuses his violent requests to destroy one of his wills and Casaubon’s death unexpectedly occurring before Dorothea can reply to his request to follow his wishes after his death without knowing what those wishes are. And finally, the novel consists of a myriad of scenes that can only be described as romance. This array of genres within one novel exhibits Eliot’s awareness of and willingness to experiment with modes of representation, an experiment that continues on for the remainder of the century. In the novels to be discussed in the chapters ahead, one can see the hybridity or mixing of genres continuing with scientific discourses bound to supernatural discourses.

The connection between the science and literary realism of the nineteenth century is not a difficult one to make. Both traditions esteem observation as a crucial aspect of their methodology and value creativity, innovation, and experimentation. In *The Principles of Success in Literature*, published in 1865, Lewes notes that scientists and novelists both require observation and imagination.¹³ Both “the discoverer and the poet are inventors” (67) due to a shared observational acuity: “their mental vision detects the unapparent, unsuspected facts, almost as vividly as ocular vision rests on the apparent and familiar” (67). The frequent mentions of mental and ocular “vision” in his texts indicates a kinship between science and literature through sight or observation. The best scientists can see what no one else can see and so too can the best authors.

The pairing of *imagination* with observation also informs an understanding of commonalities between Victorian science and literature. While Lewes acknowledges that most

¹³ See Postlethwaite 108.
scientists would be offended if one were to ascribe the word “imaginative” to them, these men, according to Lewes, are “the cisterns, not the fountains, of Science. They rely upon knowledge already organized...they are not investigators, but imitators; they are not discoverers” (65-66).

Any man may practice science, running routine experiments and acquiring “knowledge already organized,” but a scientist willing to imagine experiments never before conducted and create new knowledge that has not yet been organized is the only one deserving of the title. This profile describes several fictional scientists of the nineteenth century, many of whom will be discussed here and in chapters to come.

Eliot and Lewes formed an intellectual relationship that would directly impact the representation of science in *Middlemarch*. Lewes was the poet in science and she the scientific poet. As the “scientific poet,” Eliot demonstrates an empirical knack for observation and interest in using her imagination to concoct original experiments, just as a scientist would. *Middlemarch*, or the “study of provincial life,” especially evokes a sociological study or experiment. Sally Shuttleworth sees Eliot becoming increasingly tied to an experimental as opposed to a static, classificatory science over the course of her career. *Adam Bede*, according to Shuttleworth, has a static, harmonious, social order sustained by a particular view of natural history, one that sees classification as the end goal of the scientific process. *Middlemarch*, by contrast, has “a more questioning social vision” that is messy and unpredictable, necessitating a more “experimental science”:

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14 See Postlethwaite: “There was a fundamental intellectual affinity between their endeavors: Lewes aspired to be a “poet in science”; Eliot, to be a “scientific poet.” Reading George Eliot’s fiction alongside George Henry Lewes’s scientific writings reveals the complementary concerns of “poet” and “scientist”... “Scientist and novelist employ both observation (the “seen”) and imagination (that creative energy which both devises the necessary “experiments” before the fact, and draws out their theoretical implications afterward). Both novelist and scientist delineate relationships, exploring ways in which those relationships alter when a “new qualifying agent” is introduced. Observation and imagination, order and change: these dynamic, interactive polarities animate all of George Eliot’s fiction” (107-108).
*Middlemarch* is a work of experimental science: an examination of the “history of man” under the “varying experiments of Time” (Prelude, I, 1)…George Eliot turns instead to the more dynamic methodology of experimental biology, a stance which receives paradigmatic expression in the novel in the research of Lydgate. *Middlemarch* is the first novel in which science is treated as an explicit theme, and in the long discussions of Lydgate’s methods and beliefs one can discern George Eliot’s reflections on her own assumptions and procedures. (143)

Lydgate represents, according to Shuttleworth, Eliot’s “own assumptions and procedures”; just as Eliot experiments and innovates in her writing, on a quest to place humanity under a microscope, so too does Lydgate hope to uncover the “hidden structures of the human body” (Logan 198), through his dissections of human cadavers at the new hospital set up by Bulstrode or through experiments on tissue samples in his own home. Eliot specifically characterizes his experimental endeavors as new, modern, inventive, and controversial. Lydgate anchors the “explicit theme” of science for Eliot, but it is his mad, “poet-scientist” persona that allows Eliot to parallel the investigations of the Victorian scientific community with her own literary experiments.

The most direct reflection of Lewes’s influence on *Middlemarch* appears in Lydgate’s “The Physical Basis of Mind,” which was a subtitle used in Lewes’s *Problems of Life and Mind* (Postlethwaite 114). Seeing as Lewes’s work is Lydgate’s work, one can think of Lydgate as a representation of Lewes, serving as a model for a more innovative and less restrained scientific practice. Out of the three academics in the novel, Lydgate is the only conceivable poet in science. He is the only one who engages in anything new or introduces a “new qualifying agent,” and he is the only explorer of unchartered territory within his field.
This focus on the creation of new knowledge and the process of knowledge formation directly relates to Eliot’s realist project, testing the human ability to know and represent the world around us. Through Lydgate and the novel’s scientific theme, Eliot gets her readers to wonder about epistemology – what we do not know and how we then try to know it. As Caroline Levine writes,

To illustrate the absorbing nature of narrative, George Eliot invokes the scientific experiment. And as in Ruskin, what excites our interest is the knowledge that we do not know. As Eliot makes clear, scientific experimentation provokes a stimulating narrative curiosity: the enforce pause, the stirring up of unsettling doubts, the anticipation of “pleasant shocks,” the lurking possibility of surprise. But even more disquieting, the suspense of the experiment also implies a relationship between mind and world that is crucial to a new and skeptical realist epistemology. The scientist imagines a hypothesis about the world and sets it up to be tested against the facts of that world. (9-10)

Levine draws attention to narrative suspense here by paralleling the scientific experiment and the narrative of a novel. With both intellectual activities exciting audiences with “knowledge that we do not know” yet, one can see that the curiosity and pleasure of a narrative and the curiosity of an experiment are one and the same. It is the “relationship between mind and world” that both narrative experiments and scientific experiments tests, however, reminding us that novelists do not engage readers based on that which they do not know only to entertain them. They also force them to think about the process of relating itself and how the relationship between mind and world, between perception and material reality, forms.
George Eliot has been at the center of an ever-evolving discussion on Victorian realism for decades now, with *Middlemarch* being her primary text in those discussions. From J. Hillis Miller in the 1970s who calls *Middlemarch* an “enterprise in totalization” and “perhaps the masterwork of Victorian realism” (Lodge 46) to George Levine in the 1990s and beyond, assessments of Eliot’s work throughout its critical history often fluctuate. Some critics say that she is the classic example of Victorian realism, comprehensively attaining truth, whereas others say her work earnestly attempts to capture reality and as a byproduct demonstrates how difficult that process is, and others still claim she always had always had the primary objective of showing how impossible it is to make artistic representations identical to reality.

The self-consciousness that critics in the second and third camps identify as indispensible for realists best manifests itself in the often-cited pier glass parable in chapter twenty-seven of *Middlemarch*. In criticizing Rosamond Vincy’s self-centered worldview, Eliot’s narrator says,

> An eminent philosopher among my friends, who can dignify even your ugly furniture by lifting it into the serene light of science, has shown me this pregnant little fact. Your pier-glass or extensive surface of polished steel made to be rubbed by a housemaid, will be minutely and multitudinously scratched in all directions; but place now against it a lighted candle as a centre of illumination and lo! the scratches will seem to arrange themselves in a fine series of concentric circles round that little sun. It is demonstrable that the scratches are going everywhere impartially and it is only your candle which

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15 As David Lodge says, the text has achieved the status of no other novel: “*Middlemarch* has achieved a unique status as both paradigm and paragon in discussion of the novel as a literary form. If a teacher wishes to cite a representative example of the nineteenth-century English novel at its best, the chances are that it will be *Middlemarch*” (45).

16 Critics as early as 1968 start to question Eliot’s artistic goals debating whether or not she sought to practice realism in her novel writing or if she used realism as a way to explore the limitations of an artist’s representation of a material reality, acknowledging that realism in of itself was an elusive ideal. Knoepflmacher, for example, writes, “Instead of faithfully copying the circumstances of external life, George Eliot arranged reality to make it substantiate her moral values” (1). He implies that Eliot knowingly manipulated, molded, and created a new reality rather than imitating or recording one.
produces the flattering illusion of a concentric arrangement, its light falling with an exclusive optical selection” (232).

Through her description of how candlelight and scratches on glass or polished steel interact, Eliot shows that human perception will always interpret material reality and that science, regardless of how objective it may be, cannot prevent this obstruction. She calls this phenomenon a “pregnant little fact” in order to emphasize how difficult it is to be conscious of our own perception’s limitations. When light falls on the glass, the scratches must always align themselves according to scientific principles and natural laws, but the way in which the human eye perceives such a scientific phenomenon at work cannot escape subjective perception. The way in which light behaves and interacts with the scratches is scientific and objective, but the way in which the seer views those scratches is constantly in flux as a result; therefore science can actually facilitate visual confusion, making the visual representation of an object misleading or apparently occult.

According to the metaphor’s formulation, there is in fact a concrete, definite reality in existence – the scratches, which “are going everywhere impartially.” It is the light one shines on the scratches in order to see them that is not impartial and changes their appearance and produces a “flattering illusion.” From the point of view of the seer who does not realize that a visual representation of something may not coincide with its material reality, the concentric circles are the scratches. In this passage, Eliot explains what Jakob Lothe calls “the necessity of seeing and the unavoidable limitations of seeing” (178). Like the candlelight, any means by which we try to see something, to know it, will be the very thing that obscures our access to a material reality.

Most importantly, Eliot frames scientists as part of the select few who see “the unavoidable limitations of seeing.” She says that she learned the “pregnant little fact” from “an
eminent philosopher” who uses “the serene light of science.” By crediting her realization of the limitations of seeing to her scientist friend, Eliot implies that science allows us to understand the optical illusions and misreadings of material reality better. The fact that she uses the word “light” to describe science, however, gives one pause. If the candlelight produces an illusion and science is also a light, then how might science also change the way in which we see the material reality before us?

One such serene light of science to which Eliot might refer is positivism, a prevailing doctrine among nineteenth century philosophers and, as some critics claim, a major influence on Eliot.\textsuperscript{17} While positivists wanted to develop a “human understanding of the natural laws that rule the world” (Sparks 24), they did not question a human understanding of reality.\textsuperscript{18} Comte firmly believes that the world can be known and that knowledge formed by the scientific method is concrete and completely reliable. The essence of positivism revolves around the notion that the experience of the senses must be the basis of all knowledge and that rational and accurate knowledge of the world is possible. Suzy Anger, for example, writes, “In his major work, the \textit{Cours de philosophie positive} (1830-42), he [Comte] argues that accurate and objective knowledge within the empirical sphere is entirely possible, both about the physical world and about human behavior, but that we can know nothing about metaphysical issues, those questions that cannot be answered with the evidence of the senses” (78). For Comte, as long as one

\textsuperscript{17} See Dale: “No religious belief, no form of metaphysics, no social philosophy so powerfully affected the thought of educated men and women as this new religion of science” (11); and Anger 78.

\textsuperscript{18} See Sparks; and Shuttleworth. Sparks breaks positivism down as follows: “The first stage is Theological and employs supernatural beliefs as its mode of explanation; the second, the Metaphysical stage, relies on an abstract but incomplete epistemology, and the third, the Positive stage, indicates human understanding of the natural laws that rule the world” (24). In positivism, one can see a disciplinary crossover not unlike what one sees in the scientist-poet to which Lewes alludes. Applying the scientific method and eighteenth century empiricism to human behavior, positivism takes, a “social doctrine” as its “aim” and a “scientific doctrine” as its “means” (Shuttleworth 5).
operates in the “empirical sphere” and applies empiricism properly to acquire “evidence of the senses,” he or she can gain “accurate and objective knowledge.”

Eliot’s work in *Middlemarch* shows that this is not the case. Comte’s faith in objective knowledge does not leave room for a reader of Eliot to learn from the discrepancy between reality and a representation of that reality or to learn to question humanity’s epistemological methods altogether. In *Middlemarch* there is plenty of doubt, exploration, and investigation of these very issues. Like the critics who challenge the notion that Eliot was naively performing realism as if it could capture reality and know it completely, I argue that she conducts a positivist-like experiment throughout the novel, systematically collecting scenes, stories, and characters, but the results of this data collection are inconclusive and throw into question the very tenets of positivism. Eliot sketches the lives of so many characters in order to find social patterns in their behaviors and choices, but in the process she leads the reader to question whether or not data from the senses is reliable. This unreliable data may come in the form of an artistic representation like the portrait of Casaubon’s aunt Julia that Eliot describes as changing when Dorothea looks upon it – “the colours deepened, the lips and chin seemed to get larger, the hair and eyes seemed to be sending out light” (240) – or it may take the form of a scientific theory such as Lydgate’s universal tissue hypothesis. Readers should realize that Eliot’s exhaustively detailed representation, her “study of provincial life,” is inevitably partial and subjective, and that she demonstrates an awareness of this in her work. At the novel’s close,

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19 In addition to positivism, Eliot also drew from phrenology (sometimes called cranioscopy), particularly George Combe’s *The Constitution of Man*, published in 1835. Postlethwaite says that “Phrenology, like positivism, is a perfect example of a would-be key to all mythologies, a hubristic Victorian synthesis on a par with the work of a theorizer” like Tertius Lydgate (I note that Lydgate’s “universal tissue” is no more scientifically correct – and no less theoretically ambitious – than phrenology’s “cranioscopy”)” (105). In the same way Lydgate hopes to discover the hidden structure of human organs, phrenology focuses on the brain as an organ, with different parts controlling different aspects of personality. Phrenology used skull measurements and the analysis of bumps on the surface of the skull as data.
readers must contemplate whether or not her collection of data, her “insects ranged in fine gradation, with names subscribed in exquisite writing” (162) or her examination of tissue samples have amounted to a solid, all-encompassing theory. The final passages of the novel suggest that there was no theory to be had all along, commenting that “there is no creature whose inward being is so strong that it is not greatly determined by what lies outside it” (640) and that “the growing good of the world is partly dependent on unhistoric acts” and those “who lived faithfully a hidden life” (640). Eliot notes that all organisms in the world, no matter how notable or mundane, affect each other so intricately and subtly that no one theory can account for them all.

Lydgate as George Lewes’s “Poet-Scientist” and Science as the New Profession

In *Middlemarch*, Eliot offers her reader three scientists in order to represent two approaches to science – classification and experimentation. Edward Casaubon, the academic theologian, and Camden Farebrother, a vicar by day and naturalist by night, are collectors and classifiers while Tertius Lydgate, a research physician, tries to create new knowledge by conducting experiments. Lydgate’s research distinguishes him as a comparatively mad scientist among the other scholarly characters in the novel. More importantly, the other characters in the novel distinguish his scholarly pursuits and his medical practice as alarmingly unusual compared to his professional peers.

Farebrother operates as the most stale scientist because he observes and catalogues flora and fauna exhaustively but never expresses any desire to synthesize the data he has collected to theorize the natural world in any way. Not unlike Casaubon, who catalogues world religions, Farebrother delights in collecting specimens, but the collection is an end in of itself. After an “exhaustive study of the entomology of this district,” he can only say that “We are singularly
rich in orthoptera” (Eliot 160), an order of insects. Diana Postlethwaite notes that Eliot’s novel includes “both the gentlemanly, old fashioned “natural history” of a Farebrother and the theoretical, professionalized “natural science” of a Lydgate” (99). Farebrother’s primary purpose in the novel is to heighten Lydgate’s experimental science by contrast.

While both Lydgate and Casaubon strive to find a unifying theory for their respective academic disciplines, biology and theology – Lydgate hopes to discover his universal or “primitive tissue” (Eliot 370) and Casaubon researches mythology and theology to devise a “Key to all Mythologies” – the way in which they approach their quests for such a theory differ. As Ladislaw suggests to Dorothea, Casaubon only researches information that other scholars have already covered. Casaubon convinces himself that the act of diligently and methodically collecting as many myths and stories from all cultures and religions will allow him to find the key to all of them. Unlike Lydgate, he has no plans to synthesize this knowledge and theorize. Dorothea pressures Casaubon to publish his findings in a book, and he time and time again rebuffs her. She says, “All those rows of volumes – will you not now do what you used to speak of? – will you not make up your mind what part of them you will use, and begin to write the book which will make your vast knowledge useful to the world?” (185). Casaubon’s negative reaction to this line of questioning indicates that he has not thought of ways he might make his collected data useful, consumed and stagnated by the process of data collection itself.

In contrast to Farebrother and Casaubon, Eliot never describes Lydgate as a systematic collector. Instead he has a disorganized apparatus set up in his house for his tissue samples and no system by which to work his way through them. The narrator always remains vague in describing what Lydgate examines, when, and why. For example, the narrator says, “And he counted on quiet intervals to be watchfully seized, for taking up the threads of investigation – on
many hints to be won from diligent application, not only of the scalpel, but of the microscope, which research had begun to use again with new enthusiasm of reliance” (Eliot 143). The fact that Lydgate must have faith and “count[ed] on quiet intervals to be watchfully seized” implies that he has no explicit plan, no trajectory for his studies but will continue to look at tissue samples until he finds whatever he is looking for. The “investigation” can only be described as having many “threads,” which Lydgate will take up seemingly at random.

Based on her representations of these characters, a reader can infer that Eliot values experimental over classificatory science.\(^{20}\) When a reader sees Casaubon drown in his own work, for example, he or she learns that even a lifetime of data collected does not necessarily deliver a grasp on the world. Lydgate is a different kind of knowledge-generator – more imaginative, less certain, and willing to try methods totally alien to others. While he never actually achieves his experimental goals, like Casaubon, any of Lydgate’s failures can be explained by, unlike Casaubon’s failures, the social expectations that conflict with his experimental methods. His marriage to Rosamond and the scandalized members of the Middlemarch community constantly oppose his efforts, showing that a bordering mad professional scientist in a supposedly sane world is not in a position to succeed.

Through the gossiping mouths of his neighbors and family, Lydgate earns his controversial reputation as an unorthodox doctor whose research with cadavers disturbs a large portion of Middlemarch residents. He is such an unusual doctor precisely because he is a scientist; in addition to making house calls and treating patients in a hospital he conducts experiments and studies human anatomy so that he might learn more about medical afflictions. Older members of the community find his methods and beliefs highly unusual and disgusting;

\(^{20}\) Much has been written on Eliot and science, and much of these inferences have already been made. See Shuttleworth 143; Postlethwaite 100-105; Dolin 190-215; and Beer 152-153.
some even refuse to be treated by him. It is no coincidence that the hospital Bulstrode sets up for him is called the New Hospital; Eliot emphasizes Lydgate and the profession associated with him as new, unfamiliar, and not readily accepted by others. The other doctors in town disapprove of him (partly because they are threatened by him) and several older members of the community see his medical practice as scandalous, even criminal. The narrator describes, for example, a situation in which a benefit club must vote to elect either a Dr. Gambit or Lydgate, and even though some tout Lydgate as “capable of performing the most astonishing cures, and rescuing people altogether given up by other practitioners,” he does not win because “two members, who for some private reasons held that this power of resuscitating persons as good as dead was an equivocal recommendation, and might interfere with providential favors” (Eliot 360). This pejorative view of Lydgate’s skills, which people see as perverting the natural order and defying a “providential” authority rather than saving lives, soon spreads throughout the town.

In Victorian culture there was not a single kind of practitioner called “the scientist,” and in the time and place of the novel, Lydgate would not have been easily acknowledged as one. Eliot’s representation of Middlemarch’s repulsion to Lydgate and his new-fangled ideas reflects Victorian culture’s attitude towards the practitioners that would later be named scientists, so new to Victorian culture that they were treated as disreputable and perhaps even mad. Victorious primarily practiced scientific inquiry as a hobby, and practicing science for money was seen as

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21 See Yeo 110-111. The term naturalist was predominantly used to refer to anyone who studied science until William Whewell coins the term “scientist” in 1834. One can assume that both terms were used with a blurry if any distinction as Whewell’s term stuck over time. While Eliot, writing in the 1870s, would have been more familiar with the term, her characters in Middlemarch, living in the 1830s, would not. Whewell wrote a review of Mary Somerville’s “On the connexion of the physical sciences” for the Quarterly Review in 1834. Somerville’s book aimed to popularize science or present science to a wider audience, and in response Whewell’s review contemplated generally how various branches of science should be viewed in relation to one another. See also Postlethwaite 99. She mentions a conflicting year for Whewell’s invocation of the term – 1840.

22 See Meadows ch. 1; and DeYoung 6-14.
tacky.\textsuperscript{23} Thus, the scientist did not enjoy a privileged place in Victorian society. In fact, the popular appeal of science, through scientific societies and public lecture circuits, arose in opposition to science’s lack of recognition from institutions such as the government and universities.\textsuperscript{24}

Lydgate’s own wife, Rosamond, admits to being ashamed of his chosen profession. The narrator describes Rosamond’s distaste for Lydgate’s “professional and scientific ambition,” likening it to “an ill-smelling oil” (Eliot 464), and Rosamond also explicitly says she does not think highly of what her husband does. In one of the many scenes that show strife between the newlyweds, Rosamond says she wishes Lydgate had not been a medical man. When Lydgate asks if she had wished she’d married another man, she says, “‘Not at all; you are clever enough for anything: you might easily have been something else. And your cousins at Quallingham all think that you have sunk below them in your choice of a profession’” (372). Rosamond in part marries Lydgate because of his “very high connections” (255), and this statement by her emphasizes the fact that Lydgate himself, because he is a doctor and a scientist, is not a high connection, but rather has “sunk below” the family he was born into. The subtext of Rosamond’s words is her hope to climb the social ladder out of Middlemarch, and in her mind Lydgate’s lowly profession stands in her way.

Eliot features Lydgate as a new, renegade, and socially disadvantaged professional amongst a group of less experimental intellectuals in order for readers to see her novel itself as an experiment. Lydgate could easily choose to perform a more commonplace job – a household physician – but instead elects to research and unearth new knowledge in his field, which is

\textsuperscript{23} See Yanni 2 or introduction generally; and Dale. The status of science as a hobby gives rise to the stereotypical image circulating in twentieth and twenty-first century popular culture of the amateur Victorian scientist or naturalist (see footnote 21) with a butterfly net, which appears, not surprisingly, in the depiction of Reverend Farebrother, the clergyman who would rather be a naturalist, in the BBC miniseries adaptation of \textit{Middlemarch}.

\textsuperscript{24} See Haynes 104-105; Gates 179 in Lightman; and Willis 208 in Clifford, Wadge, Warwick, and Willis.
neither the more popular nor the more profitable choice. Eliot’s emphasis on Lydgate’s experiments and her representation of him as unorthodox distinguishes him as not just a doctor and not just a scientist, but as what her partner George Henry Lewes calls an imaginative “poet-scientist” who aids her in her own science experiment in literary realism.

**Lydgate as Proto-Mad Scientist, *Middlemarch* as Gothic Horror**

In English literary history, Lydgate, in being a “poet-scientist,” serves as the prototype for mad scientists featured in popular fiction of the late nineteenth century. Eliot never actually uses the moniker “mad scientist” to describe Lydgate and he is not often viewed by critics as a mad scientist. Based on the way many characters in *Middlemarch* treat him, however, I would argue that the controversial doctor serves the same narrative function for Eliot as actualized mad scientists do for their respective authors; they face the same social and epistemological dilemmas. In the context of all the other mad scientists collected throughout this study, Lydgate is a prototype because he is a character who carries the same essential qualities of the mad scientist, but only in partial formation.

Lydgate’s experimental and unconventional approach to medicine, the associations Eliot makes in the text between him and the criminally grotesque and supernatural, and his intense preoccupation with work at the expense of others provoke a negative and fearful response from other characters. Using free indirect discourse, Eliot vocalizes the community’s reaction to Lydgate – their judgments and concerns – giving the reader an impression that within the relative context of the novel and as defined by this discussion’s analytical parameters, Lydgate fits the mad scientist profile. Eliot as the novel’s narrator never characterizes Lydgate as mad, but rather presents other characters’ perception of Lydgate as mad in order to throw into question the faith that Middlemarchers (and perhaps Victorians at large) place in preconceived notions about not
only what is proper but what is possible. The characters who treat Lydgate with condescension, fear, and superstition do so because they cannot fathom a reality in which his experiments are productive and valuable to Victorian society. This use of Lydgate as a proto-mad scientist figure also allows Eliot to incorporate the Gothic, horror, or science fiction genres into her novel, thus furthering her realist experiment.25

As previously discussed in this study’s introduction, the only competition for the role of proto-mad scientist or the first mad scientist is Shelley’s Victor Frankenstein, but one can set Frankenstein aside for several reasons. Lydgate is the first scientist with a practice perceived as unorthodox who is a fairly average gentleman one might meet in a fairly average England, contrasting Romanticist Shelley’s Dr. Frankenstein who begins in continental Europe and briefly travels to England. The late Victorian mad scientists have more in common with Lydgate than with Frankenstein because they, like Lydgate, enable their authors to interrogate human notions of the real and unreal.

One of the reasons Lydgate is a prototype as opposed to a type is that he occupies a contradictory position in Middlemarch, one that both commands respect (unlike fully-fledged mad scientists) and causes alarm. On the one hand many critics, such as Tabitha Sparks and Jo McMurty, refer to him as a “doctor hero,” a character everyone loves and admires; upon arriving at Middlemarch, he catches the favor of several key members of the community – Bulstrode, Rosamond, Farebrother, and the Brookes, almost effortlessly.26 On the other hand, he causes a disturbance in Middlemarch, sparking substantial negative gossip and ruffling the feathers of those, especially medical practitioners, who were quite content with the status quo. Lydgate earns the respect of Middlemarch residents by having elite familial connections and a

25 See the discussion on multiple genres in Middlemarch on pages 28-29 of this chapter.
26 See Sparks 43; and McMurty 139.
gentleman’s education in Paris yet still generates comparisons with Newgate-esque criminals Burke and Hare. This tension between his good and bad reputations marks Lydgate as the first in a series of “doctor heroes” who operate as both a protagonist and as a dramatically flawed character with whom the reader cannot identify.

There are several scenes in Middlemarch devoted to discussing Lydgate’s “new-fangled” ideas and unorthodox practices. These scenes mostly involve a small group of Middlemarch residents gossiping with one another behind Lydgate’s back. For example, at a dinner party, Mr. Brooke says, “Lydgate has lots of ideas, quite new, about ventilation and diet, that sort of thing…I, for my part, hail the advent of Mr. Lydgate. I hope to find good reason for confiding the new hospital to his management” (Eliot 100). Not everyone agrees with his endorsement, though: “That is all very fine,” replied Mr. Standish, who was not fond of Mr. Bulstrode; “if you like him to try experiments on your hospital patients, and kill a few people for charity I have no objection. But I am not going to hand money out of my purse to have experiments tried on me. I like treatment that has been tested a little” (100). According to Mr. Standish, the priorities of Lydgate’s potential patients differ significantly from the priorities of Lydgate and the other characters in favor of reform, such as Bulstrode and Mr. Brooke. Like Mr. Standish, Lydgate’s patients do not want to take any risk for the sake of scientific discovery; they do not see the personal benefit of experimentation or fail to understand that in order to get “treatment that has been tested a little” someone needs to volunteer to be tested on.

Here we see the problem with professional science that gradually resolved itself over the course of the nineteenth century, largely thanks to doctor-scientists like Lydgate. Scientific experimentation and research cannot be classified as goods or services, like a country medical practitioner’s would be. According to Mr. Standish, experiments, the result of which are
unknown, do not merit “money out of my purse” because they are not a reliable service with a standard to which the provider, Lydgate, can be held. In order to establish ambivalence about Lydgate – an ambivalence that makes him a proto-mad scientist as opposed to a mad scientist – Eliot has a few characters come to Lydgate’s defense. At yet another dinner party, Mr. Farebrother speaks up when Mr. Toller expresses skepticism over the testing of new theories on patients at the New Hospital: “‘Come, Toller, be candid,’” said Mr. Farebrother. “‘You are too clever not to see the good of a bold fresh mind in medicine, as well as in everything else; and as to cholera, I fancy, none of you are very sure what you ought to do. If a man goes a little too far along a new road, it is usually himself that he harms more than any one else’” (502). When Farebrother says that the other doctors aren’t “very sure what you ought to do” to treat cholera, he points out that even the well-tested or institutionally accepted treatments are not certain because no representation of the universe by humans is ever certain.

In addition to a waste of money, Lydgate’s skeptics also describe his new, experimental practices as bizarre, grotesque, monstrous, and criminal, giving the medical treatment he provides a distinctly macabre connotation. When describing Rosamond’s attitude towards Lydgate’s work, the novel’s narrator says,

The habits of Lydgate’s profession, his home preoccupation with scientific subjects, which seemed to her almost like a morbid vampire’s taste, his peculiar views of things which had never entered into the dialogue of courtship – all these continually alienating influences, even without the fact of his having placed himself at a disadvantage in the town, and without that first shock of revelation about Dover’s debt, would have made his presence dull to her. (Eliot 518)
Several parts of Rosamond’s assessment of her husband imply abnormal behavior. First, his “home preoccupation with scientific subjects” implies that she does not believe his profession, science, should follow him home; if science is indeed his profession he should limit thought on “scientific subjects” to the hospital, his place of work. The use of the word preoccupation here also denotes an abnormality in that he cannot stop thinking about his research, even when he is at home where his wife, who likely believes that she should be his only “preoccupation,” resides. The narrator intimates that had Rosamond known about Lydgate’s “peculiar view of things which had never entered into the dialogue of courtship,” she would not have married him. Lydgate’s peculiarities make him so much of a social pariah that had she known about them, Rosamond would have found “his presence dull to her.”

This passage also uses language that evokes the supernatural. The narrator says that, to Rosamond, Lydgate’s dedication to science seems “like a morbid vampire’s taste,” implying that his fascination with human tissue has sinister motivations because he actually takes pleasure in dissecting the human body. This pleasure, rather than a desire to help his fellow man with his findings, drives Lydgate’s work. The narrator also calls the influence of his profession on his life “alienating.” In an earlier scene, before she loses her patience with him, Rosamond jovially calls Lydgate “Doctor Grave-face,” and says, “I will declare in future that I dote on skeletons, and body-snatchers, and bits of things in phials, and quarrels with everybody, that end in your dying miserably” (Eliot 372). The irony here is that at the end of the novel Eliot’s narrator reports that Lydgate does in fact die miserably and prematurely, of diphtheria at the age of fifty. While it serves as a retrospective subtext for Lydgate’s grim death, Rosamond’s macabre list also represents the Victorian attitude towards experimental science, especially in anatomy. The

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27 Most dictionary or encyclopedic references say that diphtheria is an extremely contagious bacterial disease that hinders breathing and swallowing, and can be fatal to the heart and/or cause nerve damage by a bacterial toxin in the blood. This would have been a very grim death for Lydgate.
combination of “skeletons,” “body-snatchers,” and “phials” certainly paints the picture of a mad scientist’s laboratory. While Rosamond is hardly an authoritative character, as Eliot makes her ridiculous and unlikeable for readers, she represents the common view that readers can see themselves as above while still acknowledging that common view as a predominant cultural attitude. By framing Rosamond in this way, as the spokesperson for the common and somewhat unenlightened public, Eliot can include a macabre scientific supernatural strain in her novel without undermining her realist prerogatives.

The historical context of real-life body snatchers that many early readers of *Middlemarch* would have been familiar with solidifies with allusions to Burke and Hare. William Burke and William Hare were Irish immigrants who would sell fresh corpses to Dr. Robert Knox at the University of Edinburgh for studies in anatomy. Human dissection in England in the nineteenth century was restricted to select colleges, but the supply of cadavers for said colleges was scant, precipitating a black market and professional body snatchers. The 1752 Murder Act made dissection legal, but only on the bodies of executed murderers. Eventually, in response to criminal activity like the murders perpetrated by Burke and Hare, parliament passed the Anatomy Act in 1832, making it legal for doctors and scientists to dissect donated, non-felon bodies as well.  

This timeline puts Lydgate’s practice of dissection just on the cusp of historical and political change, the dissection of one of his patients being barely legal.

Both references to Burke and Hare in relation to Lydgate’s work at the hospital indicates that the residents of Middlemarch are unfamiliar and uncomfortable with the dissection of dead bodies for the study of anatomy. The novel’s narrator describes a sample incident in which Lydgate scandalizes the town, saying, “For Lydgate having attended Mrs. Goby, who died

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28 See Rosner 265.
apparently of a heart-disease not very clearly expressed in the symptoms, too daringly asked leave of her relatives to open the body and thus gave an offence quickly spreading beyond Parley Street, where that lady had long resided on an income such as made this association of her body with the victims of Burke and Hare a flagrant insult to her memory” (Eliot 370). The narrator calls Lydgate’s request to dissect Mrs. Goby daring because the general public in Middlemarch deems dissection, even to determine an individual’s cause of death, disrespectful, disgusting, and uncouth. The fact that the “offence” spread “beyond Parley Street” means that the incident quickly became a source of fervent gossip throughout Middlemarch and indicates that a large portion of the population shared the Goby family’s sentiments.

There is also a class-conscious subtext operating within the anecdote about Mrs. Goby, one which would have been apparent to a reader familiar with the crimes of Burke and Hare. The cadaver collectors turned murderers would rob the graves, collect the corpses of, or kill the poor – an old army pensioner in debt, other unsuspecting tenants and lodgers down on their luck at the lodging house owned by the Hares, and several prostitutes. This collection of deceased companions makes the “association of her body” with bodies of a lower social status used for the same scientific purpose “a flagrant insult to her memory.” The association of Lydgate with Burke and Hare also provides a flagrant insult to him and his professionalism, not only accusing him of unorthodox medical practice, poor manners (for impolitely asking if he could cut open Mrs. Goby), but monstrous, illegal behavior. In 1828 Hare testified against Burke who was convicted murder and was hanged a year later. While awaiting execution, Burke wrote an official confession admitting to sixteen murders. After this, all parties involved or suspected of what

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29 See Rosner 24; and Gordon 252.
would later be called the “West Port murders” were reviled in Victorian news and media as monsters and villains.

The association between Lydgate and Burke and Hare strengthens later in the novel when an actual conspiracy theory forms. Mrs. Dollop becomes convinced that “Dr. Lydgate meant to let the people die in the Hospital, if not to poison them, for the sake of cutting them up without saying by your leave or with your leave” (Eliot 360). This is a strong accusation, as Mrs. Dollop is basically accusing Lydgate of deliberate medical negligence, hoping with a criminal intent that his patients will die rather than trying to help them live as a “normal” doctor should. This implies that he is not dissecting cadavers to help humankind with his discoveries but rather derives a perverse pleasure from the act of slicing human flesh itself, aiming to hurt humankind instead.

Throughout the early nineteenth century the dissection table and anatomy labs had been viewed as sites of horror. Even before Burke and Hare made headlines, others reported on dissection labs as if they were all like Dracula’s lair. According to Alan Bates, a medical student in 1822 named “Hector Berlioz borrowed the language of the gothic novel to populate the dissecting-room at l’Hospital de la Pitie in Paris, where Knox later trained, with cracked skulls, scattered limbs, grimacing heads, “swarms,” of birds, and gnawing rats” (1). Writings such as these eventually formed an association between dissection and cannibalism in Victorian culture, and led to widespread fear and fascination with the study of anatomy.

Mrs. Dollop represents this widespread anxiety about the dissection of the dead, concerned that the vulnerability of the dead may extend to the safety of the living as well. The narrator of the passage continues to say that “there was a prevalent feeling in her audience that her opinion was a bulwark, and that if it were overthrown there would be no limits to the cutting-up of bodies, as had been well seen in Burke and Hare with their pitch-plaisters – such a hanging
business as that was not wanted in Middlemarch!” (Eliot 360). Mrs. Dollop represents a contingent of Middlemarch whose safety feels threatened, thinking that the story of Burke and Hare could happen to them if they do not stop Lydgate’s “cutting-up of bodies.” These allusions to Burke and Hare play a significant part in characterizing Lydgate for Eliot’s reader, giving him a bad reputation as a twisted, blood-thirsty monster who might murder for the sake of advancing medical science.

The comparison Lydgate draws between himself and a historical figure is much more flattering. When speaking with Rosamond about his work in anatomy, he alludes to Andreas Vesalius, a sixteenth century Flemish physician and anatomist. He says,

I am thinking of a great fellow, who was about as old as I am three hundred years ago, and had already begun a new era in anatomy…His name was Vesalius. And the only way he could get to know anatomy as he did, was by going to snatch bodies at night, from graveyards and places of execution…He could only get a complete skeleton by snatching the whitened bones of a criminal from the gallows, and burying them, and fetching them away by bits secretly, in the dead of night. (Eliot 371)

A comparison to Vesalius gives Lydgate’s work a more positive, noble spin, even though he admits to Vesalius snatching bodies as Burke and Hare do. Vesalius is a “great fellow” not in spite of his body snatching but because of it; when most anatomists would be content with the knowledge they could access easily, Vesalius is willing to “snatch bodies at night, from graveyards and places of execution.” Lydgate implies that he has no choice in the matter because “he could only get a complete skeleton” by “secretly” dissecting dead bodies of criminals. Vesalius’s risky behavior pays off because he is often cited as the founding father of modern
anatomy, having corrected major oversights made by his predecessor, Galen, who had only
dissected primates, assuming that their anatomy would be similar to that of humans.\(^{30}\)

As mentioned at the start of this chapter, Lydgate devotes an unusual amount of attention
to and exhibits an unusual amount of passion for his research, which we learn about primarily
through Rosamond’s complaints (of which there are many). She begins to question Lydgate’s
priorities, saying, “I am sure you do not neglect your work. You are always at the Hospital, or
seeing poor patients, or thinking about some doctor’s quarrel; and then at home you always want
to pore over your microscope and phials. Confess you like those things better than me” (Eliot
346). Again, the underlying meaning of this complaint is that Lydgate’s constant attendance to
the many facets of his doctor-scientist career is abnormal and wrong because he should not “like
those things better than” his wife.

In addition to Rosamond disapproving of “his thoughtful preoccupation with other
subjects than herself” (Eliot 464), Mr. Toller, in another gossip scene, calls him “indefatigable”
(502). When Lydgate openly challenges a diagnosis of one of Dr. Minchin’s patients, Minchin
declares him to be “indecent” and “disagreeably inattentive to etiquette” (366), sacrificing social
niceties for the sake of the medical truth and experimental results. There are also environmental
signs that characters observe that tell them that Lydgate is deeply engrossed in his research.
When Farebrother goes to Lydgate’s house to borrow his microscope, Farebrother finds
“Lydgate’s tableful of apparatus and specimens in confusion” (293). Two parts of the description
are telling – first, the fact that the table is full of apparatus and specimens gives the impression
that Lydgate’s engrossment has overwhelmed a part of his house and secondly, the “apparatus
and specimens” are “in confusion,” meaning his research process is so complex and intense that

\(^{30}\) See Shultz 2-3.
his materials are in complete disarray. He is so focused on the work itself that he has no time or thought to devote to organization.

Farebrother later suspects Lydgate of drug use, when he notices Lydgate “sank back into his chair in silence, but with a strange light in his eyes. “He may have been taking an opiate,” was a thought that crossed Mr. Farebrother’s mind –“ticdouloureux perhaps – or medical worries” (Eliot 503). Farebrother equates a drug-induced state with being preoccupied with work or Lydgate’s “medical worries,” as if to say that the signs of one are the same as the other. As we will see in the later chapter on Sherlock Holmes, the famous Baker Street detective also uses drugs such as cocaine and opium in order to placate his restless mind when he has no work to do.

As this introduction shows and the following chapters will show, mad scientists earn their title from the perception others have of their cutting edge, new, and frighteningly unfamiliar work and the intense passion that they demonstrate towards that work. Lydgate actually articulates that the root of his reputation problem is more the ignorance of others around him than anything he does. He says to Rosamond, “How am I to be prudent?...I just do what comes before me to do. I can’t help people’s ignorance and spite, any more than Vesalius could. It isn’t possible to square one’s conduct to silly conclusions which nobody can foresee” (Eliot 370). This is the same philosophy that the other mad scientists to be discussed in later chapters have. Constantly faced with “people’s ignorance and spite,” they regard the opinions of non-scientists as “silly.” Lydgate implies that to be prudent in his work would be an impossible task because successful science relies on taking risks. This echoes Lewes’s sentiment about science requiring observation and imagination; he and Lydgate both, as “poet-scientists,” would agree that creative thinking does not occur in the shadow of prudence.

*Anthony Page’s BBC Middlemarch (1994)*
While the popular novels discussed in this study have been adapted over and over again, *Middlemarch* has never been made into a mainstream blockbuster film. The only adaptations to speak of are two BBC television miniseries, with the series directed by Anthony Page in 1994 being the more notable of the two.\(^{31}\) It is important to note that the literary canon hierarchy of the Victorian publishing industry, characterizing a three volume novel like *Middlemarch* as superior to popular one volume or serialized novels, extends to or is reflected by the cinematic adaptations of these novels. Since Eliot’s *Middlemarch* had a more canonical and less popular status in its day, it makes sense that despite changing attitudes in Victorian scholarship and criticism, the film and television industry preserves the genre divide by choosing to adapt Eliot’s work as a more esoteric and less mass-market cinematic work. The BBC offers *Middlemarch* as a more academic and less sensational period piece in the British heritage tradition of the 1980s and 1990s, hallmarked by the more famous and commercially successful *Pride and Prejudice* that would follow *Middlemarch*, airing only a year later.

In addition to noting the reinforcement of the genre divisions and hierarchy of Victorian literature in contemporary film adaptations, it is useful to examine the BBC adaptation of *Middlemarch* because a comparison of the television miniseries to Eliot’s novel will make the characteristics and themes of the novel that are more specific to the novel as an artistic form and the novel as a product of Victorian culture more apparent. These are, after all, the two primary ways in which film adaptations of “classic English” novels justify changes to a narrative’s content, style, and structure – by localizing the narrative to a particular audience’s historical and cultural milieu and by making the narrative more suitable to the conventions and visual nature of

\(^{31}\) There have been two adaptations of *Middlemarch*, only one of which scholars pay attention to – the 1994 BBC miniseries directed by Anthony Page. The 1968 adaptation seems to have fallen into obscurity in the shadow of the later adaptation. There is very little information available on the series. When I refer to “the BBC adaptation” I refer to the 1994 series.
cinema. In the case of *Middlemarch* specifically, one can understand Lydgate’s status as a proto-mad scientist better after a comparison with the BBC’s adaptation and an analysis of Page’s directorial choices.

With the exception of a few scenes that follow the more classic image of the mad scientist, especially as it has been cultivated in the history of cinema, the BBC adaptation is similar to Eliot’s work in its ambivalent portrayal of Lydgate. For the most part Page, like Eliot, qualifies Lydgate as what I call a proto-mad scientist by presenting conflicting perceptions and attitudes towards him and his profession. Sometimes Page downplays Lydgate’s scientific research in favor of the troubled marriage plot with Rosamond, and other times he forces the reader to uncomfortably linger on scenes that seem to serve no purpose other than demonstrate Lydgate’s intense passion for experimental science. On the one hand Page offers a stronger counter-attitude to the scandalized gossipers of Middlemarch who demonize him than Eliot does through intercutting induced dramatic irony, but on the other hand he also adds a scene that is more mad scientist than proto-mad scientist.

Rather than use mis-en-scene and actor Douglas Hodge’s performance to make Lydgate more conventionally mad, Page uses film editing techniques to alienate the spectator from Lydgate and – through sound, image, and juxtaposition – show that his identity as a scientist is at odds with Middlemarch society. Lydgate occasionally mentions his lofty quest for experimental results that would make him legendary, but beyond those words his behavior and environment do not do much to clue the spectator in on his intense dedication to his work. The mis-en-scene that Page employs does not investigate the disorganized vials, papers, etc. that Eliot’s novel describes; instead Lydgate’s home appears very neat and tidy, he is never disheveled to indicate that he sacrifices his personal appearance to spend more time working, and he never appears
dangerously preoccupied with his research in any scene. Most of the scenes taking place inside the Lydgate home showcase the expensive furniture they cannot afford, Rosamond’s musical talents at the piano, and Lydgate’s romancing and fighting with Rosamond.

The closest spectators come to seeing a “mess” caused by Lydgate’s engrossment in his research are in scenes where Rosamond is the direct cause of the mess. In the miniseries’ fifth installment, for example, spectators see an extreme close up of some of Lydgate’s notes and illustrations of what appear to be human organs because Rosamond has shoved them off the desk in a fit of anger. The camera cuts from a close up of her face as she sighs and looks down to a close up of the table with a book and some papers on it. She pushes the papers off the table as she screams, “I hate your stupid experiments! I HATE them!” Lydgate’s research, in this instance, becomes a prop in their argument as opposed to the focus of the scene. It is difficult for viewers to see this mess as an outcome of Lydgate’s scientific experiments because Page presents the mess as a product not of the experiments or Lydgate’s intensity but of Rosamond’s rage.

The papers also, as the scene finishes, symbolize the incompatibility between Lydgate’s interest in scientific research and his life in Middlemarch with Rosamond rather than showcasing Lydgate’s absorption in the work itself. The camera cuts back to a close up of Rosamond and then cuts again to a reaction shot from Lydgate, making the scene linger on in despair, shifting from a conversation between Lydgate and Rosamond to a moment Lydgate has with his interior thoughts. Repeating statements Lydgate has made in previous episodes about his ambitions as a scientist, a flurry of overlapping voiceovers sound off as the camera creates an eyeline match between Lydgate’s depressed gaze and an extreme close up of the papers, now on the floor. As the camera pans and tilts to provide a closer shot of the papers, ominous non-diegetic music
plays, implying that Lydgate’s work and all his expectations in research will not survive Middlemarch, meeting a grisly demise at the hands of marriage and supporting a family.

In the following episode we see a close up of Lydgate’s microscope slides, but, again, it is in support of another narrative purpose. The shot once again shows the defeat or overshadowing of Lydgate’s research by his social obligations and domestic life in Middlemarch. The camera cuts from a shot from a previous scene of Mr. and Mrs. Bulstrode in a teary embrace directly to Rosamond’s hands flinging a pile of letters down upon her husband’s desk. The second pile begins to overlap with the tray of microscope slides, symbolically overpowering or smothering Lydgate’s research. This close up emphasizes the vast number of people who have rejected Rosamond’s dinner party invitation in the wake of Lydgate’s implication in the Bulstrode scandal, which is arguably the result of Lydgate’s passion for research at Bulstrode’s New Hospital.

Since Page does not use sets, props, or his actors to characterize Lydgate as a mad scientist, he very understatedly characterizes Lydgate’s scientific activities as alien to the spectator and characters alike. In the two paper and letter scenes just discussed, film editing serves as the vehicle for drawing attention to Lydgate’s experiments. There are also two scenes bookending the first installment of the miniseries that use film editing in a similar fashion. This first episode begins and ends with nearly identical scenes in which Lydgate dissects a tissue sample. The first begins with the camera following Lydgate through a noisy street market as he quietly browses the wares, vendors shouting in the hopes of attracting customers. A contrast cut follows to total silence and an extreme close up of the tissue sample. Page approaches the sample from a reverse eyeline match, which makes the close up especially jarring because the spectator has no other shots from which to conjecture as to what the fleshy blob that occupies the entirety
of the film frame is. Only when the camera cuts to a medium close up of Lydgate holding one of the dissection tools to the light of a candle does the audience have any inkling as to why the camera has shown them such an image.

The complete lack of dialogue and sound in this scene creates an unusually quiet moment that forces viewers to pay attention to Lydgate’s practice of science. They have no choice but to look closely at the grotesque and ambiguous tissue sample, and wonder from whence it came. Is it human or animal? What is he looking for? At best the spectator might assume that the juxtaposition of the market scene with this dissection scene means that the tissue sample came from a piece of butchered meat meant to be sold as food. Such a connection between market and laboratory implies that Lydgate perverts the domestic use of an item in favor of a scientific one. This visceral confrontation of an unexplained image is both visually and narratologically alienating for the spectator, framing Lydgate’s experiments as mysterious, nauseating, unfamiliar, and unlike anything else in Middlemarch.

The second time we watch Lydgate poke and prod at a similar tissue sample is towards the end of the episode, this time directly following a dinner party, which is just as noisy and crowded as the market from the earlier scene. The camera cuts from the shouting of a table of card players behind Lydgate and Rosamond to Lydgate walking alone on a dark street. As he walks out of the frame, the camera cuts again to an almost identical close up of a tissue sample. This jarring cut symbolizes Lydgate’s partial identity as a social outcast, pulling away from Middlemarch society and moving towards experimental science.

Shifting slightly from the silence of the earlier scene, this quiet moment with Lydgate’s experiments includes a romantic orchestra soundtrack playing in the background, as the camera cuts to a similar medium close up of him sitting at his desk with the sample. Lydgate looks off
into the distance as the shot of him dissolves and an exterior shot of a nondescript domed building in Rome appears in its place. With the romance of the music and a sweeping, possibly escapist exterior shot of a far-off land, Page cinematically represents Lydgate’s one and only love – not Rosamond, but science.

Eisenstein’s notion of the third meaning created by the conflict between two images – what he calls “montage” – clarifies Page’s reliance on the juxtaposition of images, shots, and scenes to communicate with his audience.\(^{32}\) This technique, unique to the cinema, offers two images – which in isolation have their own individual meanings – together to create a third meaning the moment a spectator inevitably creates a relationship between them. This meaning would not exist were it not for the placement of these two images in close proximity. Every choice of every scene to include from Eliot’s novel creates third meanings with montage that Eliot would not have originally composed. Since *Middlemarch* is a significantly lengthy and rich novel to adapt, any film version would have to be extremely selectively and in the selection process provide a very different chronology of scenes. As the pier-glass parable says, “it is only your candle which produces the flattering illusion of a concentric arrangement, its light falling with an exclusive optical selection” (Eliot 232). Page, as the director of the adaptation, has the power of “an exclusive optical selection” because he can choose which scenes of the novel to include and which to exclude. The particular scenes he selects and the order in which he presents those scenes create an entirely new narrative.

The editing of these two scenes is too similar to not be deliberate and significant for Page’s narration. The pattern of transforming from a loud, crowded scene to a nearly silent scene with Lydgate alone with his experiments sets up a conflict between the social life Lydgate has in

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\(^{32}\) See Eisenstein 28-38.
Middlemarch and his life as a scientist, as if to say that both cannot coexist. The jarring, alienating sensation the spectator feels upon the transition between these two scenes not only tells him or her that a life in Middlemarch and a life as a world class scientist is unharmonious at best, but it also provides an insight into how others view Lydgate’s approach to medicine and anatomy; they do not understand it and are repulsed by it. In these moments, the camera represents what Eliot represents in her free indirect discourse – the “common” view of Middlemarchers against Lydgate’s research.

The repetition of two nearly identical sets of shots at the opening and the conclusion of this first episode renders several narrative effects. It provides narrative structure and unity, establishes Lydgate as one of the main characters, and perhaps even gives viewers a sense of a monotony and mundanity often associated with Eliot’s “study of provincial life.” Most importantly for Lydgate’s characterization, though, is the fact that this repetition of scenes indicates a regularity and dedication Lydgate exhibits towards his scientific research. That is, he experiments with tissue and studies anatomy enough to merit not one display of his study but two.

Extending Eisenstein’s theory, I would argue that a third meaning does not necessarily have to arise from the montage of two images or scenes alone. For example, Page selects three scenes from the novel to show consecutively: one in which Lydgate prevents Nancy Nash, who has been wrongly diagnosed by Dr. Minchin as having a tumor in her stomach, from getting “cut open” when she in fact only has cramps, one in which Lydgate and Rosamond decide to shorten their engagement, and another which actually shows Lydgate and Rosamond’s wedding. Even though the latter two scenes seem as though they are logically chronological, the dialogue from Eliot’s novel used by Page in each scene jumps back and forth in time. While the Nancy Nash
scene is narrated in chapter 45, the following scene uses a conversation from chapter 36, and then the third scene in which two women gossip about the newlyweds takes information the reader learns in chapter 45 again. The changing of the order in which scenes appear is only significant in this case because the third meaning created when Page alters Eliot’s narrative time creates a subtext not available in the novel.

This subtext shows Lydgate to be much less of a mad scientist than in the novel, or more accurately it directly contradicts the impression that Middlemarchers such as Mrs. Dollop give readers about Lydgate’s interest in dissecting human bodies. In the first scene with Nancy Nash, the camera pauses on a close up of the other physician or nurse working at the infirmary who is eager, under Dr. Minchin’s orders, to cut open Nancy Nash and remove a tumor she does not have. The close up of this attendant cleaning and readying the knife is in the style of a horror film, making the idea of Nancy having surgery much more terrifying than necessary. The audience can also hear the sound of the knife sharpening off screen while the camera shows Lydgate examining Nancy Nash. When Lydgate argues against surgically operating on Nancy, he appears to be the less bloodthirsty of the two, contrary to what the anti-Lydgate Middlemarchers would assume.

When the camera cuts to Lydgate and Rosamond strolling down the street, the in medias res dialogue gives the impression that Lydgate has just been retelling the events of the previous scene to Rosamond. He concludes that if Dr. Minchin has taken offense to Lydgate correcting his diagnosis and as a result refuses to teach at the New Hospital, then he’ll “just have to spend more time there myself, that’s all...things can’t last as they are. We’ll have all sorts of reform soon, then all the young fellows will be glad to study here.” This statement shows that Lydgate has hope that his status as a scientist might improve; based on this comment one can infer that he
believes Middlemarch will eventually accept his medical practices and experiments. Eliot has Lydgate make this statement as well, only in her novel he does so to Bulstrode in response to a general refusal by doctors in town to work with them. Page’s transplantation of this statement to a conversation about Nancy Nash with Rosamond counters any negative perceptions of him represented in the narrative more so than in Eliot’s novel because Rosamond represents the common view and is one of the naysayers herself.

The third scene immediately changes the meaning of the previous two once a spectator reflects back on what he or she has just seen, particularly in relation to Lydgate’s characterization. Juxtaposed to the first scene, this third scene makes the audience question whether or not Lydgate would actually dissect a human body, and the second scene shifts from Lydgate being justifiably hopeful to naïve and pitiful. For this third scene, Page takes Eliot’s narration of Mrs. Dollop objecting to and gossiping about Lydgate’s request to use Mrs. Goby’s corpse for scientific research, and relocates it to the actual site of Lydgate and Rosamond’s wedding, so that the conversation between two unnamed elderly women can intercut with shots of the happy couple, unable to hear the criticisms uttered nearby. There is dramatic irony here for the spectator that does not exist for a reader of the novel. Lydgate sounds like a murderous fiend according to one of the women gossiping: “Handsome is as handsome does. I wouldn’t wed a girl of mine to that one. It’s a well known fact he tried to cut up Mrs. Goby after she was dead…poised over her with a knife with her innards bursting I heard.” This juxtaposition of scenes creates a subtext for the reader that the gossipers of Middlemarch are saying the exact opposite of what the camera shows to be true; the two old women say he loves to cut open bodies while the previous scene shows him preventing someone else from cutting open a patient. The meaning of the second scene changes after one sees the third scene because even though Lydgate
assures Rosamond that reform will make Middlemarch more welcoming of his experimental approach to medicine, the harsh words of the two older women at their wedding makes that prospect seem much less likely. This juxtaposition of conversations gives the reader the impression that Lydgate is in over his head and is so lost in his own scientific world that he has little understanding of Middlemarch’s social infrastructure.

One can see here the different narrative approach Page as a filmmaker must make, differing from the one Eliot takes as a novelist using free indirect discourse. Eliot is able to, through her narrator, present the perception that Middlemarch residents have of Lydgate, and leaves the reader with very little to go own, forced to consider for him or herself what the significance of those negative attitudes are. Page, on the other hand, can present cinematic sequences that frame the attitude that Lydgate is mad and sinister as a more obviously absurd perception of his character. This dramatic irony crafted by Page allows the spectator to see more clearly that the gossiping villagers who think Lydgate mad are the ones who are in the wrong, showing him or her that Lydgate is in fact normal and morally and/or mentally sound. This contrasts Eliot’s narration because she never explicitly says that the residents of Middlemarch are wrong about Lydgate.

Page quickly undermines this positive-heavy, mad scientist-light characterization of Lydgate with the invention of an entirely new scene for the miniseries in which Lydgate guzzles down a bottle of opium. This new scene is inspired by information provided by Eliot’s narrator, but otherwise dramatically departs from Eliot’s novel. In the novel, Eliot confirms an earlier suspicion for readers, saying,

Mr. Farebrother's suspicion as to the opiate was true, however. Under the first galling pressure of foreseen difficulties, and the first perception that his marriage, if it were not
to be a yoked loneliness, must be a state of effort to go on loving without too much care
about being loved, he had once or twice tried a dose of opium. But he had no hereditary
constitutional craving after such transient escapes from the hauntings of misery. (523)
While Eliot allows the concept of opium into the novel when Farebrother lists “taking an opiate”
(503) as one of several possible explanations for Lydate’s strange behavior and demeanor and
subsequently admits that Lydgate had taken opium once or twice but never developed a craving
for it, she does not actually show the reader a scene in which Lydgate takes the drug. Page, on
the other hand, creates an entire scene in which Lydgate, in a melodramatic fashion, takes opium
to cope with his financial, professional, and marital ruin. Influenced by a history of horror film
that Eliot would not have possessed, Page depicts Lydgate as a full-blown mad scientist in this
scene. His BBC adaptation visually renders, exaggerates, and therefore brings to the fore, a
“mad” trait that Eliot to brings up only to dismiss; she qualifies her admission of Lydgate’s use,
after all, with an explanation that even though he only tried opium once or twice, he developed
“no [emphasis added] hereditary constitutional craving.”

This scene concludes a series of short scenes chronicling Lydgate’s downward spiral of
drinking and gambling at billiards after his last hope, Bulstrode, refuses to lend him the money
he desperately needs. This over-the-top scene is shot in a style similar to some film adaptations
of The Strange Case of Dr. Jekyll and Mr. Hyde, minus the hideous transformation precipitated
by the imbibing of a vial’s contents. While looking at a close up on a cabinet full of little glass
vials, a spectator can hear the slow, creepy creaking of the cabinet door over foreboding non-
diegetic music as Lydgate’s hand opens it and reaches for the vial labeled “opium.” The
soundtrack’s melody escalates and intensifies as Lydgate opens up the vial and tosses his head
back to drink, trilling at a high pitch in, again, the style of a horror film. By filming and editing
this scene with such an emphasis on suspense and danger, Page gives a nod to Eliot’s subtle uses of the gothic and supernatural mode. It also forms a stronger association between Lydgate and Sherlock Holmes, another mad scientist who has been adapted to film as more of a drug user than his literary creators originally portrayed.

Most scholarly work that focuses on the BBC miniseries as an adaptation of Eliot’s novel comments on the lack of Eliot’s often discussed third person narrator in the television adaptation. Some critics have argued that the television series replaces Eliot’s strong narrative point of view with an emphasis on a mimetic narrative style, showing as opposed to telling. To a certain extent this assessment is true. For instance, when Dorothea collapses in a chair and says, “I love him. I do love him,” this scene shows that it is much easier and perhaps more efficient or sensible to show a narrative point (i.e. Dorothea loves Ladislaw) rather than imply such a point through more expository narration over time. Ironically, the way in which the film chooses to show Dorothea’s emotional condition is by having her tell it to herself and therefore the spectator, which, in a novel would constitute telling rather than showing.

The only voiceover narration that Page thought would make sense is in the final scenes of the last episode, where Dame Judi Dench briefly reads parts of Eliot’s epilogue. However, Jakob Lothe argues persuasively that even though Page cannot deliver the narrative through a third person narrator in the same way Eliot does, he still incorporates Eliot’s commentary about fallible representation and subjectivity: “Yet for all the differences between the literary narrator and the film narrator, Page uses the latter’s multiplexity in order to make a comparable impression on the viewer. No neutral presenter of events, Page’s film narrator endeavors to make us sympathize with Dorothea and Lydgate while increasingly wanting to distance ourselves from

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33 See, e.g., Dolin 238.
34 See, e.g., Lothe 177-178; Harris 98; and MacKillop and Platt 80.
Casaubon, Rosamond, and several members of the town community” (197). One can see this critical debate over cinematic vs. textual narration in Page’s treatment of Lydgate. Even though he does not have a strong narrational voice present in the miniseries in the form of a voiceover, he still manages to create the conflicting, ambivalent, ambiguous representation of Lydgate that Eliot does when she gives voice to the Middlemarch residents whose fear of Lydgate Eliot represents free indirect discourse.

Further, all the film-editing techniques – especially montage – that I’ve discussed here help spectators – especially those who are also readers of the novel – think about the limitations of representation. The alternate articulations of literary realism as investigated by authors through their mad scientists characters that film and television adaptations of novels provide will continue to prove helpful in establishing the critical heritage of the scientific supernatural.

The novels that occupy the focus of the following chapters – *The Time Machine, The Invisible Man, The Strange Case of Dr. Jekyll and Mr. Hyde, Dracula*, and the Sherlock Holmes series – continue Eliot’s experimental exploration of realism about a quarter century after the publication of *Middlemarch*. H.G. Wells, Robert Louis Stevenson, Bram Stoker, and Arthur Conan Doyle also question the reliability of the senses and representation, but they go one step further and completely embrace the imagination that the poet-scientist that George Lewes refers to possesses. The qualities Lydgate exhibits, as they have been laid out here, will become exaggerated in the fiction discussed in chapters to follow. One can see the Time Traveller, Griffin the Invisible Man, Van Helsing, Dr. Jekyll, and Sherlock Holmes as an extension of Eliot’s use of Lydgate to raise questions about scientific inquiry and realism in *Middlemarch*, only in a very different mode.

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35 The only significant part of the third person narrator’s role not maintained by Page is the narrator’s use of exposition and metaphor that explicitly articulates the parameters of Eliot’s intellectual experiment.
Chapter Two: The Limitations of Human Consciousness and Perception in H.G. Wells's *The Time Machine* (1895) and *The Invisible Man* (1897)

A machine suddenly vanishes to another time. The figure of a man moves, yet no one can see him. By confronting readers with these movements in time and space that cannot be, H.G. Wells’s *The Time Machine* and *The Invisible Man* instill a distrust of the correlation between human perception and reality. Combining scientific experimentation with fantastical phenomena such as ghosts and time travel, both novels reflect upon the limitations of human faculties. In *The Time Machine*, the Time Traveller explains that the human brain can only process reality as a linear and continuous timeline, and *The Invisible Man* interrogates the concept of space and questions the assumption that only that which we can see can register as an occupation of space. Wells uses these two contentious categories – time and space – to invite a reader to engage in his or her own realist experiment. Just as *The Time Machine* presents the Time Traveller’s invention to elicit doubt as to how complete a picture of space and time the human consciousness is able to produce, *The Invisible Man* uses Griffin – who occupies space but does not manifest visually – to stage a debate over the discrepancy between spatial reality and visual representations of it. By allowing the reader to interface with a spectrum of rational, mad, and naïve characters who comfortably or uncomfortably inhabit supernatural or fantastical tropes, these narratives draw attention to the present and the visible as human gauges for the universe; that which is present in time and that which is visible are how we come to know reality, even though that may not fully capture the possibilities of temporal and spatial interaction.

I argue that Wells uses fictional narrative informed by Victorian scientific discourse to contribute to the thriving interest and curiosity Victorian culture had in observation, perception, and knowledge-formation. He provides, as formal scientific publications and cultural criticism do, an opportunity for readers to pause and ponder a world that is larger and grander than
anything they can see, hear, or experience, and to no longer believe that reality ends where the eye stops seeing. Other writers and thinkers, alongside Wells, were already beginning to conceive of human perception as unstable and unreliable. Art critic John Ruskin attempted to solidify a definition of “truthful art,” weighing subjective and objective sight in *Modern Painters*, while philosophers of ontology Franz Brentano and Alexius Meinong tried to parse out the relationship between the subject, object, and perception, doubting perception’s epistemological efficacy. More specific to Wells’s interests, French philosopher Henri Bergson’s *Time and Free Will*, published in 1889, outlines a theory of duration, positing that human perception presents time as movement in space and movement of objects in space instead of understanding its own movement distinct from space. This is precisely the argument the Time Traveller makes to his friends; even though time’s movement is not linear, we still insist on perceiving it that way. A few years after *Time and Free Will*, Bergson publishes *Matter and Memory* in 1896, a year before *The Invisible Man*. This work “affirms the reality of spirit and the reality of matter” (Bergson vii) and explores the relationship between mind and matter. Bergson’s philosophical study shares a common concern for the body and spirit as distinct and separate entities with Griffin’s invisibility experiment, which relies on the definition of a being as not necessarily restricted to a physical body.

Developments in science and technology also fueled Victorian thinking about how one can and how well one can represent reality. Wells drew inspiration from scientific discourse on

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36 Brentano explains that if one sees a bird, there is no guarantee that there is a real bird in the world, but the sight of the bird itself is 100% accurate because it is an image generated by the brain. And this theory of perception hinged on the brain’s ability to process time since “it is always only the present that is perceived” (Albertazzi et al, 63). When someone listens to a continuous melody over time, for example, he or she does not perceive the entire melody, but rather can only perceive each individual note in each individual moment. This is external perception, and its “multiformity” results from an internal perception that takes memories of each individual perception and strings them together.

37 See Guerlac: “Space is like “a net we throw under the material continuity of things in order to master it, to decompose it in the sense of our activities and our need” (*MM* 260 [231])” (Guerlac 169).
the fourth dimension, advances in the study of optics, and the development of photography and early film technology, all of which complicate the reliability of visual evidence. Nancy Armstrong connects the invention of photography and photographic realism with Victorian attitudes towards the visual, observing that

The adage that “seeing is believing” both incorporates and obscures a contradiction that began to shape human perception with the onset of photographic realism. Most obviously, the statement indicates that we may infer the truth of a person, thing, place, or event from direct visual evidence of that person, thing, place, or event. At the same time, “seeing is believing” also implies that visual evidence can persuade us that something exists when in fact it does not. (84)

The adage Armstrong deconstructs here is one that many Victorian authors wrestled with as well. Under the influence of scientific and technological developments, thinkers of the period were preoccupied with this contradiction inherent in visual “evidence.” The supernatural, specifically the ghost, is a suitable trope for Wells’s fiction because its very nature embodies this contradiction. The epistemological concept of ghostliness implies “direct visual evidence of that…thing”; for those who think they see them and believe in them, ghosts are objects that can be seen and therefore must be real. The theoretical perception of a ghost also precipitates doubt as to whether or not the visible can fool us into mistakenly believing what we see; the translucent or visually elusive quality of ghosts as believers report them suggests that what we see might not actually be there. Do eyes give truth or play tricks? With ghosts, they do both.

Wells’s novels draw attention to how self and world interact with one another, and how human sight and perception provide a limited view of the world to the self, occasioning the moment of self-reflection that is a key element of realism. Caroline Levine generally describes
nineteenth-century realism as “a mediating aesthetic – as an attempt to bridge the gap between self and world” (23). She also emphasizes the realist impulse to suspend judgment. This chapter will demonstrate how Wells stages the complexities of what happens in “between self and world.” By confronting his readers with a mad scientist, a rational man, and narrow-minded skeptics, Wells encourages them to suspend judgment and explore the visible and the present. Levine observes that “we rely on particular forms of mediation,” (23) and I argue that the visible and the present are these very forms.

The Time Traveller’s and Griffin’s experiments are not the only aspect of their respective novels that engage with realism; a combination of the Time Traveller’s or Griffin’s experiments with each novel’s references to narration and reality places Wells’s novels squarely in the camp of Victorian realism. One could argue that one aspect of these novels’ realism affirms the other; the narrative’s winks and nods to the act of narration itself, for instance, cue a reader to think about the experiment as an exploration of representation and its relationship with the real. Perhaps the self-reflexive narrative gives critics more reason to judge the experiments featured in these novels as realist puzzles that characters, readers, and authors alike must reason out. This reference to novel writing or storytelling as fact or fiction within a novel is, course, not a new or innovative narrative technique by Wells. In fact, it is one that has been in existence since and, for many scholars, defines the birth of the novel in the eighteenth century. The hyperbolic insistence on truth that actually emphasizes the fictionality of a novel even more is one that is unique to the novel as a form or genre.38

Criticism on Wells depends on which part of his divided career a critic chooses to focus on – his popular and acclaimed scientific romances or his lesser known realist novels depicting

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38 See McKeon and Watt. Critics such as McKeon and Watt often use Moll Flanders as a quintessential example of this phenomenon.
social problems such as *Kipps* and *Tono-Bungay*. There are, however, aspects of one in the other, and one can classify Wells as a realist for his fantastical narratives. Other authors, in fact, did so during the very period in which Wells wrote. In a letter written to Wells in 1898, in response to reading *The Invisible Man*, Joseph Conrad calls Wells a “Realist of the Fantastic.”

Virginia Woolf, in a less complimentary manner, also names Wells in a short list of realist novelists. A few contemporary critics have followed Conrad and Woolf. While discussing Wells’s status as a novelist, J.R. Hammond, for example, touches briefly on the fact that Wells might make moves in his fiction that engage what he calls “the nineteenth-century realist tradition” (76). While he does not mention *The Time Machine* or *The Invisible Man* in this particular section and rather cites from an early “realistic” novel by Wells called *The Wheels of Chance*, he does describe such a move as making the reader “continually aware of a blurring of the distinction between the fiction one is reading and the world beyond the text” (76). The appearance of so many recognizable “real life” scientific concepts, theories, and scientists in both novels, as has been shown here, may have in fact blurred the fictional world and the “world beyond the text.”

39 Conrad writes,

I suppose you'll have the common decency to believe me when I tell you I am always powerfully impressed by your work. Impressed is THE word, O Realist of the Fantastic! whether you like it or not. And if you want to know what impresses me it is to see how you contrive to give over humanity to the clutches of the Impossible and yet manage to keep it down (or up) to its humanity, to its flesh, blood, sorrow, folly. THAT is the achievement. In this little book you do it with an appalling completeness. (Murray 39)

To dissect the title Conrad gives Wells for a moment, one should note that he does not classify Wells as a realist and a fantasist, but rather a “realist of the fantastic.” This phrasing implies that Wells is a realist who specializes in the fantastic. That is, Wells, according to Conrad, just happens to be a realist who uses the fantastic in order to practice realism. His novels contain fantastic scenarios precisely so that he may be a realist. When Conrad gets more specific about how Wells has impressed him, he argues that a writer does not have to write about that which is realistic in order to be a realist. He points out that Wells gives humanity “over to the clutches of the impossible,” and yet is still in keeping with humanity’s “humanity.” Even though he does not mention the nature of reality in his commentary, Conrad, by identifying “flesh, blood, sorrow, and folly” as signs of realism, implies that Wells can use the inhuman or supernatural in order to better understand the human itself; human perception is no exception to this understanding.

40 See Sellers: In “Modern Fiction,” Woolf “famously attacked the ‘embalming’ narrative style of the Edwardians, John Galsworthy, H.G. Wells and Arnold Bennett, who relied for their defunct materialist realism on dressing their characters ‘down to the last button of their coats in the fashion of the hour’”(52).

41 See Hammond; and James.
Hammond says that throughout his life Wells was “fascinated by the relationship between fiction and reality,” (76) and I argue that he uses the novel form to experiment with this relationship. In the above passage Hammond specifically refers to Wells’s narrative style and provides a characterization that can also apply to *The Time Machine*; as we will explore later in the chapter, the novel’s frame narrative and self-reflexive commentary also blurs the fiction/beyond the text distinction. Hammond says that any “reminder that what the reader has before him is a novel destroys the illusion of reality: an illusion that the author is at pains to erode at several points in the story” (76). There are similar reminders throughout *The Time Machine*, as characters discuss the inadequacy of pen and ink, for example. Contrary to Hammond's claim, such reminders do not destroy the illusion of reality; they merely cause the reader to pause and question how reality might be represented in a novel.

I focus on this fascination with fiction and reality exclusively in the context of Wells’s popular novels because there are unique affordances given to an author once he or she permits the supernatural or the fantastic; the supernatural as a concept demands that characters and readers revisit and negotiate what they think constitutes reality. Wells may seem an impossible companion to George Eliot, but I will argue that not in spite of but because of its genre, Wells’s popular fiction questions the act of seeing and its relation to “believing.” The ghost as an intellectual construct, as mentioned earlier, made so readily available by popular genres of fiction, is the only trope that is simultaneously real and unreal, present and yet impossible. Ghost imagery gives these novels an approach to the reality/fiction problem all their own.

Among H.G. Wells’s early works, *The Time Machine* and *The Invisible Man* engage the Victorian realist experiment the most directly. Both scientists challenge the standard attitudes towards “forms of [reality] mediation” (Levine 23) that make their narratives part of a realist
The very existence of Griffin confounds those around him because he exists and yet they cannot see him; he is not represented in any tangible way. The standard form of mediation—sight—fails those who meet him. The Time Traveller presents a similar problem in his ability to cease to occupy the present time and yet still exist in the same space.

After synthesizing all the pieces of the late Victorian puzzle I provide in this chapter—the history of science, critical reception of the novels upon publication, my close reading of the novels, and a comparison of the novels with contemporary film adaptations of them—one will be able to rethink Wells’s place in the Victorian literary canon, as a “realist of the fantastic.” The preoccupation with self-consciously thinking about how one constructs reality is so localized to the scientific culture of Wells’s time that one cannot help but see him as an active participant in realism. Suspense, according to Caroline Levine, was a key tenet of realism because “it is that mystery within a narrative context that cues a perception of the reader’s own ignorance” (74).42 It is this moment of realized ignorance, of self-awareness, that I’m interested in with these novels. The fantastic could serve just as well in place of suspense in Levine’s formulations; when characters in these novels are faced with the fantastic, the reader has the opportunity to reflect on his or her own ignorance with regard to space and time.

**Scientific and Technological Influences on *The Time Machine***

There are four areas of Victorian scientific investigation that influenced Wells: theories of a ‘fourth dimension,’ the development of ‘standard time,’ new mechanical developments in photography and film, and the continuing development of Darwin-inspired dystopianism.

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42 See Levine: “But there is an important difference here between mystery and suspense. Bronte’s complacent reviewers when faced with a mystery, knew that something was being withheld from them but assumed that they knew the hidden truth. Blithely, they thought they could outsmart the world—and so leapt to their own favorite conclusions. By contrast, suspense demands a different and quite specific experience of the unknown; it is that mystery within a narrative context that cues a perception of the reader’s own ignorance. Rather than encouraging us to jump to premature conclusions, suspenseful withholdings only work when they successfully stir up the anxiety that the world may not actually bear out our hypotheses” (74).
Mathematicians like Simon Newcomb, E.A. Hamilton Gordon, and Charles Howard Hinton popularized the notion of a fourth dimension, an explicit topic of conversation in Wells’s novel. A flourish in scientific discourse on the fourth dimension in the latter half of the nineteenth century indicates an interest in how limited a view of time and space the human senses have. The invention of standard time, first used by the British Railway Clearinghouse in 1847 and implemented globally after 1884, caused the most widespread and arguably the most significant historical change in nineteenth-century science and technology. The adjustment of public clocks to accommodate standard time would have forced the world to think about time’s properties and whether or not humans fully understood time before and after the use of standard time. Early motion picture, projection, and film technology introduced manipulations and distortions of time and space. The kinetoscope made the most lasting impression, conceived by Edison in 1887 and developed by his assistant William Kennedy Laurie Dickson through the 1890s. Darwin’s evolutionary theories had the most theoretical and philosophical impact, putting human civilization in temporal perspective as insignificant compared to “deep time.”

All of these intellectual forces produced *The Time Machine* and *The Invisible Man*. Both texts, by featuring and discussing the scientific properties of space and time, of physics, and of reality, mark a literary historical moment that demonstrates a heightened awareness of the effects that human consciousness has on the construction and perception of reality. Furthermore, the supernatural is often implicated in these scientific frontiers. The fourth dimension was often used to explain the existence of ghosts, and, as will be discussed in relation to *The Invisible Man*. Film technology birthed an entire entertainment industry around ghosts that entertainers could produce

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43 See Warf 102.
44 See Robinson 22; Williams 28; and Ramsaye 81 and 170. The 1887 date of invention, which Edison mentions in his own writing years later, is contentious because Edison’s direct involvement and the timeline during which he invented the kinetoscope is still debated amongst film historians; Ramsaye, for example, cites 1888 as the year the kinetoscope was invented. The first kinetoscope parlor opened in London in 1894.
with photographic and cinematic effects. Darwin’s theory of evolution inspired a theory of devolution, also known as atavism, to explain monsters or monstrous men.

Simon Newcomb is the best, most direct example of the influence theories of the fourth dimension had on *The Time Machine* because Wells names Newcomb in his novel. In 1894 Newcomb published an article about the fourth dimension in *Nature*, which Wells read, saying that we have not yet noticed the fourth dimension “merely because of the limitations of our faculties.” The notion of the fourth dimension was not a fabrication of Wells’s, nor was it an idea he borrowed from one scientist like Newcomb. Rather, the theory circulated among the literary and scientific communities alike. Nicholas Ruddick’s edition of *The Time Machine* contextualizes the novel by including speculated sources on the fourth dimension, naming several authors in addition to Newcomb who might have also informed Wells’s rationalization of time travel. In a 1937 letter Wells cites a fictional work by English clergyman and mathematician Edwin A. Abbott called *Flatland* (1884) as inspiration for *The Time Machine* because the narrative follows two-dimensional characters through their first encounter with a three-dimensional world. Wells sets out to perform the same exercise in theoretical logic for the fourth dimension that Abbott performs with the third. In revealing his source, Wells says,

> It’s too intricate a question to argue in a letter, but I think you can get at the catch in the business, if you think what again must have happened to a Square lifted out of his two dimensional universe. It must remain flat. He would not see his former plane as A. Square assumed. He would simply be in another plane. If the latter were inclined to the former, he would see the former only as a linear trace (without detail) on the latter.

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45 Only some editions of *The Time Machine* reference Newcomb directly: “Professor Simon Newcomb was expounding this to the New York Mathematical Society only a month or so ago” (Ruddick 61).

46 See Ruddick 223.
Similarly, but more interestingly, with the three dimensional Time Traveller. Every time you bring in a fresh dimension, the analogies complicate & veer off. (Ruddick 243)

Although this passage is not as explicit as the Time Traveller’s commentary on the human inability to grasp the fourth dimension, one can see Wells, in the process of thinking through A. Square’s confrontation with the third dimension, realizing how difficult it is for one to see outside of one’s own plane. Any generic square, according to Wells, lifted out of “his two dimensional universe” would not see be able to see the difference between “his former plane” and the new three dimensional plane; he would “simply be in another plane.” The difficulty in perception that Wells identifies for the square characters in Flatland directly translates to the problem articulated in The Time Machine – we do not think time travel impossible because it is in fact impossible, but rather because we cannot see outside of our own three dimensional plane.

These texts do more than show how Wells came up with the operative theory for The Time Machine; they illustrate the slippage between the “genres” of science fiction and science fact. Creating ambiguity around whether or not this theory was science or science fiction, some Victorian writers used the theory of the fourth dimension to explain the existence of ghosts, giving the theory a supernatural connotation, while others approached the theory from purely a mathematical perspective. For example, Charles Howard Hinton, a mathematician like Abbott who spent most of his writing life theorizing on the fourth dimension, published works that in some cases earned the title of scientific theory and in others were classified as science fiction or speculative essays. The essay “What is the Fourth Dimension?” first circulated as a pamphlet in 1884 and later appeared in 1886 in a larger work titled Scientific Romances. The scientific romance, a term popularized in literary reviews, became a genre used to categorize novels like The Time Machine.
Many of these writers incorporate the supernatural into their theories, using the fourth dimension to explain the existence of ghosts. Critics sometimes class Hinton as a “supernaturalist” and one publisher added the subtitle “Ghosts Explained” to his work.47 E.A. Hamilton Gordon, a classmate of Wells at the New School, published an article that discusses ghosts in an 1887 edition of Science Schools Journal titled “The Fourth Dimension.” He, like Hinton, gives hypothetical figures human qualities, asking his readers to “imagine a plane figure in a plane to be endowed with senses of sight, touch, and hearing” (Ruddick 219). As the Time Traveller does, scientists like Gordon use science to explain the supernatural and see the two as not diametrically opposed but inextricably linked. It may be difficult for a twenty-first century reader to think of ghost stories in a scientific journal, but the study of the human inability to perceive reality properly gives ghosts their place in a scientific conversation. According to theorists, ghosts may be present, but we as humans cannot see them because they operate in the fourth dimension while we only operate in three dimensions.48

A particularly influential theory that influenced Wells’s writing of The Time Machine and has maintained a general historical significance over time is Darwin’s theory of evolution. Darwin’s work impacted the portion of the novel better known among contemporary readers – the dystopian prediction for human civilization. Such influence becomes clear when the Time Traveller mentions Darwin by name, saying that those unfamiliar theories like those of “the younger Darwin” do not realize that the sun will get hotter over time, thus accounting for the hotter weather that the Eloi experience. This passing reference to Darwin, as does the one to Newcomb, connects the novel with a specific scientific discourse. What is less obvious, however, is that as a scientific theory posited by

47 See Stewart xxi: “…in 1884 it appeared as a pamphlet to which the publisher had added the subtitle “Ghosts Explained”’(xxi).
48 Oscar Wilde’s “The Canterville Ghost: A Hylo-Idealistic Romance” illustrates this nicely.
H.G. Wells himself, the future dystopia also serves as a commentary on humans and time. The representation of man's future as one in which cultural and industrial "progress" becomes self-destructive gives readers reason to reflect upon their own temporal realities. Wells’s readers must stop to consider the relationship between human beings and time on a grander scale, as “deep biological time.” The dystopic future, then, serves as a demonstration of what Ruddick calls the “vanishingly small significance” of historical time as conceived and perceived by a human, whether it be the Time Traveller’s friends or the reader him or herself. The Time Traveller’s realization that the human experience of time is bound by human perception, preventing a total representation of time itself, responds to the revelation Darwin offers that humans are insignificant in relation to time. This connection to Darwin ties together the two halves of the novel, giving the dystopic future the Time Traveller encounters scientific relevance to his own theory of time.

One can also trace the allusion to Darwin to Wells’s own biography. Wells attended what was then the newly formed Normal School of Science in South Kensington – now called the Royal College of Science – and studied in his early years there under Thomas Henry Huxley, Darwin’s most notable follower. The idea of overturning previously accepted principles, the very thing that makes scientists like the Time Traveler “mad,” primarily originates from Huxley, with whom Wells took classes in zoology and biology in 1884. Huxley, who was often referred to as “Darwin’s bulldog,” traveled the public debate circuit, promoting Darwin’s evolutionary theory. Most biographers of Wells make a specific point to identify Huxley as a direct, personal influence on Wells. He would have influenced Wells’s crafting of the Time Traveller’s

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49 See Ruddick in *The Cambridge Companion to the Fin de Siècle*. He astutely connects Darwin’s theory, time, and human perception to *The Time Machine’s* scientific premise via deep time.

50 See Geduld. It was during this time that he wrote *The Chronic Argonauts*, which is often identified by critics as the “first draft” of *The Time Machine*. According to Wells’s *Experiment in Autobiography*, the idea for *The*
character as well, since both he and Huxley were scientists dedicated to questioning that which has already been accepted.  

Changes in the theoretical conception of time emerged from practical changes in Western civilization’s measurement of and interaction with time. The implementation of a worldwide standard time, resulting from the Prime Meridian Conference in 1884, sparked a new interest in how time works and how human cognition processes it. New technology creating new ways to measure time forced Victorians to be more conscientious about time. Gillian Beer credits Victorians for “merging modalities of time,” as standard time eliminated the need to keep track of York time, London time, and Stratford time separately. The invention of the steam locomotive, which created the need for standard time and generally sped up the pace of life, as well as Darwin’s theory of evolution radically changed how Victorians thought about time. The gauge, which was crucial to the measurement of time and generally a major feature of the steam powered innovations of the Victorian age, “allowed Victorians to read, and to trust what they couldn’t see” (Blaise xiii). Trusting what one cannot see is at the core of most of the texts discussed here; the Time Traveller demonstrates that the fact that one cannot see the fourth dimension does not mean that one

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*Chronic Argonauts* came from “the students’ Debating Society…I heard about and laid hold of the idea of a four dimensional frame for a fresh apprehension of physical phenomena, which afterwards…gave me a frame for my first scientific fantasia, *The Time Machine.*” The year he spent in Huxley’s classes, Wells says, “was beyond all question, the most educational year of my life” (4).

51 At the very start of *The Time Machine*, the Time Traveller prefaces his experiment’s presentation with a warning. He says, “You must follow me carefully. I shall have to controvert one or two ideas that are almost universally accepted. The geometry, for instance, they taught you in school is founded on a misconception” (Wells 59). These are the first words readers of the novel hear from the Time Traveller, and so, without knowing anything about what he intends to demonstrate, they understand him as a scientist who “controverts…ideas that are almost universally accepted.” He himself knows that what he has discovered defies reality, and he anticipates the disbelief of the men in the room.

52 See Beer. Her lecture discussed spatial and temporal distortions in Lewis Carrol’s fiction, relating his literary work to his studies as a mathematician at Oxford.

53 See Blaise.
cannot move through it, and Griffin proves that one does not need to see a person in order for him or her to exist.

In addition to gauges, film technology and other visual gadgets proliferated the Victorian marketplace for the first time, and several critics purport that, in addition to scientific theories of the fourth dimension, fledgling film technology might have influenced Wells as well. Film as a representational form was significant for realism as an intellectual project, but the technology itself also could have had a more focused and direct impact on Wells, influencing *The Time Machine* and, to a certain extent, *The Invisible Man*. The Time Traveller's invention resembles visual gadgets of the time, both in Wells’s text and more contemporary film adaptations. The time machine itself most closely resembles Edison’s kinetoscope. This device used a lever to give an individual view, showing everyday scenes at a higher speed or even in reverse, just as images in Wells’s novel would have appeared during time travel. Whether or not Wells actually imitated material objects he encountered in the Victorian marketplace is up for debate, but both the aesthetics and the functionality of such trinkets would have been easily recognizable to his readers. More importantly, the manipulation of images and time through film forced Victorians to reconsider time’s properties and their understanding of them.

**Victorian Reception of *The Time Machine***

54 See Lightman; and Christ and Jordan. Lightman says that “Popularizers responded to the pictorial turn in Victorian culture. .[and] explained the scientific principles behind the new optical gadgets that were invented during the nineteenth century, such as the camera, camera lucida, stereoscope, kaleidoscope, phenakistoscope, and spectroscope” (38). Christ and Jordan connect these visual gadgets to realism, saying, “The optical instruments so popular among the Victorians demonstrated a similar tension between objective and subjective models of vision…optical gadgets were not arrayed on one side or the other of this conflict…for Dickens they provided a means to contemplate the conflict, indeed, to experience it. Like Eliot’s pier glass, like Pater’s impressionism, optical gadgets used science to derive a subjective spectacle” (xxiv).

55 See Robinson 22; Williams 28; and Ramsaye 81 and 170. The 1887 date of invention, which Edison mentions in his own writing years later, is contentious because Edison’s direct involvement and the timeline during which he invented the kinetoscope is still debated amongst film historians; Ramsaye, for example, cites 1888 as the year the kinetoscope was invented. The first kinetoscope parlor opened in London in 1894.
Several reviews written immediately following the publication of *The Time Machine* characterize Wells himself as a mad scientist who “controverts universally accepted ideas” (Wells 59). Some reviews are ambiguous about whether or not the novel is science or science fiction. The *Spectator*’s review, for example, calls the novel an “amusing story” but at the same time voices skepticism about its scientific premise, calling the time machine “some hocus pocus of a machine” (Ruddick 263). The reviewer, Richard Holt Hutton, describes the plot as follows: “A speculative mechanician is supposed to have discovered that the “fourth dimension,” concerning which mathematicians have speculated, is Time, and that with a little ingenuity a man may travel in Time as well as in Space” (263). His choice of words, saying that the Time Traveller is “supposed to have” discovered the fourth dimension, implies that to actually do so would be impossible, and that this is merely the pretense of the narrative. He still makes a point to mention the fact that “mathematicians have speculated” on the fourth dimension, returning scientific credibility to Wells.

Other reviews, on the other hand, less ambiguously treat Wells as if he himself were a scientist proposing the fourth dimension theory. The reviewer at *Nature*, for example, describes Wells’s work as “ingeniously arguing that time may be regarded as the fourth dimension of which our faculties fail to give us any distinct impression” and appears to treat Wells’s fiction as a scientific argument. This reviewer does not call the time machine’s technology “hocus pocus,” but rather encourages “the scientific reader” to invest time and attention to it, “for the reason that it is based so far as possible on scientific data” (Ruddick 268). This reviewer can see *The Time Machine* as both scientific discourse and fiction. Israel Zangwill of *Pall Mall Magazine* also evaluates the validity of Wells’s work as if it were an actual scientific theory as opposed to

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56 Most reviews focus on the portrayal of human civilization millions of years in the future, and only mention time in relation to evolution.
fiction, using the term “hypothesis” while at the same time calling the novel an “amusing fantasy.”

A Theory of the Fourth Dimension in *The Time Machine* and the Time Traveller as Mad Scientist

The human brain can only perceive time as steadily passing in a singular, forward direction, rather than being able to skip ahead to the future or revisit the past. This circumstance, made apparent by H.G. Wells’s *The Time Machine*, calls into question whether or not reality can be reliably measured if one of its determining factors – time – originates in a human’s constrained perception. Theorizing that time is a fourth dimension similar to the first three dimensions of space, *The Time Traveller*, the novel’s protagonist, explains this problem, saying, “There is…a tendency to draw an unreal distinction between the former three dimensions and the latter, because it happens that our consciousness moves intermittently in one direction along the latter from the beginning to the end of our lives” (Wells 5-6). Because of time, humans cannot get outside of themselves, they cannot escape their consciousness to see outside the context of time’s passing. Wells’s novel indicates that as long as this is the case, the human measurement of time’s duration will skew all representations of the real.

With a lengthy exposition and discussion of the fourth dimension in its first chapters, *The Time Machine* conveys the perspective that the Time Traveller’s discovery of time travel is only unrealistic and implausible because feeble human perception prevents a complete understanding of time’s principles. The novel presents the Time Traveller as the lone enlightened man, or, as other characters in the novel might say, the mad scientist whose colleagues describe him as “against reason” (8), who understands and possesses an awareness of human perception’s shortcomings. With a critique of the human brain similar to French philosopher Henri Bergson’s

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57 See Ruddick 274.

theory of duration, which posits that human perception maps time onto space instead of understanding its own movement, Wells’s Time Traveller claims that “there is no difference between time and any of the three dimensions of space except that our consciousness moves along it” (6).59 Since he has acknowledged that the physics of time exceeds his own understanding, the Time Traveller is able to build a machine to overcome this limitation, not unlike the way other scientists past were able to “go up against gravitation in a balloon” to overcome limitations on human mobility in three dimensional space.

Wells creates a debate on realism within his novel when he stages a lengthy discussion on the fourth dimension between the Time Traveller and a room full of men who represent the conforming masses who never think to challenge the scientific status quo. In order to mark them as the conformers who assume time must pass linearly, Wells gives these men generic, archetypal names such as the Psychologist and the Medical Man. The one character whom the novel does give a proper name, David Filby, serves as the “rational man.” He initially harbors the same skepticism as the generic men, but, because he is more open-minded than they, he eventually believes in the Time Traveller’s theories. Wells positions his reader between the nonbelievers who think of theories of the fourth dimension as “wild extravagant theories” (Wells 8) and the mad scientists who would treat them as legitimate science, forcing the reader to negotiate competing attitudes towards the human ability to perceive the totality of time and space.

The novel’s dialogue on realism, despite featuring extreme opposing epistemologies, maintains an ongoing, nuanced, and unsettled debate as opposed to delivering a dogmatic treatise by Wells clearly favoring one side because the Time Traveller’s claims provoke mixed reactions.

59 Bergson’s theory of duration was published in Time and Free Will in 1889. In summarizing Bergson’s theory, Suzanne Guerlac, in Thinking in Time writes, “When we figure time as a line, or a circle, time stops moving. We inadvertently turn time into space” (Guerlac 1).
from Filby and the unnamed men. For the most part the men in the room dismiss the Time Traveller’s theory of the fourth dimension. The Psychologist, for instance, says, “it’s all humbug, you know” (Wells 8). The Medical Man says, “Look here…are you in earnest about this? Do you seriously believe that that machine has travelled into time?” (10) and has assumed from the start that the Traveller has “some sleight of hand trick or other” (9). The men also indulge the Time Traveller, allowing him to continue his demonstration with the small model time machine; they even fantasize for a moment about what it would be like to be able to go back in time and witness historical events. It is important to note, however, that such a fantasy for these men remains fantasy and never becomes scientific theory.

Through reactions to and descriptions of the Time Traveller by the narrator and other characters, Wells illustrates that those likely to break free of human consciousness’ limitations are an odd sort; they are mad scientists who exist outside social norms and therefore will not be constrained by them. He depicts the Time Traveller as eccentric who, like many other characters we will see in other popular novels, conducts his experiments in the privacy and comfort of his own home. The time machine itself, after all, begins and ends its journey all within the borders of the Traveller’s property.

The reasons for the novel to locate the Time Traveller’s scientific practice in a home are both historical and narratological. Science becomes a recognized profession during the nineteenth century. Prior scientists were gentlemen amateurs, conducting experiments in the home; when these men began to practice science professionally, they were not well respected or taken seriously. By invoking this cultural trope, even though the stigma attached to it would soon fade, Wells creates an anti-institutional narrative setting. These experiments must take place in the home, Wells suggests, because they are too radical for any scientific institution still clinging
to historically accepted notions of physics and the “natural laws” of empiricism.\textsuperscript{60} The narrator of the novel also comments on the Time Traveller’s eccentric nature, contributing to a mad scientist portraiture. He says, “The Time Traveller had more than a touch of whim about his elements” (Wells 12). He speculates that the group would have believed in time travel if another, simpler man were to have proposed its existence.

In order to temper the complete dismissal of time travel, Wells includes two intermediary characters, with whom the readers of the novel will most likely identify. The fact that Filby is the only named character in the text brands him as a special character distinct from the other men, and his attitude towards the Time Traveller’s theories reflects this distinction as well. He exhibits skepticism towards the Time Traveller’s findings but shifts back and forth between participating in the nay-saying of the other men in the room and suspending his judgment; he is also the first character to realize that the Traveller insinuates his invention is capable of time travel, saying, “You mean to say that that machine has travelled into the future?” (Wells 67). Filby also winks at the narrator, as if to imply that he is more in the know about what is “really” going on with the Time Traveller than anyone else in the room.

Although he is never named, the reader might also identify with the narrator, who participates in scenes and often expresses surprise and wonder at what he sees, but never actually scoffs at or has a negative attitude towards the Time Traveller’s claims. The narrator, while everyone else in the room assumes the model demonstration is a trick, confides in the reader that “I am absolutely certain there was no trickery” (Wells 10). These characters serve as models for readers to follow as they undergo a conversion process from someone who assumes human consciousness can access a total view of time and space to someone who understands that his or

\textsuperscript{60} For more on this, see this study’s introduction, which discusses the evolution of science as a profession in more detail.
her cognition can only offer a partial view. A reader can, through the eyes of the narrator and echoed in the voice of Filby, surmise a more moderate, digestible version of the Time Traveller’s theory: if the senses cannot replicate all of time and space, then one cannot make any reliable claims about reality, one way or the other. To rule out time travel as a possible reality, despite its implausibility, would be presumptuous.

The mixed reactions to time travel by characters in *The Time Machine* reflects the varied ways in which scientists treated the theory of the fourth dimension.\(^6\) Paralleling the perceived connection between the fourth dimension and an explanation of ghosts in scientific publications, *The Time Machine* presents an intrinsic relationship between supernatural tropes and scientific practice. The novel demonstrates that the ghost as a concept is an effective method of conveying the unsettling nature of time travel for the human brain. As we will see with Sherlock Holmes in a later chapter, the supernatural in *The Time Machine* manifests primarily in Wells’s narration, especially when characters describe the time machine’s movements.

The Time Traveller describes his use of the time machine in supernatural terms. When he uses the time machine as bait and willingly falls for the trap the Morlocks have set for him, he says, “I had only to fix on the levers and depart then like a ghost” (Wells 63). Even though he believes the time machine to be real and believes time travel to be real, the Time Traveller still uses the word “ghost” figuratively. This is indicative of Victorian scientific discourse’s attitude towards the supernatural. The Time Traveller as a Victorian scientist who asserts the existence of a fourth dimension does not necessarily stand staunchly against ghosts or any other supernatural phenomena; rather, he sees scientific theory as a way to explain, or, in his case, achieve the supernatural.

\(^{6}\) See previous discussion on the fourth dimension and ghosts in Victorian scientific discourse on page 76 and 77.
More importantly, the ghost metaphor is the only language the Time Traveller can formulate that even approximates the image of time travel because the human brain cannot process non-linear progression in time. According to scientific publications on the fourth dimension, the human eye and mind cannot account for movement in the fourth dimension, and therefore such movement appears to be “ghostly.” The Time Traveller’s ghost signifies not a deceased person’s spirit but rather a glitch in human consciousness. The ghost metaphor is the best way, the only way, for the Traveller to express how the time machine operates in terms others can understand. Time travel is so inconceivable to the other men in the room that they must articulate their shock, skepticism, and fear of the unknown in the form of a more familiar supernatural metaphor. The liminal space between the real and the unreal that the supernatural occupies suits the Time Traveller’s narrative because it can serve as a coping mechanism for characters and readers in the confusing gray areas of perception, representation, and reality.

Corresponding with the Victorian boom in visual gadgets that generate illusory images, Wells has his more ignorant, skeptical characters perceive ghosts or a ghost-like movement in time as visual tricks synthetically produced for entertainment purposes. The members of the Traveller’s audience allude to his other experiments, which they had previously assumed were magic tricks, and place the time machine in that context. The Medical Man, for example, accuses the Time Traveller of being a conjurer, and asks if the time machine is “like the ghost you showed us last Christmas?” (Wells 12). A reader’s interpretation of this statement about ghosts could vary. On the one hand, since the narrative has already established the men in the room as incredulous, one can assume that the fact that the Medical Man calls “that ghost” from last Christmas a trick does not necessarily mean that the Time Traveller was not genuinely attempting to exhibit an actual ghost. He is, after all, actually travelling in time in the narrative.
despite his colleagues’ accusations of illusionism. A Victorian reader, however, would not find it unusual if the “trick” the Medical Man refers to was indeed a trick. Historians often characterize Victorian culture as a visual culture whose interests in optics, visual tricks, and human perception spurred innovations for illusionists.

The ambiguity surrounding the “trick,” I argue, is purposeful. Through the incredulous voice of the Medical Man, Wells can simultaneously reference technological productions of ghosts and force the reader to question if the narrative is talking about “real” as opposed to artificially manufactured ghosts. Film was, like the time machine, a scientific or technological way of achieving the appearance of the supernatural. Ghost stage shows called “phantasmagoria” became wildly popular during the nineteenth century, and the purpose of such a show for a Victorian patron could have been anywhere between whole-hearted belief and light-hearted suspension of disbelief; any point on that spectrum facilitates the pleasure of witnessing a ghost. The ghost metaphor allows the reader who knows that “seeing is believing” carries a dual meaning to have a sophisticated understanding of visual evidence.

The narrator does not hesitate to describe time travel as a phantasmagoria when he goes down the hall to cancel an appointment with the Traveller, only to discover the Traveller is no longer there. He explains, “The Time Traveller was not there. I seemed to see a ghostly, indistinct figure sitting in a whirling mass of black and brass for a moment – a figure so transparent that the bench behind with its sheets of drawings was absolutely distinct; but this phantasm vanished as I rubbed my eyes. The Time Machine had gone” (Wells 70). The narrator’s observation offers three simultaneous explanations for what he thinks he sees. He sees a ghostly supernatural being from beyond the grave because the Time Traveller has vanished without a trace and is presumed dead. He implies that he sees an illusionist’s trick when he says
he “rubs his eyes” because he believes his eyes are playing tricks on him or because this is another one of the Time Traveller’s parlor games. And finally he sees a ghost or visual trick because that is what time travel is – a distortion of a visual reality that the human mind constructs in order to make sense of the fourth dimension it cannot understand.

The narrator reports his eyewitness account of the Time Traveller traveling in a more complex, layered way than the Medical Man, which provides the diversity in epistemological perspectives Wells offers. The Medical Man only asks a single question of the Time Traveller, conveying skepticism, whereas the narrator, who functions as a model learner for the reader to follow, tries to make sense of what he sees without dismissal or judgment, and articulates the confusing image in detail. He uses uncertain, qualifying language, such as “I seemed to see” as opposed to a more definitive “I saw” and does not rule out time travel even though he can’t quite make sense of what he sees: “I knew that something strange had happened, and for the moment could not distinguish what the strange thing might be” (Wells 70). The narrator is the only character that reacts typically with shock and disbelief, relies on the aid of the ghost metaphor, and broadens his horizons to transcend his limited senses by believing in the Time Traveller’s story.

**Wells’s Frame Narrative, Narrative Time, and Metafiction**

In addition to the cast of characters that span the spectrum of ability or inability to acknowledge the partiality of human perception, Wells constructs a narrative that in of itself raises awareness about the insufficiencies of the senses in relation to time. He builds a seemingly unnecessary layered narrative, or frame narrative, forcing readers to process narrative time, which can move freely in a way that “real world time” cannot. The narrative begins in the home of the Time Traveller before his journey, then jumps to the dinner at which the Time Traveller
arrives having just narrowly escaped the perils of the future he has visited, and finally returns to the journey itself through the Time Traveller’s retelling of events. Readers do not experience narrative events in the order in which they happened because Wells creates a significant disparity between the narrative fabula and syuzhet.\textsuperscript{62}

Having one timeline embedded in another allows a reader to make a connection between narrative as a representation of time and space and the actual scientific theory behind time travel, making the novel itself a case study in time. With the Traveller’s observation that time is only linear because human consciousness forces it to be in mind, readers are more likely to be conscientious of where in the narrative they are when. First we begin in the Time Traveller's parlor room as he explains the theory behind the time machine, but then, instead of chronologically following the Time Traveller on his journey, the narrative remains in the Time Traveller's home, with his friends and colleagues waiting to receive him and hear about his journey to the time of the Eloi retrospectively. If a reader has to reckon with enough non-linear movements in narrative time, enough “temporal disturbances,” he or she may realize that the way humans experience time – linearly – may only represent a partial knowledge of time.

Time as perceived by human consciousness is limited in a way that narrative time is not. M. M. Bakhtin, in “Forms of Time and the Chronotope of the Novel” discusses how novels are distinctive in their ability to warp time, arguing that “novelistic time” is “thoroughly cut off from nature” (128) and has its own rules and manipulations, none of which represent “real time.” Bakhtin also assists Wells’s readers in understanding The Time Machine’s frame narrative because he argues that novels are unique in their ability to provide heteroglossia – multiple voices or discourses – within one text. One can interpret Wells’s creation of a frame narrative

\textsuperscript{62} See Bordwell 50. The fabula represents the events of a narrative in the chronological order they would have had in real time whereas the syuzhet is the same series of events in the order in which they are presented in the narrative.
and multiple voices (i.e. the narrator vs. the Time Traveller), then, as an attempt to make *The Time Machine* more novelistic in order to make the contrast between the non-linear progression of narrative time and the linear progression of real time more noticeable to readers.

Only, the narrative is technically linear. Since the journey’s narration appears in quotation marks, as dialogue uttered by the Time Traveller, everything in the narrative technically occurs in the Time Traveller’s home in fin de siècle England. Perhaps, then, the novel mimics human consciousness in its perception of time as a linear progression. The frame narrative allows the novel to march along in chronological order, with the long narration of the journey in the middle presented as a story told in the original timeline. Wells has it both ways – he forces his narrative time to be linear through the frame narrative but also has, for all intents and purposes, the journey into the future narrative function as a flashback, which interrupts the linear timeline. The journey narrated by the Time Traveller in the frame narrative, while appearing in quotation marks, is never disrupted by anything or anyone in the frame narrative until the Time Traveller finishes the flashback narrative.

Joseph Conrad's *Heart of Darkness*, written only a few years later in 1898, also contains uninterrupted flashbacks narrated in quotations marks. The novel is painstakingly told in quotations not by the third person narrator but by Charles Marlow who is retelling his experience to a group of other sailors, including the narrator, who have very little to do with the narrative. Of both novels one must question the need for a narrator at all if the majority of the story is going to be told as dialogue from another non-narrator character. For Conrad's work, many critics have argued that the frames serve to emphasize the fact that narratives in general are inherently unreliable; histories are always subjective and subject to the narrator's ideological, social, and political moorings. With respect to *The Time Machine*, one might speculate that the
excessive framing draws more attention to the fact that narration is a kind of time travel, and that the novel itself may be questioned as a representation – fact or fiction – in the same way the time machine might be.

The narrative frame could also serve as a way to legitimize the Time Traveller’s theories. When comparing the 1960 film adaptation to Wells’s text, Thomas C. Renzi says, “The Frame Narrator and Frame Character serve at least two purposes. Their outside viewpoint carries a degree of objectivity and gives credibility to the inventor's Inset Narrative. Second, they ground the story in a reality with which the audience can identify before and after experiencing the wondrous trip in the Time Machine” (19). The idea of a narrative frame “grounding the story in reality” implies that the story itself is unreal, assuming an antithetical relationship between the two narrative discourses. One could also see the narrative frame as a mechanism for naturalizing time travel. If the reader or spectator is already “grounded in reality,” then that sets up the time travel in the narrative as a logical portion of that reality. Wells, in creating this narrative frame, hopes for readers to focus their attention on issues of realism. If the Time Traveller’s journey were simply retold in the past tense with no preface and no Victorian home with witnesses to believe or disbelieve the tale, then the novel would cease to be about realism and would fail to display the problems of human perception. The novel is just as much about time travel itself as it is about the world the Time Traveller discovers in the far future.

The frame narrative, with the premise that the novel is a found document that may or may not contain true stories, gives Wells the license to infuse the entire narrative structure, all layers, with questions of fact versus fiction. The Time Traveller, when the narrative frame comes to a close, remains unsure, for a brief moment, as to whether or not his story is real or was merely a dream. He explicitly tells his colleagues that he does not expect them to believe him – “I
know...that all this will be absolutely incredible to you. To me the one incredible thing is that I am here to-night in this old familiar room looking into your friendly faces and telling you these strange adventures” (Wells 68). After narrating his final escape, he says, “It may be as wrong an explanation as mortal wit could invent. It is how the thing shaped itself to me, and as that I give it to you” (62). These statements draw attention to the story’s own fallibility at the hands of his narration. He acknowledges his story’s subjective nature, as a representation that “shaped itself” to him, or, in other words, as a representation of events filtered through his own individual perception. He calls his story an invention of “mortal wit” as opposed to a true account of any kind.

The narrator also has his doubts. On the way home from the Time Traveller’s house, he says, “I shared a cab with the Editor. He thought the tale a ‘gaudy lie.’ For my own part I was unable to come to a conclusion. The story was so fantastic and incredible, the telling so credible and sober” (Wells 69). One, instead of assuming that these admissions of uncertainty are a way of labeling the middle portion of the narrative as fantastical, might think of them as the novel’s way of showing that there is no way to discern to what extent any narrative told by any narrator might correlate to “reality.” All narratives are always already both dreamlike and real, and the human senses are never fully capable of discerning fact from fiction absolutely.

Aside from the debate about whether or not the Time Traveller’s story is true, one cannot help but notice how often the act of writing as a representation of reality, like human perception, is characterized as faulty in the novel. Made possible by the frame narrative, the act of the Time Traveller telling his own story is just as much a part of Wells’s narrative as his journey into the dystopic future is. When the Time Traveller returns from his adventure, he refers multiple times to the act of storytelling. First he is too hungry to tell the story, then he asks his friends not to
interrupt his story, and finally he says, “Most of it will sound like lying. So be it! It’s true – every word of it, all the same” (Wells 16). By spending time in the novel on these self-reflexive references to storytelling, Wells draws a connection between the Time Traveller’s awareness of realism in his own narrative and the stake his experiment as a test of reality’s limits has in realism.

The narrator of *The Time Machine*, in his retelling of the Time Traveller’s retelling, also raises questions about literary realism. He says,

In writing it down I feel with only too much keenness the inadequacy of pen and ink – and, above all, my own inadequacy – to express its quality. You read, I will suppose, attentively enough; but you cannot see the speaker’s white, sincere face in the bright circle of the little lamp, nor hear the intonation of his voice. You cannot know how his expression followed the turns of his story! (Wells 16)

In this confession of his anxieties, Wells’s narrator all but proclaims that there is never any way for writing or representation to do justice to reality. He blames not only himself in identifying his “own inadequacy” but also the form of writing itself – “the inadequacy of pen and ink.” The narrator implies that regardless of how skilled a storyteller he himself may be, literary representation inevitably and unavoidably falls short of capturing an experience.

The way in which the narrator describes his surroundings emphasizes what cannot be seen or how the human eye fails. The narrator, in this same passage, goes on to say, “Most of us hearers were in shadow, for the candles in the smoking-room had not been lighted, and only the face of the Journalist and the legs of the Silent Man from the knees downward were illuminated” (16). The discussion of shadow, light, and illumination may remind readers of the pier-glass.

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63 This light/shadow motif actually begins in the earlier portion of the passage quoted, when the narrator singles out “the bright circle of the little lamp.”
parable made famous by Eliot in *Middlemarch*. The hearers are in shadow here, indicating that their ability to see the Time Traveller has clearly been compromised, and the narrator makes a point to say, switching perspectives from listener to storyteller, that only part of the company of hearers can be seen as well. Only body parts – a face and legs – can possibly be illuminated. Everyone is in shadow; everyone’s perception is clouded and insufficient.

The characters’ archetypal names – The Time Traveller, The Editor, The Journalist, The Medical Man, The Provincial Mayor, and The Psychologist – also create a metafiction. With these names, the novel appears less as a “true account” by an individual and more as a fable or tale that has stock characters of no particular consequence; they could be anyone. And it is certainly no coincidence that several of these names signify professions that involve crafting a narrative; journalists write them, editors shape them, medical men piece together patients’ medical histories, psychologists record the testimony of patients, and mayors spin political treatises. When he uses these archetypal titles instead of proper names, Wells makes the writing process, the act of representation, a subtextual topic of discussion.

An attribute of the novel that points even more directly towards novel writing or written narrative is a footnote left by The Editor. The narrator, in retelling what the Time Traveller told him, says, “Suddenly Weena came very close to my side. So suddenly that she startled me. Had it not been for her I do not think I should have noticed that the floor of the gallery sloped at all.

[Footnote: It may be, of course, that the floor did not slope, but that the museum was built into the side of a hill. –ED.]” (Wells 53). One can only assume that “ED” indicates the hand of The Editor, qualifying or questioning an aspect of the Time Traveller’s account. The footnote begs a question: if the narrator is reporting on the Time Traveller’s oral storytelling, why have an academic footnote? The footnote is appropriate because, as some readers may forget, the narrator
and not the Time Traveller himself writes the main narrative; the novel only features the Time Traveller as verbally creating a narrative embedded in that main textual narrative. Again, form becomes as prominent in the novel as its content.

From the lengthy and detailed discussion of the fourth dimension, to the characters varying in sensitivity towards the failures of the senses, to the frame narrative that allows for its own discussion of time and space, Wells comprehensively addresses issues of realism in *The Time Machine*, asking readers to negotiate issues of human cognition, subjectivity, representation, and the supernatural. In both form— the novel’s narration — and content — the scientific theories discussed by characters in the novel — readers learn to mistrust their own eyes, ears, and minds when considering real time, narrative time, and narrative itself.

**Time, Space, Film Form, and Adaptations of The Time Machine**

When film first emerged at the fin de siècle, its ability to present time as non-linear or to create convincing illusions forced Victorian viewers to change the way in which they thought of time and space. Placing this cultural shift precipitated by film in a contemporary context also proves helpful when contemplating Wells’s interests in realism. A contemporary film adaptation of *The Time Machine*, for example, can enact a kind of time travel through cinematic techniques, such as stop motion, in a way the novel cannot.

Film form destabilizes existing notions of time and space by pointing out the paradoxical nature of realist representations. The photograph, in its mechanized production, fosters the expectation that the camera is an empirical technology that can provide a mirror image of reality. But it also can, just as any other representational form, skew an object’s appearance. In

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64 As Roland Barthes implies, film has the distinct ability to more convincingly masquerade as an analogon to reality than other forms such as painting or prose, but in fact distorts reality. In *Image, Music, Text*, Barthes, when discussing the photograph, says, “Certainly the image is not the reality but at least it is its perfect analogon and it is exactly this analogical perfection which, to common sense, defines the photograph. Thus can be seen the special
film, with moving photographic images, a series of still images strung together can simulate movement in a realistic way, but it can also “document” a reality that only exists in the film because it has been synthetically contrived. Filmmakers can suture together footage from different places and different times, and they can sequence them in a way that creates a series of events that never happened.

When the birth of film technology occurred in the 1880s and 90s, Victorian culture became fascinated by film’s paradoxical ability to be both the documentarian and the illusionist. Based on documentation of how audiences responded to early films, film radically changed the way Victorians thought about the real and unreal, inspiring a reevaluation of mimesis in art and literature.\textsuperscript{65} Nancy Armstrong makes a particularly compelling argument for how photography precipitated literary realism in several of her writings, and I would extend her argument to film.\textsuperscript{66} The development of early cinema serves as an historical force influencing Victorian realism because film’s invention caused Victorians to second guess their representations of reality because it was at once so “real” and clearly not real at all; the invention of film, conversely, was also the result of the increasing interest in the nature of reality, in time and space, and human perception during that time.

Even though film made the conjuring more convincing, the apparatus of the trick less transparent, Victorian culture still perpetuated the notion that film was art and not reality. The early French film \textit{The Arrival of a Train at La Ciotat Station}, made in 1895 by the Lumiere brothers, shows in a single continuous shot a train arriving at a station. The image of the train was so lifelike that it supposedly caused its first audience to run to the back of the theater, in fear

\textsuperscript{65} See Miller.
\textsuperscript{66} Primarily in \textit{Fiction in the Age of Photography: The Legacy of British Realism}.
of being trampled. In 1901, R. W. Paul’s *The Countryman and the Cinematograph* takes the Lumiere brothers film and, as Elizabeth Carolyn Miller says, “reflexively “explains” cinema” (Miller 1). The film features an archetypal “country” audience member who “mistakes cinematic illusion for real-world phenomena,” (1) such as a dancing girl and a train moving towards him. Victorian filmmakers had to train the viewing public in experiencing pleasure in response to a simulation of reality while still acknowledging its unreality.

In its attempt to simulate reality through moving images, the film camera enacts a kind of time travel. Many early films used stop motion animation, and this kind of special effect, first used when *The Time Machine* was published and still used well into the twentieth century, uses film technology to manipulate time. Still photographs, each representing one moment in time, when strung together and shown at an “unnatural” speed, break the filmmaker free from the steady march of time that human consciousness dictates, as the Time Traveller explains in his theory of the fourth dimension; he can recreate a timeline which moves at whatever pace he chooses, with past, present, and future at his beck and call. Gilles Deleuze in *Cinema 2: The Time-Image* discusses how film complicates time by defining the “time-image.” A “time-image,” is not a flashback or a memory, or any representation of “purely empirical succession of time – past-present-future” (xii). Rather, it is “a coexistence of distinct durations, or of levels of duration; a single event can belong to several levels: the sheets of past coexist in a non-chronological order” (xii). Shots taken by a film camera do not represent the time that passed when they were taken, neither as representations of a past moment in time nor of a present moment in time playing through upon viewing of the film. Deleuze’s notion of the time-image in film going “beyond the purely empirical succession of time” (xii) is one that echoes the Time Traveller’s words about the human consciousness moving along a steady, unbreakable timeline.
Stop motion effects, born in the Victorian period, are so vital to a visual representation of time travel that George Pal employs them in his 1960 film adaptation of *The Time Machine*. In the scene that premieres the time machine itself, Pal uses stop motion and time lapse techniques with multiple images occupying the same “space.” At the start of the scene, George, who is the Time Traveller in the novel, lights the candle to visually establish its significance; this serves as visual foreshadowing, as there’s no reason to linger on the candle unless it will become important later. The visual framing and foreshadowing continues when George sits down in the time machine. The camera cuts from a medium close up of him seated to an eyeline match close up of the panel that shows the date and year. Then we cut back to the medium close up of George as he looks upwards, and the camera follows his gaze to another eyeline match close up of the skylight. Both of these close ups will become important later in the scene when the time travel actually begins because they will provide visual evidence for time having passed. All these early shots serve as Pal’s set up for his visual articulation of time travel.

Pal uses visual cues to indicate the passage of time, and in the process he (possibly inadvertently) makes Wells’s point about human consciousness and time in a way only film can. Since the viewer must rely on the visual cues of one shot followed by another shot that looks slightly different to know time has lapsed, he or she is completely reliant on his or her senses (specifically his or her eyes) to perceive time. But the way the viewer perceives time is inevitably inaccurate. The two shots compared could be from completely different moments in time or even two completely different places, but the fact that the spectator of the film sees them in quick succession means that they must have occurred chronologically. It’s an assumption the human brain can’t help but make.
Pal enables this assumption by making it so that the spectator experiences visual cues alongside George. Through a voiceover, which represents his interior thoughts, George identifies a clock and a candle as his markers of time travel. Even though the room he sits in remains exactly the same after pulling the machine’s lever just a little bit, the candle wax has melted down and the clock hand reads a time several hours from when he started.

When he pulls the lever even more, the camera shows a static shot of the candle and clock and, due to stop motion animation – splicing together several images from different points in time and playing them back rapidly – the candle and clock hand appear to be moving on their own at an astounding rate. The candle in seconds shrinks down to a stub of wax and the clock hands spin around continuously. Then the camera cuts to a low angle up shot of the skylight above, and a similar stop motion effect makes the sun speed across the sky. Still sustaining a voiceover narration, George comments, “It was disconcerting to see the sun arc appear as if it is moving quickly across the sky.” In Pal’s film, this is exactly what spectators see, and the stop motion allows it to be disconcerting for them as well.

The rest of the scene relies on visual difference in order to establish the passing of time. The camera always frames the close up of the front panel of the time machine which marks the date and the year in exactly the same way, so that spectators may be more likely to notice that the date has changed. The same framing occurs with the skylight, in order to visually represent the change in the time of day. Finally, the same shot of a mannequin in a storefront repeats several times, but the outfits keep changing to indicate decades passing. The mannequin in the window clearly does not originate from the novel; Pal adds her in order to cinematically illustrate time’s passing with visual difference. It also adds a somewhat problematic comic relief to this scene, as
George makes a series of sexist jokes about women’s fashion as we see the mannequin’s dresses change over the years.

With the exception of the clock and the candle, one might notice that these repeated shots are all consistent with one another, framed exactly the same way for each object. The camera holds, for example, in the exact same low angle up in a medium long shot for each shot of each different dress. This makes the changes from shot to shot more noticeable for the viewer. Again, this representation of time does not actually represent any real timeline but rather takes advantage of human consciousness’ linear temporality. If the two shots look similar enough, regardless of what moment in time they actually record, their slight visual difference will cue the spectator to perceive movement in time.

Pal not only takes advantage of our reliance on the visual to perceive time and the tendency to construct linear temporality, but he also provides moments of excess of it; he continues to show off his stop motion special effects, carrying the scene on longer than it has to be. We see flowers blooming and wilting in record time, the sundial gaining and losing snow, people on the street that appear in George’s window scuttling around unnaturally fast, and the rapid alternation between night and day that the Time Traveller of the novel comments on. There are even extreme close ups of flowers that seem to be straight out of a television nature special as opposed to the universe of this film. Obviously this flower takes months to grow and wilt, but we are able to, thanks to film splicing together still images over time, watch its movement in growth in mere seconds. It’s almost as if Pal flaunts film’s ability to process time in ways the human brain cannot in these scenes, to remind spectators that only film can travel through time at rapid speeds.

67 The presence of George in the first shot explains the clock and candle exception. Since all the other shots are eyeline matches, representing George’s POV, it makes sense that the clock and candle shot that includes him would not be framed/angled the same way as the POV shot of the same clock and candle.
Some adaptations of *The Time Machine* completely omit discussions of the fourth dimension and human consciousness. This divergence from Wells’s novel reinforces the notion that Wells dramatizes realism through the zealous and somewhat zany scientist character as well as the contrasting non-believers. The 2002 film adaptation, for example, de-emphasizes the obsessive scientific pursuit of the protagonist, skips the fourth dimension exposition, and therefore downplays the realist themes. The film, in fact, seems to associate its time traveler with a host of anachronistic scientific innovations at the expense of the fourth dimension – solar power, microwave technology, and electric toothbrushes – in place of the fourth dimension discussion scene of the novel. Only for a fleeting moment during the opening credits do we hear Filby call Alexander Hartegan (the Time Traveller) “radical” in his ideas.

It is crucial to note that Wells’s representation of “mad” experiments were not inventions of the imagination, but notions actually in circulation among the Victorian reading public. Wells appropriates these scientific ideas in order to, in his fiction, contemplate how we might conceive of time and human perception relationally, thus doing his part in the debates in realism. As the discussion of theorists of the fourth dimension proved earlier, traveling through time would have been a scientific possibility presented in scientific publications and while not proven as fact or generally agreed upon, would have been widely regarded as plausible theory. This then alters how a reader might interpret the disbelief of those friends and colleagues; their reaction to the experiments no longer operates as a reflection of the Victorian public’s attitudes towards scientific principles but rather as a dramatization of realism and the problems of representing reality. Wells shows a scientist proposing ideas that no other had previously conceived, but this is, again, hyperbolic in order to emphasize the realist theme.
The 2002 adaptation of *The Time Machine* replaces the fourth dimension theory with a romantic subplot that motivates the Time Traveller’s scientific pursuits. On the eve of proposing to his sweetheart, Emma, Hartegan and his new fiancé meet a mugger who robs them at gunpoint. When the mugger demands Emma’s engagement ring and she refuses, a tug of war over the ring leads to Emma being shot and killed. Hartegan then obsesses over building a time machine so that he might go back and change past events. In Wells’s novel, there was no reason for the Time Traveller to build the time machine other than scientific curiosity. The late Victorian tendency to question the nature of reality for its own sake, then, is noticeably absent in the film. This addition of romance and subtraction of scientific curiosity reflects back on Wells’s text, emphasizing the importance of experimentation to its narrative.

Simon Wells, the director of the film and H.G. Wells’s great grandson, decides to make his version of *The Time Machine* more about wanting to travel through time to “correct” past mistakes and alter the course of history and less about the fourth dimension, human perception, and realism. One might point to a popular trend of the period, where the “butterfly effect” was a popular subject, as a possible reason why this shift in focus occurs. A film actually titled *The Butterfly Effect* would appear in theaters two years after *The Time Machine*, in 2004.

Nearly all differences between the 2002 adaptation and Pal’s 1960 film can be attributed to this addition of a romantic relationship. The first shot of the scene in which Hartegan discovers time travel is an inter-title that says “Four Years Later” to emphasize that after the death of Emma, which spectators would have just seen in the previous scene, Alex has been toiling away at his invention for four years. In the novel and in George Pal’s versions of the narrative, there is no mention of four years. We meet the Time Traveller or George in the midst
of his work; there is no indication of how long he’s been working on it, and we get the sense that he’s working on it for the sake of discovery itself.

At the start of the 2002 film we see Hartegan’s lab filled with various experiments, but his pursuit of time travel does not occur until after Emma’s death, and requires its own, separate introductory scene. The camera fades into an extreme close up of Alex’s handwriting on a chalkboard. A series of shots slowly zoom out to show more and more and more of the room in the frame. After the extreme close up of his hand, the camera cuts to a medium close up of Alex’s back. The camera pulls back to a much longer shot that reveals nine or ten chalkboards, each one full of equations. The extreme close up seems fairly normal, and even the medium shot seems reasonable; the final punch line long shot, however, surprises the viewer with the absurdity of how much work Alex has been doing. In the context of the motivation the film constructs for this project, the overwhelming amount of equations signifies an obsession that Alex has to travel back in time so that he may prevent Emma’s death as opposed to a scientist’s professional ambition.

The conversation Alex has with Mr. Filby immediately following these shots reiterates Alex’s obsession, but not only through the dialogue. The 360 degree panning and tracking that the camera conducts during the conversation reveals even more of the room to the viewer, showing the piles and piles of equipment that Alex has been using to build a time machine. The traditional over the shoulder shots, closer in on the two men, are still mixed in the scene, but Simon Wells takes extra care to include these longer shots and show the laboratory of a mad man.

Alex’s dialogue in this scene emphasizes causality and the butterfly effect in relation to time travel rather than the fourth dimension or human consciousness. When Filby tries to tell
Alex that Emma’s murder was not his fault, he responds with, “perhaps we should blame Mrs. Watchit for picking up the ring from the jeweler. Or the jeweler for making it. Or the poor bastard who tore the stone from the earth. Maybe I should blame you for introducing me to Emma in the first place.” Alex implies that every event that takes place subsequently influences what takes place after. Thus, he thinks that if he can go back in time and prevent himself from proposing to Emma on that night, she will live and all the events thereafter will be forever changed. After Filby leaves, Alex says, “A week from now we’ll have never had this conversation.” He assumes that if his time machine works, he can alter the course of history. This, again, is nowhere in the novel and completely shifts the thematic emphasis of the narrative.

As Alex prepares to test his time machine, he picks up one of many pocket watches and an extreme close up on the watch reveals an inscription: “To Alexander Forever Emma.” When he sits down at the time machine, we get an eyeline match just as we do in George Pal’s adaptation, but the close up insert on an object after seeing Alex’s gaze is on a locket with Emma’s photograph on it, which he places on the time machine, as a constant reminder of why he has spent these four years researching in seclusion. After several shots of the time machine’s exterior, the camera finally zooms and tracks in on one of the pocket watches. Once we settle on an extreme close up of the watch’s face, we watch the hands speed up and up until the camera suddenly fades to black and the scene ends.

Unlike Pal’s adaptation, spectators spend much less time actually showing the machine travelling through time. One could argue that Simon Wells’s adaptation of The Time Machine is more about the destination and less about getting there. A lot of the Victorian concerns about images, time, and reality no longer seem relevant. Instead more twenty-first century concerns take precedence for the sake of an audience for whom Victorian culture is elusive, primarily
informed by period films that at times fetishize Victorian England more than transporting viewers back to it. A cultural obsession with the repercussions of humanity’s actions in regard to, for example, climate change and carbon footprints, manifests in the anxiety, paranoia, and deep regret Alexander feels over his lack of control over time and natural laws. Wells’s problems with industrialization disappear as speculation concerning digital technology’s dehumanization of civilization replaces it.

Pal’s adaptation also, in its differences, tells us something about the original text and its focus on the scientist and science as a vehicle for the fantastic. Renzi confirms this when he notes how the Cold War accounts for many of the changes Pal makes. He says that Pal’s film, by adding George’s “time-stops” (21) that provide snapshots of human history, frames the dystopian future as a result of “a nuclear holocaust” (21). Wells’s Time Traveller, on the other hand, “relies on the scientific method, using empirical evidence to reach conclusions which he then reformulates with the discovery of new information” (21). In both adaptations the Time Traveller is consistently a scientist, but it is only in the novel itself where that fact is directly relevant to the act of time travel and the future represented during that travel.

Time and narration also play out different in the two film adaptations discussed here, and this has significant implications for how closely each film keeps to the realist interests of the novel. The 2002 film goes completely in chronological order – we begin with Hartegan’s early career and then follow him in a linear timeline from his proposal to Emma, to the death of Emma, his quest for a time machine, and finally his journey in that time machine. Hartegan never returns home and the spectator returns to the frame narrative without him, in a final scene running parallel to and intercut with Hartegan’s current and linear timeline in the future.
The 1960 film adaptation, on the other hand, narrates in a way that preserves the heteroglossia and the novelistic time when adapting to film, as Pal uses a mixture of flashback and voiceover narration to jump back and forth in narrative time. One could argue that film itself has a lot of the same qualities that Bakhtin would exclusively ascribe to the novel, only appearing in images as opposed to text. Thinking of classical Hollywood cinema’s conventions of narration, the use of voiceover and flashback seems odd in Pal’s film. The film begins in the narrative frame, but instead of the scene where the Traveller’s colleagues scoff at his theories and his model, the film’s first scene shows the second meeting, just as he returns from the future. To Filby he says, “I have to tell it now, David, while I still remember it,” and then begins his narrative with “The last time we were together, five days ago; the last day of 1899…” The camera dissolves such that a close up of the miniature time machine model gradually takes the place of the medium close up of the Time Traveller. This jump in time is a little simpler than those in the novel since the first scene in the novel directly precedes the journey in the time machine, thus creating only one flashback. Pal’s adaptation still creates more layers in narrative time than the 2002 film does.

After the camera dissolves and we flash back to before the time machine’s journey, the assumption might be that from here on out, actions and scenes will play out without any active narration; Pal merely implies that the rest of the film is one long flashback, recounting the Time Traveller’s experience for his dinner guests after the fact. This is how flashbacks in films generally work. There are still scenes, however, in which Pal uses voiceover narration, giving the spectator access to the Traveller’s interior thoughts and his narration happening in the opening scene prior to the flashback. For example, in the scene where the Time Traveller initially travels through time, on New Year’s Eve, there has been no voiceover narration; the film has followed
the convention of establishing the frame for a flashback and then playing that flashback fluidly in “real time.” But as soon as George sits down at the time machine, a voiceover begins to remind us that this is all the retelling of a past event, as the opening scene establishes.

Pal does not need to employ voiceover narration to fit into classical Hollywood cinema’s narrativity, and yet he does anyway. A possible explanation for this aberration could be Wells’s novel as a source text. The voiceover in this scene renders two counteractive and yet unified effects. On the one hand, the voiceover represents George telling the tale of his time travel to his friends over dinner. On the other hand, though, the voiceover seems to comment on the live action that only the spectator can see in the scene as it happens. George’s reactions and facial expressions often coincide with the voiceover, as if he is thinking the words in the moment as opposed to telling others about it after the fact.

The voiceover in this one scene has thus enabled the spectator to occupy his or her own time machine, both in the past and the present (or future, relative to the narrative frame) at once. Can the spectator really be sure which is the relative truth of the film? Does one timeline take precedence over another in the scene? Perhaps, in keeping with the novel, Pal aims to obscure a rooted sense of time and space, layering more than one narrative in a single scene so that the spectator can never quite be sure which is the “real” one happening at any given moment.

One cannot consider *The Time Machine* without also considering film. Film as a technology can escape linear temporality in a way that the human consciousness cannot, and the exploitation of this fact in the making of film adaptations of the novel contribute to the discussion of human consciousness and the fourth dimension that Wells started in 1895. The 1960 adaptation by George Pal contributes more to such a discussion than the more contemporary 2002 version by using stop motion, visual difference to signify duration, and
flashbacks with voiceovers to layer narrative time. Pal also follows Wells’s path thematically, by sustaining the Time Traveller’s motivation as science for science’s sake. This in no way invalidates the 2002 film, however. On the contrary, the absence of all these techniques and themes in Simon Wells’s adaptation provides two valuable lessons: first, it helps us realize just how important the themes of the human consciousness, the fourth dimension, and mad scientists testing reality are to the novel and the 1960 film and secondly, it allows critics to see the later film as adapting to serve an entirely different cultural and historical moment in the twenty-first century, one not tied to the nineteenth-century realist tradition.

**X-Rays, Optics, and The Invisible Man**

While *The Time Machine* questions human perception of time, *The Invisible Man* questions human perception of space. Much of what has been covered in relation to *The Time Machine* can also be applied to *The Invisible Man*; the role of the mad scientist, for example, operates very similarly in both novels. The issue of space as opposed to time, however, does generate nuances in realism for *The Invisible Man* that do not exist in *The Time Machine*. Since the conundrum of the invisible man is that he takes up space despite not being visible, the science of optics, astronomy, and x-ray technology become historically relevant. The ghost trope also becomes even more important to Wells’s commentary on the inadequacy of the human senses in *The Invisible Man* than it is in *The Time Machine*.

While many of the historical influences outlined for *The Time Machine* also impacted *The Invisible Man*, discoveries in optics bear particular relevance to issues of the visible, invisible, seen, and unseen that Wells’s later novel addresses. Anna Henchman, when discussing Thomas Hardy’s preoccupation with astronomy, notes that Victorian scientists were the first to, thanks to advances in telescopic technology, try to see stars. And in doing so, they discovered
that the human eye without a telescope sees bodies in the sky completely differently: “Studies of the cosmos initiated by William Herschel revealed that while the stars appear relatively evenly distributed through space, they are in fact arranged in clusters separated by vast tracts of space that elude human vision completely” (Henchman 40). Astronomers proved that human perception cannot possibly offer a visual representation that completely corresponds to real objects in space. Conflicting accounts between a visual obtained scientifically without the human eye and one “obtained through the senses” (41) taught Victorians to question that which they see, but more importantly taught them to have faith in the existence of something that they cannot possible see with their own eyes. I argue that the invisible man in Wells’s novel serves this purpose as well, emphasizing these conflicts in a manner similar to Hardy.

Difficulties in astronomy led Victorian scientists, such as John Herschel in his 1833 Treatise on Astronomy, to search for an explanation of the “psychological characteristics of the human visual system” (Henchman 42). Soon the reading public would take interest in the difficulties of the “human visual system” as well. Henchman says, “The Popular Educator contained nine lessons on optics and the behavior of light, describing the perception of distance, size, and stereoscopic vision (393–96) as well as the workings of telescopes from Galileo to William Herschel (361–63). The presence of these lessons suggests that educated people were expected to have some understanding of how the eye works” (Henchman 42). An example of an experiment in optics explained in The Popular Educator is the examination of a fine thread under a telescope with a red light, which would render the thread visible, and violet light, which
would cause the thread to “disappear.” Readers of *The Invisible Man*, then, could consider Griffin an optic phenomenon in the context of their popular education.

Such experiments in light and visibility influenced Wells’s representation of Griffin, as one can see in several pages of *The Invisible Man* that chronicle a conversation between Griffin and his former classmate, Kemp, in order to establish that he has a background in optics, not unlike William Herschel, John Herschel, David Brewster, and Herman von Helmholtz. Before he even explains his experiment, he tells the tale of his early career, specifically the decision to abandon a traditional medical education to pursue what really interests him – the study of the properties of light and optics. The act of breaking from educational institutions in the sciences fits the profile of the scientists examined in this entire study; specifically, Sherlock Holmes echoes Griffin’s trajectory, as he too discards a traditional medical education to pursue experiments that interest him personally. The attempt at invisibility by way of optics would have resonated with Victorian readers who knew optics to be a hot topic in science at the time.

While drawing from this scientific discourse, Wells, through Griffin, implements the same persuasive technique that he uses with the Time Traveller. Just as the Time Traveller begins with basic geometry as a platform to introduce the fourth dimension, Griffin uses examples scientifically established as a basis for why his new idea is possible. For example, he notes that

> You make the glass invisible by putting it into a liquid of nearly the same refractive index; a transparent thing becomes invisible if it is put in any medium of almost the same refractive index. And if you will consider only a second, you will see also that the powder of glass might be made to vanish in air, if its refractive index could be made the same as

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68 See Henchman 42. An article published in *The Popular Educator* in 1855 titled “The Eye not Achromatic” describes the experiment.
that of air; for then there would be no refraction or reflection as the light passed from
glass to air. (Wells 91)  

When Kemp skeptically points out that “man’s not powdered glass,” (91) Griffin’s only response
is, “No…He’s more transparent!” (91) He also calls upon paper as another example because it is
“made up of transparent fibres” (91) but still appears opaque when composited. Beyond this
exercise in logic, Griffin spouts off a series of statements about optical density, refraction,
reflection, and pigmentation.  

In addition to studying the human visual system through astronomy and optics,
invisibility as a scientific concept was also a part of scientific discourse, and, of course, such
discourse implicates ghosts in a way similar to theories of the fourth dimension. The study of
ether, which is invisible, while existing as a scientific paradigm since the Classical through
Middle Ages, became a trend all its own in late-Victorian physics. As early as 1875, two
Scottish physicists, Balfour Stewart and P.G. Tait, published The Unseen Universe: or Physical
Speculations on a Future State. Ether, described as “semi-spiritual/semi-material,” was
thought to be the bridge between the material and spiritual world. Richard Noakes, in “Ethers,
Religion, and Politics in Late-Victorian Physics: Beyond the Wynne Thesis” describes physicist
Oliver Lodge as particularly invested in this. He says, “The third type [semi-spiritual/semi-
material ethers] proved especially attractive to Oliver Lodge and several other late-Victorian
physicists who claimed that the extraordinary physical properties of the ether made it a possible
mediator between matter and spirit, and a weapon in their fight against materialistic conceptions
of the cosmos” (415). Since ether has physical properties and yet remains unseen, scientists

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69 All citations for The Invisible Man are from the Penguin Classics edition edited by Christopher Priest, Patrick Parrinder, and Andy Sawyer.
70 See Grant 109.
71 See Heimann 73.
concluded that it might be connected to other invisible bodies that also exhibited physical properties, such as spirits and ghosts.

Others, such as George Gabriel Stokes, while taking a more religious and less superstitious stance on ether, warned in his 1893 lectures that “just as it would have been folly, and detrimental to the study of optics, if physicists had rejected the ether simply because it was unknown and its existence could be proved only indirectly, so it was folly to reject supernatural phenomena that seemed at first sight incredible or difficult to verify by the methods of physical science” (Noakes 436). Here we see the philosophy of the mad scientists examined thus far – the insistence on having a mind open enough to accept the possibility of that which seems “at first sight incredible.”

The discovery of the now commonly used X-Ray originally fell within the study of ether because it successfully revealed that which the human eye could not see before. Griffin briefly mentions “Roentgen vibrations,” and while he never specifies in the text, he, in that moment, refers to X-rays. The New York Times, in an 1896 article published just a year before The Invisible Man appeared in Pearson Magazine, reported that a German physicist Wilhelm Konrad Röntgen, sometimes spelled Roentgen, had discovered a “new form of radiant energy” which he named “X-rays.” More importantly, the article explains the existence of these rays in its headline, “May Be Due, He Says, to Longitudinal Vibrations of Ether.” In a manner similar to the Newcomb allusion in The Time Machine, this passing reference to Roentgen roots the novel’s scientific premise in Victorian scientific discourse.

Griffin’s mention of early X-rays, however, are not the rays he uses. As he describes the “essential phase” of his experiment, he says he placed “the transparent object whose refractive index was to be lowered between two radiating centres of a sort of ethereal vibration…No, not
these Rontgen vibrations – I don’t know that these others of mine have been described” (Wells 95). Griffin here explicitly states that what he has discovered is not the same as Rontgen vibrations, but something entirely new. In this conversation Kemp, even though his dialogue does not appear on the page, is the implied source of the X-Ray suggestion, and Griffin’s response gives Wells the opportunity to reference an actual scientific discovery without taking responsibility for being consistent with its properties; while X-Rays themselves were invisible and therefore ethereal or otherworldly, Wells was not about to claim on Rontgen’s behalf that X-rays can render a person invisible. What Griffin has discovered is “ethereal” just like Rontgen’s X-rays, but a logical extension of that technology rather than an application of it.

What this allusion in The Invisible Man demonstrates is that the discovery of the X-ray was significant not just for contemporary medical history, but for disciplines such as literature and art as well. In a mirror image of the fourth dimension, the circulation of X-rays blurred the distinction between the genres of fiction and scientific research. As Keith Williams points out, “Pearson’s Magazine featured X-rays as both sensational fiction and science in the same April 1896 issue. Symptomatically, the story came first: George Griffith’s ‘A Photograph of the Invisible’….” (50). Since X-rays could reveal that which was previously unsee-able, the act of taking an X-ray, of producing a single image with translucent body parts, contributed to photography’s “reputation as an uncanny medium” (50). The medical phenomenon of seeing a skeleton in an X-ray carried ghostly connotations and was used in phantasmagoria shows and séances. Both science and art form an endless loop around the supernatural, one trying to substantiate it and investigate it while the other gains a “spooky” aura from said substantiations and investigations. Most importantly, these X-ray demonstrations – photographs of skeletal
hands were extremely popular, for example – made Victorians realize that human eyes cannot see all there is to see, but rather provide an incomplete picture of physical space.

**Visual Perception and the Visible in The Invisible Man**

Wells, upon incorporating this revelation into his novel, does not construct a narrative in which there are two clearly defined modes of being – visible and not visible. Rather, he wishes to complicate the notion that the visible is the only way in which reality may manifest itself. He accomplishes this by setting up a spectrum of characters, as he does in *The Time Machine*, with varying degrees of understanding of human perception. Those who fail to understand that what they see is not a total representation of what might physically be before them rely heavily upon the ghost metaphor to make sense of Griffin as an invisible man, echoing the horror Victorians derived from the X-ray.

Other critics have chosen, as is the case with almost all of the texts discussed here, to focus on the moral aspect of *The Invisible Man*, as if the experiment at its center were a vehicle for delivering a cautionary tale of good and evil. (Dr. Jekyll and Mr. Hyde also falls into this category – see chapter three.) Frank McConnell, for example, in *The Science Fiction of H.G. Wells*, says,

…because he is a walking emptiness, a violation of the natural order of things, he is a peculiarly virulent threat to the comfortable everyday assurances of “normal” life – in which men are decent to one another precisely because they can keep an eye on one another. And the pun in that last sentence is, the novel insists, not really a pun at all. ‘Keeping an eye on’ your neighbor is, at a grim level of realism, the founding act of the whole elaborate web we think of as social morality. (112)
Griffin is certainly a “walking emptiness” who upsets “the natural order of things,” but, in addition to what McConnell observes in regard to social morality, his violation of the natural order speaks to what the villagers thought to be natural – the visual naturally translates into evidence of the real. Wells means not to scare his reader into some kind of moral fortitude but rather cause them to feel disturbed by the failures of human vision.

The Victorian curiosity and interest in what value visual perception possesses permeates this novel. The triangulation Wells sets up between the reader, a mad scientist protagonist, and minor characters bears a resemblance to *The Time Machine* in that Wells presents the reader with multiple responses to an upset in the reality-representation relationship. Like the Time Traveller in a room full of skeptics, Griffin without hesitation believes in his experiment while those around him succumb to utter shock and disbelief at the invisibility he has achieved. The perverse circumstance of Griffin *being* a reality and yet not *perceptible* by human eyes as a reality serves as the ultimate test of the human senses, and the different responses in the novel allow the reader to investigate the results of such a test.

Over and over again minor characters in the novel refuse to consider a being or object that occupies space but does not have a visible form. All of the characters that fit this description are members of the unlikely village in which Griffin has decided to hide out. Uncultured, quaint, and naïve about believing what they see, the villagers come up with a slew of ridiculous explanations for what they see in order to preserve the notion that only that which one can see is real. None of these explanations are correct. Mrs. Hall, Griffin’s landlady and the lead bumpkin in the novel, assumes that the bandages Griffin uses to conceal his invisibility cover wounds and deformities from an accident of some kind. The fact that she assumes that he must be hiding visible marks on his skin is ironic, but not all that implausible. As she sees more and more of
Griffin’s “empty space,” however, the more illogical her explanations become. When one of his
bandages slips, for example, the narrator says, “But for a second it seemed to her that the man
she looked at had an enormous mouth that swallowed the whole of the lower portion of his face.
It was the sensation of a moment: the white-band head, the monstrous goggle eyes, and this huge
yawn below it” (Wells 11). Mrs. Hall cannot fathom invisibility as possible, and the explanations
she thinks of can sound more absurd to a reader than invisibility.

This is not to say that the reader should be as ready to accept the possibility of invisibility
as Griffin is, but in the context of the narrative, where Griffin has a completely open mind and
Kemp is both rational and open-minded, Mrs. Hall and her merry band of townspeople appear
relatively ignorant. Hall makes just as absurd an observation or explanation to fit what she sees,
and the reader, who knows the narrative truth of the situation, experiences a dramatic irony at the
landlady’s expense. For a reader who knows that the rational explanation according to a narrative
titled The Invisible Man is invisibility, her description of Griffin’s mouth “swallow[ing] the
lower portion of his face” makes no sense at all; how does a mouth swallow a part of the very
face on which it resides?

All subsequent theories as to what Griffin’s problem is, then, become humorous to the
reader in the know. The villagers also exhibit stereotypically “backward” thinking often
associated with country folk and use a vernacular, which allows Wells to play up the fact that
they are ignorant. Other patrons of the inn, for example, suspect Griffin is a criminal who uses
bandages to disguise his face, reasoning that, “If the police was wanting you you couldn’t be
more wropped and bandaged” (Wells 14). Another explanation offered up by the village is that
Griffin is a “piebald,” (20) or a man of mixed race. One man at the inn, after having gotten a
look at Griffin, says, “Well – he’s black. Leastways, his legs are. I seed through the tear of his
trousers and the tear of his glove. You’d have expected a sort of pinky to show, wouldn’t you?” (20). The man then explains that he must be a “pie bald” or “half-breed” (20) and compares Griffin to a horse that has patchy coloring. Other labels or titles the villagers come up with include “harmless lunatic” (23) and the more severe “the man with the one talent,” (23) which refers to the biblical parable about a wicked servant who buries his master’s gift of one talent, a large sum of money, in the ground.\textsuperscript{72} One can see from this array of explanations that the villagers range from reasonable to racist to superstitious.

For the villagers, The Invisible Man is a horror story, with a sudden upset in the direct correspondence between the visible and the real serving as its central horror. But to presume that all Victorians were like the villagers would be a mistake. The writers who propel Caroline Levine’s argument about narrative suspense, after all, frame the relation between reality and representation as an epistemological exploration rather than a crisis of any kind. Levine makes the important distinction that “The realist experiment is not about putting our faith in representation. It is about putting mimesis to the test” (12). And so the villagers who do put faith in representation and do not wish to test mimesis in the way that Griffin does become the bud of a novel-length joke, mocking such faith.

The reader, as described earlier in the context of The Time Machine, witnesses the terror-ridden response to Griffin’s lack of visibility by the villagers, but rather than identify with them takes the position of someone in on the joke played upon the villagers. The reader in on the joke, then, can mediate between the village idiots clinging to a mimesis-based epistemology, the mad

\textsuperscript{72} See Wells 152. According to Andy Sawyer’s notes in the Penguin edition: “the man with the one talent: From the biblical ‘parable of the talents’ (Matthew 25:15). The suggestion is that he is not making the most of his deformity by not exhibiting it for profit” (152). The actual passage from the bible says that the master says to the servant, “You wicked and slothful servant. You knew that I reap where I didn’t sow, and gather where I didn’t scatter. You ought therefore to have deposited my money with the bankers, and at my coming I should have received back my own with interest” (Matthew 25:24-30).
scientist who has no qualms about upsetting any natural order, and the rational man – in this case Kemp – who denies the possibility of invisibility at first but then learns that one mustn’t invest whole-heartedly in the notion that “seeing is believing.” Just because one cannot see something does not mean it is not there. It is no coincidence that Kemp is singular in his ability to adjust his operating reality principles; the reader of the novel may align themselves with him, as he is not mad and yet not completely naïve either.

Griffin, on the other hand, represents the opposite extreme. He has no problem understanding that what one can see is not necessarily all that is there; in fact, it seems rather obvious to him and he has little patience for those who struggle with the concept. For example, when Griffin recruits Mr. Marvel, a vagabond on the side of the road, to help him steal his notebooks back from the villagers, he very plainly states that he is “…Invisible. Simple idea. Invisible” (Wells 46). The rest of their conversation actually brings the real into the discussion:

Mr. Marvel: “What, real like?”

Griffin: “Yes, real.” (46)

Not unlike the conversation between the Time Traveller and Filby in the opening scene of The Time Machine, the repeated use of the word “real” here serves as a cue to readers to reflect upon what is and is not real, and opens up the possibility of real things existing unseen and eluding human detection.

This does not mean that Griffin acts as a model for the reader – far from it. Unlike Wells’s Time Traveller, he is mad in a more negative way – crazed, patronizing, impetuous, violent, and aggressive. He is so narrowly focused on his experiment that he will physically harm anyone who gets in his way; he lights the boarding house on fire, assaults several villagers, and even admits to being capable of murder, making an attempt on Kemp’s life in the final scenes of
the novel. Since Griffin is more extreme, more fanatical than the Time Traveller, it is more obvious that the mad scientist character is not a character with which the reader can easily identify.

This leaves the rational man as the reader’s representative, acting as a go-between. Dr. Kemp, a fellow scientist, is this novel’s rational man because he cannot conceive of an invisible man’s existence at first, but then has an open mind which allows him to learn about the unreliable nature of sight. When Griffin arrives in his home for the first time, Kemp’s initial reaction is no better than the villagers at the inn. He asks if devilry is at work, and takes a few minutes to process Griffin’s explanation of invisibility. This initial reaction not only shows that Kemp, while not quite as bad as the villagers, still falls prey to relying on visual perception for evidence, but it also debunks the reader’s assumption that any scientist would be more “advanced” than the villagers. The narrator acknowledges this trick on the reader saying, “All men, however highly educated, retain some superstitious inklings” (Wells 78). Eventually, however, Kemp’s mind is open enough to observe that which is not there.

Dr. Kemp also affords the reader an opportunity to have a sophisticated attitude towards the supernatural. Since the narrative has designated invisibility as the truth, all reactions to Griffin are measured against that truth; regardless of whether or not he or she personally believes in invisibility or ghosts, the reader can still indulge in the belief, participating in the narrative, in order to playfully consider a “what if” moment. What if that which is visible is not a reliable indicator of that which is really there? By poising the reader to identify with Kemp, Wells encourages him or her to have both narrow and broad-minded attitudes towards the supernatural, and perhaps even to reconsider the certainty with which the reader actually knows the difference between the scientific and the supernatural. Kemp, emulating a process the reader might, again,
indulge in, soon catches on to what has happened to Griffin, but still admits that it’s unbelievable: “Kemp stood in the middle of the room staring at the headless garment. “I suppose I must leave you,” he said. “It’s incredible. True things happening like this, overturning all my preconceptions – would make me insane. But it’s real!”'(Wells 84). All of his “preconceptions” have been “overturned” thanks to Griffin’s invisibility. While still having the same reaction as the villagers, Kemp possesses enough self-awareness to know that his understanding of visual perception and reality has, in an instant, radically changed, becoming completely destabilized.

The ghost metaphor used in The Time Machine reappears in The Invisible Man, as Wells characterizes Griffin’s invisibility as ghost-like. Mr. Marvel, once he has been convinced that Griffin is in fact an invisible man, “scrutinized the apparently empty space keenly.” After an inspection he asks, “You ‘avent been eatin’ bread and cheese?” Griffin answers, “You’re quite right, and it’s not quite assimilated into the system.” Marvel comments, “Ah…Sort of ghostly, though” (Wells 47). From this conversation a reader can conclude that even thought Griffin himself is not visible, the food he has ingested is. Therefore, even though he himself is not visible in any way, the food in his body serves as a marker of his simultaneous presence and absence, which is ghostly.

All of Marvel’s explanations for Griffin speak to the paradox Armstrong identifies in “seeing is believing” – inebriation and subsequent “visions” or distorted images persuade the mind of what is not there while a ghost signifies both the visible and the absent, simultaneously providing evidence of its existence and inviting the viewer to doubt such an existence. The scamp’s first thought goes to impaired vision, asking, “Am I drunk?” and “Have I had visions?” Once that has been ruled out, he then moves to the supernatural. He asks Griffin, “Are yer buried?” and soon after says “I’m off my blessed blooming chump. Or it’s spirits,” (Wells 44-45)
implying with a pun on “spirits” that Griffin is not an alcohol induced hallucination but rather a ghost from beyond the grave. This series of judgments, some suspecting the supernatural and some not, all reveal problems with visual perception. Whether or not spirits from the beyond have a part in Griffin’s invisibility, Marvel’s eyes both provide him with visual evidence and play tricks on him.

The conflation of hallucination or imagination and ghost in this passage reveals a paradox for the supernatural; while products of an “imagination” by certain definitions are unreal, a ghost is not necessarily, depending on belief. And when Marvel proposes that Griffin is a ghost, he implicitly acknowledges that ghosts are real; they do exist, available as a viable option for explaining what Griffin is. Ghosts, by being present and absent simultaneously, occupy a liminal space in realism, straddling the divide between the real and unreal. Ghosts are visible, but not concretely so – that is why stereotypical representations of them are translucent and wispy. Or, perhaps, ghosts as translucent and therefore still visible (albeit barely so) are a product of an adjustment made by human perception; seeing something makes it recognizable, legible, and manageable. Since ghosts are ambiguous in this way, they present themselves as perfect figures for realism, an object around which to center the debate over what is real and not real, visible and not visible.

In addition to the description of Griffin as ghostly, the novel incorporates the supernatural by narrating scenes in the style of ghost stories. One such example is when Griffin goes on a rampage, ruining Mrs. Hall’s furniture:

The bed-clothes gathered themselves together, leapt up suddenly into a sort of peak, and then jumped headlong over the bottom rail. It was exactly as if a hand had clutched them

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73 See chapter three, pages 142-144, for a discussion of definitions of “imagination.”
in the centre and flung them aside. Immediately after, the stranger’s hat hopped off the bed-post, described a whirling flight in the air through the better part of a circle, and then dashed straight at Mrs. Hall’s face. Then as swiftly came the sponge from the washstand; and then the chair, flinging the stranger’s coat and trousers carelessly aside, and laughing drily in a voice singularly like the stranger’s, turned itself up with its four legs at Mrs. Hall, seemed to take aim at her for a moment, and charged at her. (Wells 31-32)

The objects in this passage are the nouns responsible for all the verbs in this sentence, as if they are sentient. By making the objects in the room move as opposed to Griffin, the narrator gestures towards the supernatural more. It is as if these objects that have come to life have malintent and wish to attack Mrs. Hall and her furniture. Mrs. Hall calls them “Tas sperits” (32) and describes what she sees as “Tables and chairs leaping and dancing” (32). She then accuses Griffin, but not as the one who, while invisible, moves the objects. Rather, she says that “He’s put the spirits into the furniture,” never considering that he himself is actually the “spirit.” This is the same problem Mr. Marvel has when Griffin throws stones at him in order to convince him he is real, but even then he remains unconvinced of Griffin’s reality. He says, “I don’t understand it. Stones flinging themselves. Stones talking” (46). She and Mr. Marvel both find objects more plausible as animate objects than as a man who is invisible to the eye and yet there, able to move those objects.

Again, we have the paradox of seeing is believing: the movement Mrs. Hall sees provides evidence to her that something is there, but seeing that same movement also convinces her that something is there when it is in fact not. There is no ghost, only a man who happens to be invisible. This scene reinforces the fact that the ghost trope is a human way to process a dismantling of the presumed relationship between visual perception and reality.
The ghost imagery also serves as an apt descriptor of the villagers’ experience because unreliable visual perception precipitates fear for the villagers as they experience a cognitive dissonance that they have never encountered before. The narrator takes considerable time to describe the uncanny feeling, a “sensation of a moment,” (Wells 11) or “the strangest thing in the world” (39) as he calls it, that characters experience when confronted with Griffin, highlighting the disconnect between their visual perception and reality. Within the frame of an extended prank or joke on the country bumpkin villagers, one can place the reader not among the villagers but as someone observing and studying them alongside Wells. They also have the privilege of participating or indulging in the sensation themselves as they read, with a self-conscious sensibility the villagers do not have.

One might assume that the villagers, depicted as less worldly than Griffin or Kemp, would naturally be superstitious, but the narrator makes a point to say that the town to which Griffin flees only believed in the supernatural after Griffin’s stay. He says, “Sussex folk have few superstitions, and it was only after the events of early April that the thought of the supernatural was first whispered in the village” (Wells 23). After Griffin arrives on the scene and more and more of the villagers sneak peeks of his invisible body, a series of supernatural references begin to perpetuate throughout the community. Villagers refer to “his occult bearing,” (23) they start singing songs about a bogey man – “There was a song popular at that time called “The Bogey Man” (23) — and most physical descriptions of him depict him as inhuman or monstrous. The narrator refers to him as “monstrous” (11), temporarily adopting the viewpoint of the villagers. This reinforces the notion that the supernatural is an ideal realm in which to address issues of realism because it is only when the villagers are confronted with Griffin’s
invisibility that their sense of visual perception upsets and they are forced to reconsider what is real and unreal.

And Griffin himself, who at no point is described as superstitious, relies on the supernatural metaphor to describe his own work. When telling the back-story of his own experiment to Kemp, for example, Griffin says that he thought, “To do such a thing would be to transcend magic” (Wells 92). Here we see a conflation of science and the supernatural, as Griffin’s experimental processes at no point use magic spells or incantations – everything he does is mechanical or chemical. And yet he has no problem describing his results in terms of magic, implying that magic would have been something he could have achieved in his work, but instead the results he has attained “transcend magic.” Perhaps he means that once he scientifically proves that visual perception is unreliable and his discovery becomes the norm, magic will no longer be a necessary epistemological device – a way of rationalizing glitches in a what-you-see-is-what-you-get mentality.

To place this discussion back in the context of Victorian realism, Pater, from whom both Levines draw many of their ideas about realism in Victorian literature, claims that seeing guarantees nothing – it does not equate knowing, but in fact displaces knowledge or obscures it. The peasants of The Invisible Man fail to understand that even though they see an empty space, that space is not necessarily empty, and this aptly proves Pater’s point that, as Ruth Robbins says, “seeing is not knowing; seeing is precisely what displaces knowledge” (186). Seeing does not only fail to access knowledge, as the invisible man and the concept of invisibility itself demonstrates, but it also gets in the way of knowledge; it obscures knowledge because in the process of trying to pin down reality, human faculties inevitably produce a false positive. There is no way around this false positive, however, and this is just as much the “message” of Wells’s
novel as it is literary proof of the disconnect between the visible and the real. The uncanny feeling that the novel describes, then, opens up a dialogue on realism for the reader.

Just as *The Time Machine* constantly reminds readers of its narrativity, *The Invisible Man* contains similar nods to its status as a literary representation. Its narrator is a third person omniscient figure who parallels the invisible man in that we can’t “see” him in the narrative and he, like Griffin, enjoys a tactical advantage in his omniscience. And unlike the narrator of *The Time Machine*, who is a character participating in the narrative, this invisible narrator pauses to reflect on what he has or is doing as a narrator. For example, he opens a chapter in the novel by saying, “The eighth chapter is exceeding by brief, and relates that Gibbons, the amateur naturalist of the district, while lying out on the spacious open downs without a soul within a couple of miles of him, as he thought, and almost dozing, heard close to him the sound as of a man coughing, sneezing, and then swearing savagely to himself” (Wells 42). There’s no reason to do this; the narrator could easily proceed with the chapter, simply recounting what happened to Gibbons. Such self-referential moves, as in *The Time Machine*, draw the reader’s attention to the narrative as a narrative.

One meta-fictive comment that the narrator makes stands out from the others because it explains the narrative style of over half the novel. The narrator says, “I have told the circumstances of the stranger’s arrival in Iping with a certain fullness of details in order that the curious impression he created may be understood by the reader” (21). When he says “fullness of details” the narrator refers to his adoption of the point of view of the villagers, describing what he sees in the way they would see it. He refers to Griffin as “the stranger” until Griffin reveals himself to the villagers and declares himself an invisible man.
By clarifying his narration in this way, the narrator implies or acknowledges to the reader that there’s more going on than meets the eye. When he justifies why he has told Griffin’s story in this mysterious way, he lets the cat out of the bag because the reader immediately assumes that there’s another way for the story to be told, one that does not adhere to the “curious impression” of the villagers, but rather another more perceptive impression. But perhaps the narrator’s mention is superfluous. The title of the novel, after all, already blows his cover, ruining any illusion he creates through his obtuse narration. The title *The Invisible Man* implies that there is an invisible man somewhere in the novel, so it would not be too difficult for a reader to suss out that “the stranger” that the villagers describes is an invisible man before they do. Why offer the impression in the first place? Wells wants to dramatize the problem of human perception by providing a simulation of this “curious impression” Griffin makes on the villagers, cataloguing all of their mistakes caused by a trust in only what they can see. Thus the reader is, due to the title, intended to be in on the joke on the villagers. *The Invisible Man*, then, is not merely a scientific romance or a horror story, but rather a deep meditation on perception, reality, and representation.

**Cinematic Illusion, Representing the Invisible and Adaptations of *The Invisible Man***

When early film technology emerged it revolutionized the concept of space as much as time, encouraging Victorians to indulge in the camera’s ability to trick its spectators into both seeing that which was not actually there and concealing what was in fact there by simulating invisibility or disappearance. In the early nineteenth century, photography and film allowed spiritualists to perform convincing séances using projected images, phantasmagoria shows used a “magic lantern” or mobile projector to cast images of demons and ghosts, and “spirit extras” often appeared in photographs of the living. In the 1850s,
Pepper’s Ghost, which used plate glass and lighting, was a cost-effective technique developed for theaters, and is still used today in theme park attractions such as Disney’s Haunted Mansion. Later in the century, once film production became more common, “early trick films” followed in the footsteps of the by then less popular stage shows featuring ghosts. Due to this new technology, Victorians might have become more aware of and preoccupied with Armstrong’s contradiction of “seeing is believing,” and could derive pleasure from the fact that they were no longer certain of what their eyes reported back to them.

Wells’s novel also inspired several early films and prompted filmmakers to innovate in special effects. The first film influenced by *The Invisible Man* was a 1908 American comedy by Wallace McCutcheon called *The Invisible Fluid*. A few years later there were “at least three films loosely inspired by the basic idea of Wells’s *The Invisible Man* (1897)” (Vallorani 304-305) released in France between 1909 and 1912. They were specifically inspired by the concept of invisibility because film was the first medium that allowed artists to express invisibility visually, by moving objects such as shirts and shoes through the air; one director even constructed a self-pedaling bicycle. All these techniques would be technical precursors to the most famous film adaptation by James Whale in 1933.

Contemporary films continue to exploit visual perception and space, of course, and twentieth and twenty-first century film adaptations of *The Invisible Man* in particular have the opportunity to explore the novel’s interest in vision and reality. They have the ability to recreate

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74 See Ruffles 35. A. Nicholas Vardac says the 1877 Henry Irving play, *The Dead Secret*, “sounds like the sort of drawing-room séance that the Victorian medium D. D. Home gave, and Vardac counts this a “realistic presentation of the supernatural.” He sees this sense of realism transferring to cinema, arguing that even George Melies, despite the fantastic nature of many of his films, could see the realistic properties of cinema” (Ruffles 35). Again we see the paradox of early film, with its ability to both exaggerate and provide realist representations, often at the same time.

75 See Williams 209 (footnote).
the perceptions of characters like Mr. Marvel and Mrs. Hall by using special effects (as all of them must) to simulate Griffin’s invisibility. Ironically, the way that most film adaptations, such as the 1933 film directed by James Whale, render Griffin invisible is by doing the very thing that Mrs. Hall and Mr. Marvel mistakenly believe is happening before them – moving objects with wires to give the appearance that they are moving on their own.

A crucial part of the pleasure a spectator derives from a horror film such as The Invisible Man is the uncanny feeling that the novel ascribes to the villagers. Even though the spectator probably realizes that a book sliding across a table “on its own” is in fact moving at the end of a wire held by a member of the film crew, the illusion that the book moves by itself still gives a spectator suspending his or her disbelief a thrill. Whale takes advantage of this pleasurable illusion throughout his film. For example, in one scene from Whale’s film, where Griffin breaks into his room at the inn in order to retrieve his notebooks, the camera represents his presence by providing a close up on a doorknob with no hand attached to it as the door swings open. A disorienting pan “follows” Griffin up the stairwell until another door opens of its own accord. A series of books open, close, move from table to floor and floor to table, and, to mark Griffin’s escape from the room, curtains open, a plant moves from left to right, the window opens, and the books “fly” out. All of these objects were moved in the scene by wires and not by an actual man.76 Once all these uncanny movements are listed consecutively it seems excessive, but this is the reason a film like this becomes popular with audiences. Whale cracks a subtle joke about the use of this technique when the film first shows Mrs. Hall’s pub. After an establishing shot of the entire room, the camera cuts to medium close ups of various patrons, and then shows a man playing the piano. When he breaks to take his applause, someone puts a coin in the piano and the

76 See Rickitt: “For The Invisible Man (1933), John Fulton used clever mechanical gags and wire work to make doors open, chairs move and items float around as if the unseen hero of the film was actually interacting with them” (274).
piano goes on playing without the player, revealing to the spectator (but not to the characters in the scene) that it is an automated player piano. In this brief scene Whale admits that he could not provide his audience with the illusion of objects “magically” moving by themselves without technology.

Just as George Pal shows that the human brain relies on visual difference to perceive the passage of time, James Whale demonstrates that in order for spectators to understand that something an object or being occupies a physical space but does not have a visible presence, they must see other objects that are visible moving to indicate that the invisible presence exists. Since film is so dependent on the visual, its spectators fall into the very traps that Wells’s characters do. In order for the spectator to know that Griffin is in fact in a scene, Whale must show a shirt floating in the air or a chair without an indentation followed by a shot of the same chair, at the same angle, with an indentation in order for the spectator to infer that the invisible man has just sat down. There would not be much of a film if these visual cues and visual differentials did not exist – there would simply be the voice of Claude Rains, the actor who plays Griffin, and an empty room.

Since villager and spectator share an uncanny experience, film adaptation can help deliver Wells’s message in a way the novel cannot. A contemporary reader of the novel might find the lesson in visual perception of The Invisible Man, for example, as dated and no longer relevant. The 1933 film adaptation’s attempt at “special effects,” however, draws attention to the fact that no matter how enlightened we might think we are about visual perception, we cannot escape the fact that all we have are our eyes. The absurdity of a shirt floating in the air to represent an invisible man on film would force a spectator/reader to reflect back on the novel and perhaps even sympathize with the villagers a little more.
The Invisible Man is a narrative about representation, perception, and reality, and when put on screen, these themes only increase in potency. The film complicates the narrative’s representation of reality with special effects, continuing the legacy of the Victorian struggle with perception. When Jack Griffin removes his head bandages for the first time, for example, a spectator of the film might cast a discerning gaze on his "face" to see if there are any traces of filmic trickery or illusion. When he, while only wearing a white shirt, dances in the air, a spectator of the film might try to find the "strings" that hold up that shirt, that assure us that the shirt is just a shirt and does not have an invisible man inside. In this way film makes spectators even more aware of representational limits.

Film historians say that Whale’s crowning achievement in showmanship in this film is the scene in which Griffin disrobes because of how technically complicated it would have been to film. For our purposes this scene is significant because this scene shows that spectators must see objects visually present before being able to process his visual absence. First Griffin pops off a rubber nose, and then he slowly unwinds the bandage around his head. After a quick cut to show the police chief rallying the villagers, we see a medium long shot of Griffin from behind as he removes his pants and leaves a floating shirt. Griffin, visually represented by his floating shirt, cackles and gestures towards the men, implying that he too knows that his physical presence and visual absence will scare them. Objects such as drinking glasses and test tubes get thrown about the room not only to show Griffin’s anger and violent temper but to actually show that he’s in the room. The dialogue written for Griffin even admits to this need for the visual. When he breaks into Kemp’s house, for example, Griffin says, “You’d feel better if you could see me, wouldn’t you?” In a way Griffin addresses the audience of the film here as well.
The spectator looking for strings would be correct only part of the time in Whale’s adaptation. Whale does use wires for the movement of objects, and scenes with Griffin bandaged and completely clothed were no problem to film, with the exception of star Claude Rains’s unhappiness at the thought of acting in a film in which no one could recognizably see him. For the partially clothed scenes, however, special effects director John P. Fulton devised a double exposure technique. Whale would shoot a full set and cast minus Claude Rains and then shoot the same scene with the entire room, floor to ceiling, and Rains, head to toe, covered in black velvet. Rains would layer the few bandages or articles of clothing he needed over the black velvet so that the clothes would not look empty but rather would move naturally as if a solid body inhabited them.

As we saw with the 2002 adaptation of *The Time Machine*, the 1933 film adaptation of *The Invisible Man* makes changes in narrative content that make Wells’s realist agenda more obvious. Griffin’s obsession takes hold as a result of a drug he takes for invisibility, thus shifting the blame off him and onto the drug itself. In an added scene Kemp and Dr. Cranley, Griffin and Kemp’s employer, go through Griffin’s abandoned lab and find evidence that he has experimented with a fictional drug called monocane. Cranley explains to Kemp that “it was tried out on some poor animal – injected under the skin and it turned the dog dead white, like a marble statue…and it also sent it raving mad.” Griffin would not have known, Cranley adds, that madness was a side effect of the drug because only German articles on the drug, which Griffin would not have known about, mention this. The monocane plot point carries several consequences for the entire narrative with it. There is no need for any discussion of optics, x-rays, or any of the other scientific discourse that influenced Wells. This in turn omits any issues

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77 See Skal and Rains chapter four.
78 See Weaver, Brunas, and Brunas 82.
concerning the “human visual system” that X-rays and optics revolutionized and makes the scientific premise of invisibility purely chemical.

Most importantly, instead of being inherently mad as a scientist, Griffin only becomes mad when he unwittingly takes a drug, thus making his obsession with the experiment uncontrollable. Renzi observes that in the film adaptation, “When he lies on his death bed, and Flora, weeping, comes to him, we cannot feel righteous that justice finally prevails. Rather, unlike with Wells’s Griffin, whose behavior seems a matter of choice, we sympathize with the man who unwittingly has fallen into a trap of his own making” (98). Much like the Time Traveller, whose adaptation onto film detracts from his motivations as a scientist, Griffin in the novel is fixated on his experiment from the beginning. It is his nature as a mad scientist to relentlessly pursue the impossible, but in the film we instead can attribute all his behavior to a force beyond his control.

The 1933 film also, like the 2002 The Time Machine, adds a romantic interest who does not appear in the novel. The ramifications of this addition are more ambiguous than in The Time Machine (2002) but ultimately the insertion of romance has the same effect. Flora, Griffin’s love interest, is the daughter of Griffin’s employer. She is no minor character – she appears in the second scene of the entire film, immediately after Griffin shows up at the inn. Based on this scene alone Flora’s presence actually strengthens Griffin’s characterization as a mad scientist rather than detracts from it because her neglect shows how focused Griffin is on his own personal experiments. Kemp is a rival love interest here, and he explains to Flora that all Griffin will ever care about is his research: “He cares nothing for you, Flora. He’ll never care about anything but test tubes and chemicals.” Rather than acting as a replacement motivation for
experimentation, as we see *The Time Machine* of 2002, Flora is actually evidence that Griffin cares only for his scientific pursuits, to the detriment of those around him.

The Griffin of Whale’s film also goes to extremes to keep his personal experiments secret, which is in keeping with a mad scientist persona. Flora’s father has employed Griffin and Kemp to run simple experiments that will enhance food preservation, but he allows Griffin to do extra experiments on his own time. Kemp says, “He worked in secret. He kept a lot of stuff locked in a big cupboard in his laboratory; he never opened that cupboard until he’d barred the door and drawn the blinds. Straightforward scientists have no need for barred doors and drawn blinds.” Griffin also constantly tells Mrs. Hall that he just wishes to be left alone. These new details not only remain consistent with the novel’s characterization of Griffin but they also add to its establishment of a mad scientist figure. These scenes occur before the revelation and exposition by Cranley about monocane, however. I would argue that the mention of monocane undermines the mad scientist persona depicted up until then because, while we never see Griffin pre-monocane, Cranley and Kemp imply that he is not himself due to the drug.

The romantic interest also, spectators later learn, is the primary motivation for Griffin’s experiments. At the end of the film, when Flora visits Griffin as an invisible man for the time, he admits that she is the reason he pursued his experiments so tirelessly; he wanted to make a major discovery so that he might be worthy of her hand in marriage. When she asks him why he has done all this, he replies, “For you, Flora…Yes, for you my darling. I wanted to do something tremendous, to achieve what men of science have dreamt of since the world began. To gain wealth and fame and honor. To write my name above the greatest scientists of all time. I was so pitifully poor. I had nothing to offer you, Flora. I was just a poor, struggling chemist.” There is hope that Flora may be able to snap him out of his madness, but this meeting between the two of
them does not slacken his resolve whatsoever. Wells’s illustration of science for science’s sake mutes in comparison to the side effects of an exotic drug and the desperation of a man in love.

Even though the Victorian fascination with optics and X-rays is lost in the content of Whale’s film, he still gives a visual nod to such technology in the very final scene of the film. As Griffin lies on his deathbed at the film’s conclusion, Whale chooses to rematerialize his physical body by showing his skeletal body first, as if he were a living (or dying, rather) X-ray. This final special effect shows us that despite some thematic changes that downplay Wells’s discussion of realism, Whale still through film form provides commentary on visual perception and material reality, at times more than the novel can.

When reading Wells’s *The Time Machine* and *The Invisible Man*, a contemporary reader should be armed with the historical context of the late Victorian period, in which science and technology, especially film, were treated by Victorians with the same supernatural awe as the Time Traveller’s machine or Griffin’s invisibility. All technologies and scientific practices classified as “visual conjuring.” Technology often passed into the realm of magic and, in turn, magical connotations became associated with the technology. For example, George Melies, a filmmaker of the 1890s through the turn of the century often referred to as a “cinemagician,” would experiment with film editing techniques such as dissolves, stop motion effects, multiple exposures, and time lapses. It is no coincidence, then, that his films – most famously *A Trip to the Moon* and *The Impossible Voyage* – are also categorized retroactively as science fiction and fantasy.\(^7^9\) These two novels, which easily fall into such categories, engage realism so handily because their genre expectations incur the use of the supernatural. We have seen here how the

\(^7^9\) See Telotte 79.
ghost as an intellectual construct and references to magic cannot be extracted from these novels without irrevocably altering their thematic qualities.

The history of science and technology during Wells’s time is not only crucial to understanding his novels as inspiration or influence, but also as a sign that the epistemological, ontological, and artistic problems of the period— including Victorian realism— generally fueled a professional and popular interest in how humans relate to space and time.

Hopefully what this chapter has shown is that one cannot discuss these novels in a complete context without also considering film, not only as historical context seeing as how film’s history begins when Wells writes, but also as a source of formal insight. Since the issues of visual perception and reality unique to film as a form might have inspired Wells to write these novels, film adaptations, no matter how contemporary, are not just a different way to present the narrative of the novel; at times they can exemplify the issues Wells prompted his readers to ponder more potently, or at least more viscerally, than the novel can.

This is not to say that the novel does an inadequate job of staging a realist experiment— far from it. Novels, in a way that films cannot, use their narrative structure and meta-fictive commentary to cue readers in on the experiment in literary realism. The frame narrative of *The Time Machine* forces readers to think of the novel as a novel, with a relationship with time different than human consciousness, and has characters explicitly discuss the limitations and challenges of narrative as an attempt to represent reality. *The Invisible Man*, meanwhile, employs a third person omniscient narrator who unnecessarily comments on the way in which he narrates Griffin’s tale, reminding readers that alongside the human eye, the human pen cannot hope to capture reality, in all its time in space, completely.
Chapter Three: Imagination and the Scientific Supernatural in Robert Louis Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde* (1886) and Bram Stoker’s *Dracula* (1897)

*The Strange Case of Dr. Jekyll and Mr. Hyde* and *Dracula* are the most useful cases for exploring the relationship between realism and the supernatural because the supernatural itself is a concept explicitly under interrogation in both novels. Dracula is a supernatural being; it’s just a matter of other characters in the novel discovering him as one. The process of transforming from Jekyll to Hyde is, in of itself, fantastical. Wells’s representation of time travel is fantastical as well, of course, and characters in *The Time Machine* may debate whether or not time travel is possible, but time machines do not have the same supernatural connotation that vampires and monsters do. In *The Time Machine*, the Time Traveller scientifically brings about supernatural events, and in *Dracula* and *Jekyll/Hyde* the mad scientist characters, Van Helsing and Dr. Jekyll, use science to explain how phenomena already marked as supernatural are real. The science directly referenced in the text as well as the Darwinian subtext, rather than bringing about the supernatural, explains why the supernatural exists as a reality.

With narratives that hinge on characters’ belief in scientific explanations of supernatural beings such as vampires or men turned monsters, these novels create an uncertainty around how science and the supernatural coexist; by illustrating the conversion of characters from non-believer to believer at the behest of scientific theory and evidence, these novels show that scientific inquiry and discussions about the existence of supernatural phenomena are often entangled as opposed to mutually exclusive. These texts demonstrate that no one can be certain as to where science ends and the supernatural begins.

Just as Wells does for Griffin and the time machine, Stevenson and Stoker represent Hyde and Dracula as supernatural beings, emphasizing their haunting qualities long before other characters discover that they are in fact supernatural. Primarily through figurative language,
Steven son accents Jekyll’s experiment – particularly his result, Hyde – with supernatural images. In describing the transformation from Hyde back to Jekyll, for example, Lanyon uses the phrase “like a man restored from death” (Stevenson 47) to imply that the chemically-provoked change resembles a supernatural resurrection, making Hyde some sort of undead demon. Mr. Enfield, a witness of Hyde’s trampling of a young girl says, “It wasn’t like a man; it was like some damned Juggernaut” (9). He also, later in his account, likens Hyde to Satan, saying “there was the man in the middle, with a kind of black, sneering coolness – frightened too, I could see that – but carrying it off, sir, really like Satan” (10). A figurative relationship between science and the supernatural, implying that scientific practice or scientific results can resemble the supernatural and, conversely, that the supernatural can be made “real” by science, forces readers to consider the two constructs together.

The supernatural as an intellectual construct itself complements realism in its perpetual questioning and pursuit of the real. A being or figure’s status as supernatural, after all, is predicated on its reality being ambiguous. The word itself encapsulates a paradox, for the prefix “super” indicates a being more than, above, or beyond the natural, defying the laws of nature and therefore impossible, but at the same time the word itself, in describing such a thing, necessitates an inclusion of the natural, or the use of “natural” as a referent. In order to transcend the natural, the supernatural must have one foot in it; it must have a reference to the natural built in.

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80 All citations for The Strange Case of Dr. Jekyll and Mr. Hyde come from the Norton Critical Edition edited by Katherine Linehan.

81 The OED entry for “supernatural” lists several definitions, two of which are relevant to this discussion: “Belonging to a realm or system that transcends nature, as that of the divine, magical, or ghostly beings” and “More than what is natural or ordinary; unnaturally or extraordinarily great.” Note that both definitions include the word natural within them. In the former definition, the entry specifically mentions that these realms are “attributed to or thought to reveal some force beyond scientific understanding or the laws of nature.” In the literary cases presented here, the supernatural is only “beyond scientific understanding” when scientific inquiry has not yet been exhausted or brought to completion. Van Helsing’s theories on evolution and vampires, for example, reconfigure Dracula from a supernatural unknown to a scientific known while still maintaining his supernatural properties. Most citations
Through the use of mad scientist figures, H.G. Wells’s two novels and those of Stoker and Stevenson share a common epistemological training for their characters and by extension their readers. With generally eccentric personalities, radical ideas, and in Dr. Jekyll’s case a secret lab, all of which are key to the trope, the archetypal mad scientist practices on the fringe of what is scientifically and socially acceptable; in the case of the novels by Stevenson and Stoker discussed here, mad scientist characters believe that the supernatural can be achieved, discovered, and substantiated by scientific theory and experimentation, despite all the other characters in the novels assuming that supernatural phenomena cannot manifest in the material world they know. Jekyll and Van Helsing are quintessential mad scientists both in terms of the analytical schema of this discussion and in the eyes of popular culture and literary history. In part due to the advent of the horror film genre, Western culture has reproduced images of Jekyll (or Hyde) and Van Helsing more often than they have most mad scientist characters and these characters have defined the archetype in the popular imagination.

Even though the premise of the supernatural is more of a given in Dracula and The Strange Case of Dr. Jekyll and Mr. Hyde, the lesson in Victorian realism remains the same. The mad scientist figure in each novel – in this case Dr. Jekyll and Van Helsing – must help other characters open their minds and adjust their world views accordingly. By making a case for the supernatural to other characters, they actively attempt to teach other characters a lesson about genre and realism. The narrative’s chronicle of other characters’ conversion to one who believes in the supernatural demonstrates, actually highlights, in a way similar to Wells’s novels, the limitations of human perception, understanding, and representation of reality. They once were blind but now they see. All the while the readers of these novels get to witness both the mad

listed before and after the fin de siècle use the word supernatural in a theological context, which perhaps indicates that scientific explanations of the supernatural would have been received as radical or heretical.
scientists and those they “convert,” and from there may reflect on what they themselves think to be real or unreal, as well as how they negotiate between visual or verbal representations of their reality and a material reality.

One can recognize the mad scientist/rational man/common man triangulation found in Wells in these novels as well, only in Stevenson and Stoker’s novels characters distinguish themselves from one another based on their attitudes towards the supernatural. There are those who without question believe in the supernatural, such as the superstitious villagers in Dracula’s Transylvania, and those who are completely closed off to the idea of vampires existing, such as Jonathan Harker when he arrives in Transylvania and dismisses the villagers. And then there are the mad scientist characters who believe in the supernatural but as scientific fact rather than fearful superstition. Van Helsing, for example, sees the supernatural and the scientific as not separate but rather as inherently linked; one need not be in the superstitious villager or the skeptic camp, but rather can occupy a liminal space in which one can conceive of the supernatural by way of devising a scientific theory for that particular supernatural phenomenon.

Non-fictional scientific discourse of the period also supported or attempted to substantiate the supernatural. As Robert Mighall, Stephen Arata, and John Glendening have aptly demonstrated by reading texts by scientists and texts by novelists side by side, the theory of atavism opened up a space for the concept of monsters and vampires who, along with criminals and others considered “degenerates” by Victorian society, could be theoretically explained as unfortunate products of human evolution. Stevenson and Stoker capitalize on this theory and create representations that fit topical descriptions of atavistic humans that circulated in scientific and social discourse. They then create characters who are unable to wrap their minds around the supernatural as real, contrary to Victorian culture’s consideration if not acceptance of these
“logical” extensions of evolutionary theory, so that the epistemological transformations of certain characters such as Dr. Seward and Mr. Utterson can serve as a way to cast doubt on realist certainty. By pitting the mad scientist’s open mindedness about the reach of scientific theory into supernatural possibility against another characters’ reality blinders, the novels create a point of contention that ultimately results in a reconfiguration of reality. Upon witnessing characters experience a revelation, readers of these novels are invited to question their own assumptions about what science is and what the supernatural is, and how interconnected they in fact are.

Samuel Coleridge’s conception of imagination, outlined in *Biographia Literaria*, is useful for framing a mad scientist figure’s approach to science and the supernatural, especially since Stoker’s *Dracula* mentions the term so frequently.\textsuperscript{82} If one thinks of imagination as a cognitive function facilitating perception rather than fanciful thought based on previously conceived images or ideas, one can better understand the hybrid genre of the scientific supernatural. Imagination, as defined by Coleridge, refers to creative reasoning as much as it does to fictional projections. His interest in the relationship between the mind and the world provides a significant backdrop for Victorian realism because the mediation of reality by the human mind forms the basis of all discussions of realism.

Coleridge breaks the imagination down into primary and secondary functions. With primary imagination, the mind is active, as it “it reshapes the external world so as to endow it with meaning” (Mellown); the secondary, or artistic imagination, upon conscious will of the

\textsuperscript{82} See Grant; and Bynum. In any literary context, the term imagination is a fairly loaded one, with an extensive history in literary history and aesthetic theory, going back as far as the Renaissance when writers and philosophers considered imagination to be the distorter of knowledge. In the eighteenth century, imagination served as a mental faculty that facilitated memory. Romanticism later ushered an inward turn, considering an artist’s imagination as a combination of observations, thoughts, and feelings. The imagination, in this period of literary history, is no longer a passive recorder but an active creator.
artist, reconciles opposites in order to create artistic unity. Coleridge says, “The primary imagination I hold to be the living Power and prime Agent of all human Perception, and as a repetition in the finite mind of the eternal act of creation in the infinite I am.” (304). Coleridge equates imagination with perception here, and notes that imagination is the tool, the “living Power and prime Agent” with which the mind enacts perception rather than derailing from it. Fancy, on the other hand, is the cognitive function that critics of imagination might mistake for imagination, as it is a passive and uncreative process that involves an artist taking preexisting images and memories and rearranging them into something nuanced but entirely unoriginal. Coleridge says, “Fancy, on the contrary, has no other counters to play with, but fixities and definites. The Fancy is indeed no other than a mode of Memory emancipated from the order of time and space; and blended with, and modified by what empirical phenomenon of the will, which we express by the word Choice” (305).

One can see two different interpretations of imagination in other nineteenth-century usages of the term as well – one in which the mind produces pure fiction antithetical to reality and another where the mind “reshapes the external world.” In 1896 the Duke of Argyll claims, “The truths which they proclaimed were facts and not imaginations,” implying that “imaginations” are the opposite of “facts.” More invocations of the word during this period, however, treat imaginations and the imagination as if they were unusual yet creative thoughts. John Stuart Mill, who wrote at length about Coleridge, says in 1840, “The Imagination…to which the name is generally appropriated by the best writers of the present day [is] that which enables us, by a voluntary effort, to conceive the absent as if it were present.” In 1881 Friedrich Max Muller writes that without an “empirical law” under which the mind can associate otherwise

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83 See Mellown.
84 See Philos. Belief 223.
85 See Bentham in Diss. & Disc. (1859) I. 353.
unrelated representations in a train of thought, “the faculty of empirical imagination would never find anything to do that it is able to do, and remain therefore buried within our mind.”\textsuperscript{86} In 1829 James Mill says, “I am said to have an imagination when I have a train of ideas.”\textsuperscript{87}

Current formal definitions of imagination relate to the human senses, reality, and the relationship between the two as well. The Oxford English Dictionary defines imagination as both “The power of capacity to form internal images or ideas of objects and situations not actually present to the senses” and as “the power or capacity by which the mind integrates sensory data in the process of perception.” In another branch of the definition imagination is “An inner image or idea of an object or objects not actually present to the senses; often with the implication that the idea does not correspond to the reality of things.” These definitions include the conventional notion of imagination as the ability to or the image produced by the ability to mentally fabricate unreal images, but they also account for cases in which one overcomes the sensory deprivation inherent in humanity. According to mad scientist characters, an image, idea, object, or situation “not actually present to the senses” does not necessarily fail to exist; they do not allow what does and does “not correspond to the reality of things” limit their idea of what is possible.

With views similar to Coleridge’s understanding of imagination, Max Nordau, a social critic, physician, and atavist, complicates the relationship between reality, perception, imagination, and art.\textsuperscript{88} He stands alone among the pantheon of atavists because he appropriately incorporates an explicit discussion of realism into his treatise on degeneration. Within his explanation of degeneration theory Nordau claims that geniuses are criminals because madness

\textsuperscript{86} See F. Max Müller tr. Kant Critique Pure Reason II. 89.
\textsuperscript{87} J. Mill Anal. Human Mind (1869) I. vii. 239.
\textsuperscript{88} As both a physician and a social critic, Max Nordau saw a connection between the medical and the cultural and thus applied Lombroso’s theory to art and literature, making the argument that artists and writers could suffer from degeneration as well. Lombroso published well into the turn of the century, but his major work, L'uomo delinquente (translates to “The Delinquent Man”), was published in 1876. Nordau’s Degeneration was published in 1892.
precipitates genius, and uses Zola, “the inventor of realism in literature” (Nordau 475) as his case in point. Nordau defines Zola as a degenerate without very much proof and generally derides him without context or reason. Amidst the snide jabs at an author and his admirers, Nordau takes on a Pater-like discussion of representation and the real, questioning what one means by realism in the first place. Just as Walter Pater values the relational meaning between art and reality more than the artistic mode of realism or the act of representing reality mimetically, so too does Nordau try to challenge the artistic movement of realism or naturalism. He says, “First of all, the word “realism” itself has no aesthetic significance. In philosophy it denotes an opinion for which the general phenomenon of the world is the expression of a material reality. Applied to art and literature, it possesses no conception whatever” (475). He goes on to argue that even representations that have been invented or imagined are based on some observation of reality made at some point, that no one writer can be called a realist; they all are or, rather, none of them are because realism, or at least a mimetic realism, does not exist.

According to Nordau, no representation can capture the real, but this does not preclude an achievement of “truth.” On the one hand, he makes a problematic claim that all writers base their work on reality, or, more specifically, real experience: “Every one of our presentations, in fact, is based on an observation once made by us, and even when we invent ad libitum, we only work with the memory-images recollected from previous observations” (475). The implication about representation’s relationship to the real is worth the presumptuous generalization about all writers. Instead of making the claim that no author can be purely imaginative, one can interpret

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89 Nordau describes Zola as out of fashion and identifies his audience as “lovers of the obscene and nasty” (474). Critics have speculated that he does so in order to defend German values, and that Zola is really a target because he is French and does not discourage his readers from avoiding the sordid activities portrayed in his novels. See Becker and Wetzell: “Originating in the experimental novels of Emile Zola, literary realism threatened to bring German values down to the low level of the French. Writers who depicted what was ugly and sordid did not encourage their readers to avoid it” (95).
Nordau’s statement here as a defense of writers classed as non-realist, saying that they do not get at the truth any less than realists do. He also perhaps invokes Coleridge’s definition of imagination here without naming it explicitly.

The conflation of realism and idealism – to use the traditional binary – at the point of observation could be the lynchpin of Nordau’s argument against realism, and might even be seen as a predecessor of the revised definition of realism as an experiment rather than a mimetic project discussed at length in this study’s introduction. When Nordau says, “In no case is the work of art a faithful image of material reality; its genesis excludes this possibility” (476), the implication is that the reason this is so lies in the unreliable nature of observation, which, according to Nordau, influences all authors regardless of their intellectual or aesthetic aims. Is this argument merely a means to an end – to deride Zola, undermine his critical acclaim, and prove that he has no special talent? I would argue that the critic’s attachments to science actually suggest otherwise. Nordau, for example, also positions himself against the bildungsroman, as he accuses authors who write them to be imposters who attempt science when in fact they have no way of scientifically verifying why a person is a certain way. He calls realist literature “false science” (488). Scientists, he argues, have been studying the origins of the criminal for decades, and still so much in the field is unknown, thus it would be presumptuous of a “wholly ignorant writer” (488) to try to speculate on such matters. One cannot help but, in light of degeneration theory’s influence on late Victorian literature, see Nordau’s position on science, literature, and reality as central to a reading of Dr. Jekyll and Mr. Hyde and Dracula. For Nordau, no one gets to be certain, scientist or novelist, as he says, “we are still far from being able to indicate with certainty” (488). He admits that the practice of science is steeped in the unknown. Applications
of this sentiment to Stevenson’s and Stoker’s novels leaves ample room for supernatural possibilities.

There are two layers at work in these narratives, both of which teach readers that categories such as real, unreal, science, and supernatural are not clearly demarcated. In addition to the actual content of the narrative, which itself rehearses debates about what is real and supposedly supernatural or unreal, the narrative style of the texts, which are designed to model a reader’s discovery after those of characters, also provides epistemological lessons. Stevenson and Stoker employ epistolary narration, which allows readers to enjoy a paralleled experience to the characters in the novel whose minds become increasingly more “open” over the course of the narrative. Unlike that of Wells’s novels discussed in the previous chapter, Dracula and The Strange Case of Dr. Jekyll and Mr. Hyde both present themselves as a series of found and subsequently edited documents. More specifically, Dracula uses an array of first person narratives such as diary entries and letters between characters while The Strange Case of Dr. Jekyll and Mr. Hyde concludes with a series of documents found by Mr. Utterson.

This epistolary narration reminds readers of the text’s representational nature, placing one additional barrier between them and what would otherwise be an immersive narrative. Even though one might assume that the emphasis on veracity that the found and edited document frame creates encourages readers to suspend disbelief and buy into the narratives as “truth,” the opposite is in fact true. Several studies in the history of the novel have observed that the defining feature of a novel is its simultaneous insistence on truth and metafictive attention drawn to the fiction as fiction.\textsuperscript{90} The letters and documents used as narrative devices in these novels are no exception. Drawing attention to the narratives as narratives – as subjective texts – primes readers

\textsuperscript{90} See McKeon.
for the thought experiment in reality and representation. In order to be a characteristically fictional form – the novel – these narratives must try a little too hard to simulate nonfiction. This openly playful approach to fiction and nonfiction encourages readers to think about the false dichotomy between the two.

Stoker’s two prefaces for *Dracula*, both of which assure the reader that the novel consists of a series of found documents, compiled as opposed to created by Stoker, are reminiscent of many eighteenth century works that begin with a similar preface. Daniel Defoe’s *Moll Flanders*, for example, opens with an “author’s preface” where Moll Flanders not Defoe, appears as the “author” of the story. She claims that the tale within is a “true history,” employing what Michael McKeon would call a novel’s “insistence on its own documentary candor” (105). In his preface, Stoker fictionalizes himself as the editor on behalf of the multiple authors – Jonathan, Mina, Dr. Seward, etc. In doing this he both presents fictional characters as real people and represents himself as a journalist instead of novelist. Since the reader – in addition to only believing in vampires as an indulgence in the novel’s premise – knows that Stoker is in fact the novelist, his denial of this fact makes the reader even more conscious of the narrative’s fictiveness. The preface invites him or her to wrestle with the vexed process of how we determine truth from lie, reality from fiction.

**Narrative Suspense and Revelation of the Scientific Supernatural in *The Strange Case of Dr. Jekyll and Mr. Hyde***

Since a reader of an epistolary novel shares knowledge and perspective with a character narrator, the narrative style often results in a delayed revelation of narrative events. Ultimately experiencing a disjunction between the way things seem and the way things really are, readers of Stevenson and Stoker’s novels encounter pieces of the fabula in a backwards fashion, through a
syuzhet that maximizes chances for misinterpretation. In *Dr. Jekyll and Mr. Hyde* especially, the reader meets Hyde long before he or she meets Jekyll and while readers may suspect them to be one and the same, the narrative draws out confirmation of this until the end of the novel, after Jekyll has met his end. And unlike *The Invisible Man*, the title *The Strange Case of Dr. Jekyll and Mr. Hyde* does not reveal any narrative outcomes to a reader in advance. As indicated by the joke “If he be Mr. Hyde… I shall be Mr. Seek” (Stevenson 15), the narrative thrust of the novel is the mystery of Dr. Jekyll’s disappearance and his relationship with Mr. Hyde that Utterson – lawyer and longtime friend to Jekyll and detective figure in the novel – has to solve. One can see Utterson as a precursor to Arthur Conan Doyle’s Sherlock Holmes, a character who will be the subject of the following chapter.

Adhering to an emotionless, gentlemanly, and inflexible rationality for the entire novel, Utterson is not a skilled or successful detective. His failure to observe and perceive evidence he finds and situations he finds himself in necessitate a series of deus ex machina moments that allow him to see how he has misinterpreted what he has seen and satisfy the reader’s desire to solve the mystery. He discovers four documents – Jekyll’s will, a brief note from Jekyll explaining the packet of documents, Dr. Lanyon’s account of Hyde transforming into Jekyll in his home, and Jekyll’s confession and explanation of his experiment. When combined, these found documents give Utterson and the reader a comprehensive account of what was actually happening, pointing out what he failed to see all along. The latter two appear as the novel’s end, described as “the two narratives in which this mystery was now to be explained” (Stevenson 41).

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91 See Bordwell 50. The fabula represents the events of a narrative in the chronological order they would have had in real time whereas the syuzhet is the same series of events in the order they are presented in the narrative.

92 It is important to distinguish mystery from suspense here because the reader, aligned with Utterson, anticipates the solution to the mystery or knowledge rather than narrative events (i.e. what will happen next).
Only at this point does the reader as well as Utterson learn the “truth” behind Jekyll and Hyde’s bizarre actions.

Thus Stevenson’s representation of reality – that Jekyll and Hyde are two separate people – proves to be unreliable and deceptive for almost the entirety of the novel. While the third person narrator never lies (although Jekyll does by omission) or misrepresents events, readers receive a misrepresentation by following Utterson’s incorrect reading of said events. He is not open-minded enough to consider Jekyll’s transformation into Hyde on his own, and therefore must have this reality explained to him in posthumous letters. Utterson’s (and the reader’s by association) epistemological framework is not expansive enough to puzzle out the mystery; he instead clings to an unreality that to him makes more sense. He comes up with an alternate explanation as to why a letter from Jekyll and a letter from Hyde have matching handwriting. As “his blood ran cold in his veins” (Stevenson 28), Utterson thinks to himself, “Henry Jekyll forge for a murderer!” (28). In this instance one cannot help but be reminded of the misguided villagers in Wells’s The Invisible Man who will think of more “logical” and yet more incorrect explanations because the supernatural remains inconceivable, unknowable, and unrecognizable.

Again and again Stevenson allows the reader to watch Utterson make mistakes in detection by failing to consider all possible scenarios, even the unlikely or seemingly impossible ones. For example, when Utterson identifies the body of Sir Danvers Carew, a murder victim of Hyde’s, he notices a cane that he once gave Jekyll at the scene of the crime. The narrator takes note of this, but gives no indication that Utterson has caught wind that Jekyll and Hyde are one person; he assumes that Hyde has stolen the walking stick from Jekyll. This allows the reader to take the “clue” given by the narrator – the cane – and correctly interpret it in a way that Utterson cannot. Later, Jekyll’s butler, Poole, explains that Jekyll has locked himself in his lab for a week.
Instead of suspecting that Jekyll has been conducting secret and dangerous experiments, Utterson posits that he is ill, not possessed by Hyde. He says, “These are all very strange circumstances …but I think I begin to see daylight. Your master, Poole, is plainly seized with one of those maladies that both torture and deform the sufferer; hence, for aught I know, the alteration of his voice; hence the mask and the avoidance of his friends; hence his eagerness to find this drug….” (Stevenson 36). With a steadfast confidence in what is possible and plausible that is central to his character, Utterson demonstrates two points of ignorance here. First, as we have already pointed out, he shows an inability to consider the supernatural, which precipitates the narrative about Jekyll’s illness. Secondly, and less obviously, Utterson exhibits a lack of scientific curiosity or a lack of respect for the scientific profession. Despite knowing that Jekyll is a scientist, he presumes that his friend wants drugs to cure an illness rather than to facilitate an experiment.

If Utterson is a prototype for Sherlock Holmes then Poole is a proto-Lestrade. While Poole, Jekyll’s loyal butler, shares Utterson’s lack of emotion and inability to discern what has actually transpired with Dr. Jekyll, he represents a different type of rationality, one that marks his membership in a lower social class. Contrasting Utterson’s authoritative rationality as a gentleman that allows him to misdiagnose a situation, dutiful and deferential Poole always states his observations plainly and cannot actually synthesize those observations into any interpretation or deduction, wrong or otherwise. Poole’s observations should prompt suspicion of Jekyll and Hyde being one and the same, but he expresses them in such a deadpan manner that there is no implication of such a circumstance. For example, when Utterson points out that “your master seems to repose a great deal of trust” (Stevenson 18) in Hyde, Poole agrees – “Yes, sir, he does indeed…we all have orders to obey him” (18). He does not, however, offer his reaction to the situation, failing to comment on whether or not that is inappropriate or suspicious. He also does
not remark on the oddity that Hyde never dines at Jekyll’s home in a way that makes Hyde’s question about ever meeting Hyde a silly one: “O, dear no, sir. He never dines here” (18). There are other instances in which Poole fails to corroborate Utterson’s suspicions of Hyde. He says, for instance, that no post came through or that the doctor had shut himself up in his laboratory and seen no one all day. His post as a servant, that is his class, inhibits him from attempting deduction, making his rational yet mistaken reaction to Jekyll’s situation on a lower end of the epistemological flexibility continuum than Utterson.\footnote{Jekyll himself would be on the high end of the spectrum, on the other side of Utterson.}

The only time when Poole actually attempts deductive reasoning is when he ultimately exhibits a fear and panic that Utterson does not. Later in the narrative he breaks from his plane-spoken impartiality and confesses to Utterson that he is worried about Dr. Jekyll, so much so that he visits Utterson at his home. After much prodding and coaxing, he says that “foul play” has befallen Dr. Jekyll, referencing the sound of Hyde’s voice as his evidence; after having served Dr. Jekyll for so many years, he can say with certainty that the voice they hear through the laboratory door does not belong to him. But, of course, Poole comes to the wrong conclusion, assuming that only one person can have one unique voice, when in fact two voices, that of Jekyll and that of Hyde, belong to the same man. Poole even posits that when he saw Jekyll as Hyde that it might be Jekyll wearing a mask rather than Jekyll having transformed into Hyde.

When Poole speaks of Hyde, saying “that thing was not my master, and there’s the truth,” he says it with such certainty because to him visual evidence is infallible. Dr. Jekyll looks like a “tall fine build of a man” and when Hyde looks like “a dwarf,” he cannot fathom that the two visual appearances can signify the same body. For the reader, who likely suspects already that Dr. Jekyll and Mr. Hyde occupy one physical body, Poole and Utterson’s missteps in detection
seem even more ignorant than they would otherwise. What might be rational explanations under normal circumstances are indisputable fallacies to the reader adopting the narrative’s premise. This mistaken faith in visual evidence that Stevenson presents is highlighted by film adaptations of his novel – which I will discuss later – when they actually show spectators the physical transformation of Jekyll’s body into Hyde’s.

In Stevenson’s novel, the revelation of Jekyll’s transformation occurs not in a voyeuristic visual that viewers have omniscient access to, but rather due to a series of documents found after Jekyll’s death. In addition to providing narrative relief, as all is explained, these papers create a harsh break in narrative form. A reader lulled into the complacency of a third person narrative suddenly finds him or herself confronted with first person narratives by characters, and, more importantly, never returns to the original narrative mode for closure. After the reader of the novel finishes the last document, the novel simply ends. The found documents may explain Jekyll’s experiment, but the reader must make of the explanation what he or she will; the novel provides no further comfort or reassurance of anything. While Dracula has the narrative frame establishing Stoker as an editor in his preface, Stevenson opts to stay out of the narrative limelight, leaving the third person narrator to transition the reader from Utterson’s return to his office “to read the two narratives in which this mystery now to be explained” (Stevenson 41) and the explanatory documents themselves. There is no mention of the text to follow; rather, the novel simply presents the two documents in succession, leaving the reader to discern the shift in narration without guidance. Letting the papers to speak for themselves, on the one hand, makes them more convincing as found and therefore “true” documents; on the other hand, the jarring shift from third person to first person narration makes readers more aware of narration’s subjectivity.
Even though Stoker establishes more of a narrative frame than Stevenson, critics still observe the narrative style of *Dracula* to have the same lack of “narrative mastery,” particularly in terms of voice and narrative agency. Daniel Pick, for example, says, “The vampire is allowed no direct voice or expression, but nor is any other figure given full narrative mastery. The novel refuses to provide a synthesis, proceeding instead through a series of separate diaries, reports and letters” (168). The refusal to “provide a synthesis” is a way to show that reality is contentious—all readers have to go on are bits and pieces of experience and observation and they never actually get a definitive “this is what happened; this is what is real” moment. For Stevenson, the shift from third person to first person narration by way of found documents combined with a parallel shift in narrative truth—Utterson’s misinterpretation of Jekyll/Hyde juxtaposed to Jekyll’s confession of a very different account of his behavior—shows the reader that any account of events will be distorted by the narrator’s limitations and bias upon converting observation to perception.

The fact that Jekyll titles the letter to Utterson “Henry Jekyll’s Full Statement of the Case” alters how one might think of the shift in narration because the juxtaposition of third person and first person parallels a shift from literary narration to scientific discourse. The word “case” here has multiple connotations: if one thinks of “case” as a legal or criminal case then the statement makes sense as a legal document of interest to Utterson, a lawyer. But “case” could also mean “case study” or scientific case, which would imply it as a record of scientific practice by Jekyll, a scientist. Read in the context of the novel’s title, *The Strange Case of Dr. Jekyll and Mr. Hyde*, one might lean more towards the latter use of the word; this would imply that the entire novel has been a scientific case study, as Anne Stiles speculates, and that the final portion, presented in the words of Dr. Jekyll himself for the first time, also happens to be the first time
that readers get the “full statement” or full version of the case. One cannot say for certain what the epistemological lessons afforded to the reader here are. On the one hand, a distrust of literary narration occurs – an event or series of events told from the perspective of an individual proves inaccurate while the “found” documents whose purposes are primarily scientific reveal what the narrative could not. On the other hand, the final explanation prompts readers to reflect on the entire narrative up until that point and see how blind the likes of Utterson and Poole had been.

In these last documents, science converges with the supernatural to form narrative truth. Utterson’s failure to interpret his observations correctly does not only spring from his inability to consider the supernatural but in his lack of scientific curiosity. Jekyll’s posthumously revealed exposition illuminates his bizarre behavior exclusively through his scientific hypothesis that substantiates a monster, Mr. Hyde. He refers to Hyde as “the brute that slept within me” (Stevenson 60) which he then, through scientific experimentation, extracted, and explains that he realizes that “the exacting nature of my aspirations…with even a deeper trench than in the majority of men, severed in me those provinces of good and ill which divide and compound a man’s dual nature” (48). Jekyll describes himself as an earnest “double-dealer” (48) but not a “hypocrite,” (48) saying that “it chanced that the direction of my scientific studies, which led wholly towards the mystic and the transcendental, reacted and shed a strong light on this consciousness of the perennial war among my members” (48). His hypothesis, then, states that every man has in fact two men within him – one good and one evil – and that it is possible to separate the good from the bad.

In Jekyll’s words one will notice a conflation of the tangible physicality and the intangible spirituality of man. The scientific theory he devises attempts to quantify that which is
conventionally considered the product of superstition or that which is under the church’s jurisdiction – evil, demons, etc. – and turn it into a scientific matter. Jekyll says, for example,

It was on the moral side, and in my own person, that I learned to recognize the thorough and primitive duality of man; I saw that, of the two natures that contended in the field of my consciousness, even if I could rightly be said to be either, it was only because I was radically both; and from an early date, even before the course of my scientific discoveries had begun to suggest the most naked possibility of such a miracle, I had learned to dwell with pleasure, as a beloved daydream, on the thought of the separation of these elements.

(Stevenson 48-49)

The “two natures” Jekyll refers to here – good and evil – are not mystical categories but rather “elements” that can be chemically isolated from one another, like a precipitate from a solution.

In contrast to Jekyll’s final explanation, full of scientific discourse used to explain the supernatural, Stevenson features Utterson’s lack of interest in science in the main, third person narrative, labeling him as naïve and ignorant. Utterson admits early on in the narrative to having “no scientific passions” (14). Upon his first visit to Dr. Lanyon, he inquires as to why Lanyon no longer sees Jekyll. When Lanyon replies that Jekyll went “wrong in the mind” (14) and they parted ways over a scientific dispute, Utterson immediately discards science as a factor in his investigation of Hyde. He says, “They have only differed on some point of science…It is nothing worse than that!” (14). He acts as if Jekyll’s life as a scientist couldn’t possibly have anything to do with his suspicious connection with Hyde. He does not even seem to think that a scientific disagreement is important or serious enough to break up the friendship between Jekyll and Lanyon.
By scoffing at the clue provided by Lanyon, Utterson shows that as a man with an unscientific mind he cannot piece together Jekyll’s puzzle. Rather than the science dispelling the supernatural at the end, as we often see in the Sherlock Holmes novels, the science and the supernatural, for Utterson and the reader alike, arrive at more or less the same time when all is explained at the novel’s close. This shows that those who suspend judgment and consider both science and the supernatural may be better at perceiving and representing reality than others, such as Utterson, who is left in the dark due to his unwillingness to invest in either science or the supernatural.

The Scientific Brain and the Supernatural Soul of Jekyll/Hyde

Dr. Jekyll’s theory was not especially far fetched for Victorian scientists. The “duality of man” theory that he devises echoes theories of the double brain, first introduced in the earlier half of the nineteenth century. According to Anne Stiles, Jekyll’s claim supports “theories suggesting that each brain hemisphere might house a separate personality, indeed, a separate soul” (882). Stiles wades through a long list of scholars who have tried to pinpoint “scientific source material” (884) upon which Stevenson’s novel is based, but she struggles with each and every one of them, saying that while a connection between, for example, Lombroso and Stevenson is evident, translations of his work into English would not have been available until a few years after *Jekyll and Hyde* was published.\(^\text{94}\) She then instead turns to double brain theories from the earlier decades, which surely would have been well established in all European languages by Stevenson’s time.

Identifying the theory of the double brain in the novel is a difficult task, since, like Griffin in *The Invisible Man*, Dr. Jekyll conveniently does not feel the need to go into any detail.

\(^{94}\) See Stiles 883.
in explaining his scientific experiments. He says, “For two good reasons, I will not enter deeply into this scientific branch of my confession” (Stevenson 49). First he presents a “be careful what you wish for” moral, implying that his experiment only backfired and made things worse by unleashing Hyde on the world; this implies that his work is too dangerous to commit to writing. Secondly, he does not detail his findings because his “discoveries were incomplete” (49). He only gets as specific as mentioning “agents” (49) and “a drug” (49) he compounds, all of which have powers. The last ingredient he needs is a “particular salt” (50) which he combines with other “elements” (50) to watch “them boil and smoke together in the glass” (50). The only vaguely scientific term he uses is “ebullition,” (50) which is an esoteric chemistry term for boiling.

In the same breath that Jekyll says “ebullition,” he also uses the word “potion” (Stevenson 50) to describe the chemical compound he creates. Here we see the slippage between scientific and supernatural common in other texts such as those by Wells. Does the vagueness with which Jekyll describes his experiment conveniently relieve Stevenson of having to use actual scientific theories to back Jekyll’s claims? Or does it mystify the scientific process and make it seem more supernatural? Jekyll’s sketchy account of his own theories ultimately maintains its credibility because the atavistic theories circulating in Victorian culture operate as the subtext of the novel, thus giving reader’s all the scientific discourse they need. There is no need for Jekyll to be specific in his chemistry because Victorian readers might already understand and accept the dual nature of man from reading the works of Lombroso, Nordau, or any of the double brain theorists.

The use of scientific discourse also contributes to the narrative style and genre of the novel. Once Stevenson titles his novel the strange “case,” a series of expectations about the
conventions of the text arise. A reader of a case study expects an objective analysis of an event or detailed descriptions and observations about a particular subject’s behavior over time. We get both of these in the novel, but, as Stevenson demonstrates by juxtaposing the main narrative featuring Utterson’s misinterpretations with found documents such as Jekyll’s full disclosure, we see that an analysis of a subject – Jekyll/Hyde – may not be as empirical as one might hope them to be.

Stiles argues that Stevenson, having a “familiarity with the rhetorical conventions of scientific prose,” (881) actually satirizes the genre of the case study by occupying Jekyll’s case with a Gothic romance. I do not agree with the implication that the Gothic cannot be taken seriously and therefore must be a vehicle for humor or parody. Stiles isolates and rigidly conceives of genres when she assumes that the scientific discourse of the period cannot possibly mingle with fiction unless it is for another narrative end like satire. I would argue that Stevenson’s use of “the rhetorical conventions of scientific prose” interrogates scientific prose’s air of objectivity.

Even though she sees science and the supernatural as creating a tension that results in satire rather than considering that they might happily coexist with one another, Stiles agrees with my assessment of scientific prose’s role in the novel. She says, “By mimicking the case study within a Gothic romance, Stevenson lays bare the limitations of scientific prose, particularly its inadequacy in light of complex moral and social realities impossible to relate in purely empirical terms. One might conceptualize Jekyll’s “perennial war among [his] members” (Stevenson 48), then, as the doctor’s struggle to maintain scientific objectivity in the face of a terrifying subjective reality that threatens to overwhelm him” (Stiles 881). The struggle Stiles describes here is a crisis of representation, one in which Jekyll realizes that he cannot represent his own
case objectively. Perhaps this is why Stevenson withholds Jekyll’s account until the very end of the novel, to show that other characters can observe Hyde while Jekyll, in his inability to control Hyde, cannot observe himself.

A shadow of doubt cast on the objectivity of science is yet another mechanism by which the Victorian reader can consider realism, as what hangs in the balance is whether or not experimental methods can actually capture or represent reality, measure for measure, and with no distortion. Stiles claims that the “subjective Gothic romance” does “triumph” over the “imperiously objective case study or realist novel” (890), but I would consider them both as working towards the same goal. Not only does the supernatural itself beg the question of reality, but science does as well. The supernatural facilitates the breakdown of objectivity while the scientific gives Stevenson an esteemed institution within which to stage such a breakdown or destabilization. Thus Stevenson combines (and requires) both genre paradigms to allow readers to question one’s chase of the impossible dream that is representing reality.

Another recognizable paradigm that Stevenson can use to dramatize the distortion of reality, and one that criminologists such as Lombroso also took interest in, is mental illness or madness. Dr. Jekyll, out of all our mad scientists, inhabits a narrative where his madness is actually articulated as such. The Time Traveller may seem crazy to his friends because of his radical ideas, and Griffin eventually becomes, due to his invisibility, violent, destructive, and mad, but clinical madness never enters the discussion. Jekyll, on the other hand, has colleagues who claim a mental illness on his behalf. Dr. Lanyon, for example, says,

“But it is more than ten years since Henry Jekyll became too fanciful for me. He began to go wrong, wrong in the mind; and though of course I continue to take an interest in him for old sake’s sake, as they say, I see and I have seen devilish little of the man. Such
unscientific balderdash,” added the doctor, flushing suddenly purple, “would have
estranged Damon and Pythias.” (Stevenson 14)

Since Jekyll/Hyde is both the mad scientist and the degenerate, unlike Dracula where Van
Helsing and Dracula are two separate people, he has the burden of being the intrepid explorer of
reality and the horrifying product of that exploration.

Lanyon’s words potentially complicate the relationship Stevenson sets up between the
scientific and the supernatural. Lanyon calls Jekyll’s experiment – which this study has figured
as actual, legitimate, scientific practice – “unscientific balderdash.” Does this completely
undermine Jekyll’s science as science? What’s to keep readers from seeing Jekyll’s experiment
as not scientific at all, thus leaving scientific practice perfectly intact as a reliable path to
objective or “pure” representations of reality? Stiles’s interpretation of Jekyll as facing a crisis of
objectivity versus subjectivity may prove helpful here. Madness is, of course, a trope of
Victorian Gothic and sensation fiction, but if one were to think of Jekyll’s perceived madness as
a failure of observation and perception, then it is Lanyon’s error and not Jekyll’s “madness” that
is the problem. That is, one might see Lanyon’s reading of Jekyll as a misinterpretation, similar
to Utterson’s. What he sees as “wrong in the mind” and “unscientific” is, like the villagers in The
Invisible Man, the only way he can comprehend or explain what he sees. Lanyon represents
those who cling to science as an objective tool, and he cannot possibly conceive of a science that
not only includes but substantiates the supernatural. His perception of reality too rigid, he
ultimately disregards Jekyll’s experiment as unstable and therefore unscientific, naively
convinced that science itself is a reliable bastion of objectivity.

Lanyon and Hyde share a similar, albeit more horrifying, teaching moment in Dr. Jekyll
and Mr. Hyde, as Lanyon recounts his visit from Hyde to Utterson after the fact. Hyde asks
Lanyon if he wants Hyde to take leave of him “and to go forth from your house without further parley? Or has the greed of curiosity too much command of you?” (Stevenson 46). Lanyon replies that he has gone too far not to “see the end” (46) and agrees to watch Hyde drink from the glass and turn back into Jekyll. Before he does this, however, Hyde says, “And now, 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!” (46-47). As Van Helsing does to Seward in Dracula, Hyde accuses Lanyon of being a scientist whose conception of reality has “been bound to the most narrow and material views,” thus preventing him from making the discoveries that Dr. Jekyll has in creating Hyde.

It is not clear in the novel what Hyde means by “transcendental medicine,” but, as Janis McLaren Caldwell describes in Literature and Medicine in Nineteenth-Century Britain, transcendental anatomy was “persisted as the medical expression of natural philosophy” in the early half of the century. She says transcendental anatomy “attempted to describe the “morphological laws of animal development,” organizing a set of common structural patterns – an Ideal Plan – that animal bodies demonstrated as they progressed from embryos to adult forms” (14). Lyn Pykett identifies an allusion to transcendental medicine in Arthur Machen’s The Great God Pan: “Helen is the unnatural offspring of a young virgin, who, as a result of a surgical experiment in “transcendental medicine,” has the experience of “seeing Pan” and, by implication, is impregnated by him” (207-208). In light of this, one can assume that “transcendental medicine,” while referring to a scientific practice, does so with supernatural connotations. In her larger project, Caldwell works towards connecting Romantic materialism with nineteenth-century British medicine; might her operative definition of transcendental anatomy relate to Stevenson’s brief allusion to the discipline? Even if it is not quite the same,
Caldwell’s dualism, as described in the above passage, at the very least parallels Stevenson and Machen’s use of “transcendental medicine,” referring to fringe medical practices that produce supernatural affects.95

**Reception of The Strange Case of Dr. Jekyll and Mr. Hyde**

Reviews written shortly after Stevenson published *The Strange Case of Dr. Jekyll and Mr. Hyde* support the characterization of Hyde as a supernatural being, relate to the earlier discussion of Coleridge’s imagination, and indicate that readers of Stevenson’s novel would have indeed been in suspense, awaiting the narrative’s unfolding alongside Utterson. One reviewer groups Hyde with a list of other supernatural monsters, saying, “We would welcome a spectre, a ghoul, or even a vampire gladly, rather than meet Mr. Edward Hyde” (Linehan, ed. 93). Later the same reviewer states that “…every Jekyll among us is haunted by his own Hyde” (94). Several reviewers criticized Stevenson for writing about the supernatural, saying that his talents were wasted on popular fiction. One reviewer wrote, for example, that “It is as though a great sculptor should spend his time in making bogie turnip-lanterns to frighten children” (95). Here one can see a bias against popular fiction in favor of the supposedly superior and more serious three volume novels.

While some reviewers criticized Stevenson for his fantastical leanings, others praised him for his imagination, using the term with a meaning similar to Coleridge’s. Describing the novel as a valuable contribution to the tradition of “English fiction,” one reviewer writes, “It is, indeed, many years since English fiction has been enriched by any work at once so weirdly imaginative

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95 See Caldwell: “In *Sartor Resartus*, Thomas Carlyle uses the two-book language, but complains a unity between the books, and a difference only in the ways of reading them, throwing the emphasis on a dualism of interpretation rather than a dualism of substance. Here he shows a similarity to his scientist friend Richard Owen. Owen’s transcendental anatomy is much like Carlyle’s both-and, naturally supernatural world, which yields a different appearance when read prophetically than when read scientifically. For both, the world is not disjunct, but our ways of reading are necessarily so” (23). “Two-book” refers to the Book of Nature and the Book of Scripture.
in conception and so faultlessly ingenious in construction as this little tale” (95). The use of the phrase “this little tale” may be somewhat condescending, but the phrases “weirdly imaginative in conception” and “ingenious in construction” more than make up for any dismissive language used in the review. The word “imaginative” here, when modified by “weirdly” indicates that the reviewer may use the term imaginative in the Coleridgian sense, complimenting Stevenson on reshaping his external world in a way that no one has thought of before but that still registers in reality.

While contemporary readers who are new to Stevenson’s novel will likely know the plot already, nineteenth-century reviews of the novel show that Victorian readers would have been genuinely surprised by the revelation that Dr. Jekyll and Mr. Hyde were in fact one and the same. One reviewer describes the “very strange case” as “one which would be extremely difficult to see through from the beginning” (95). Another reviewer expresses frustration at his or her inability to “make out how such an incident can possibly be explained” even though “the seriousness of the tone assures us that explanations are forthcoming” (96-97). This review continues to not only praise the novel for its compelling mystery and thrilling revelation, but also notes that the “science of problematical futurity” it presents to solve the Jekyll/Hyde mystery uses “facts” so methodically that readers should as a result wonder if scientific discourse outside the novel can make the supernatural plausible:

Then, having drawn a sigh of relief at having found even a fantastically speculative issue from our embarrassments, we begin reflectively to call to mind how systematically the writer has been working towards it. Never for a moment, in the most startling situations, has he lost his grasp of the grand ground-facts of a wonderful and supernatural problem. Each apparently incredible or insignificant detail has been thoughtfully subordinated to
his purpose. And if we say, after all, on a calm retrospect, that the strange case is absurdly and insanely improbable, Mr. Stevenson might answer in the words of Hamlet, that there are more things in heaven and in earth that are dreamed of in our philosophy. For 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 as to the unforeseen resources of medical art. (96-97)

Not only would readers and critics of Stevenson’s work have experienced the mystery and Utterson’s misinterpretation of the material world he investigates in earnest alongside the characters in the novel, but they would have broadened their epistemological horizons, accepting wider limits to their material realities.

Film Adaptations of Jekyll and Hyde

Film adaptations, such as the 1920 adaptation starring John Barrymore as Jekyll/Hyde, often strike a campy or over-the-top tone because they do not maintain an illusion of suspense for the reader as Stevenson’s novel does. This change denies viewers the epistemological revelation that those who discount the supernatural can completely misperceive visual evidence. In the opening scene of the 1920 film, a conversation between Lanyon and Jekyll foreshadows heavily what is to come. Lanyon tells him to “stick to the positive sciences” and explicitly says that Jekyll is “tampering with the supernatural.” By using the word supernatural in this opening scene, the film compromises any hope of a dramatic reveal because the viewer already has a seed of suspicion planted in his or her mind; all subsequent scenes will invite viewers to discern how Jekyll tampers with the supernatural. And if the foreshadowing were not enough, the audience actually sees Dr. Jekyll transform into Mr. Hyde before any of the other characters in the film do.
This provision of a visual representation of Jekyll’s transformation into Hyde renders this film, and others that do the same, campier than the novel.96

This alternate narration precludes the narrative doubt that a reader of Stevenson’s novel experiences. Because they know “the truth” before other characters do, readers do not get to misinterpret and discover Jekyll’s story alongside the other characters. When they see the transformation scene in the film adaptation, all the mystery of the narrative has been dispensed. Jekyll’s comings and goings are no longer ambiguous. This is not to say that all readers have no clue as to how The Strange Case of Dr. Jekyll and Mr. Hyde concludes and that showing the transformation spoils the film. On the contrary, most readers of the novel, especially contemporary readers, know full well what the situation is when they start reading. The heavy-handed dramatic irony in the film, though, forces one to reflect on why exactly the novel allies the reader and a character like Utterson, leaving the reader to follow along and play along with the game of narrative doubt.

As we saw with film adaptations of Wells’s novels, adaptations of The Strange Case of Dr. Jekyll and Mr. Hyde tend to deemphasize the narrative’s interests in the realist experiment. Before considering any comparisons between novel and adaptation, one should note that Dr. Jekyll and Mr. Hyde’s adaptation history is perhaps more convoluted than other late Victorian fiction because it was rewritten as a stage play in 1887. Many, if not most, contemporary film adaptations of the Jekyll/Hyde story use the stage play as a source text and not Stevenson’s novel. The stage play version of Dr. Jekyll and Hyde, much like adaptations of The Time Machine, makes several major changes. The most significant of these is the addition of a romantic interest, Agnes Carew, which allows the play to explore Hyde’s sexual deviance

96 See Horowitz. His lecture insightfully discussed the adaptation of Jekyll and Hyde, attributing changes to the narratological qualities unique to literature and film respectively.
significantly more than in the novel. The stage adaptation also focuses much more on Jekyll’s moral dilemma and sensationalizes the good versus evil aspect of the experiment. Melodrama was popular in Victorian theater, and the highs and lows of Jekyll’s goodness and Hyde’s degenerate behavior lent itself well to that mode of drama.

Film adaptations that follow the 1887 stage play already begin with a narrative different than Stevenson’s novel, keeping more consistent with the play’s changes to the novel than the novel itself. The 1920 silent film adaptation, like Whale’s *The Invisible Man*, features a concerned beloved named Millicent Carew, who feels as though she comes second to Jekyll’s lab. While the focus on morality and sexual purity that Millicent Carew precipitates detracts from the use of science, it also makes Jekyll’s madness as a scientist more prominent. Rather than detract from science for science’s sake as a motivation, as it does in Simon Wells’s *The Time Machine* (2002), Millicent Carew’s desperate and often failed attempts at Jekyll’s affection actually emphasizes even more how engrossed he is in his experiments because he is willing to neglect Millicent and sacrifice their relationship for the sake of an experimental result.

In general adaptations of *Dr. Jekyll and Mr. Hyde* provide more of a moral or sentimental motivation for Jekyll’s scientist pursuits when there are none in the text. In the 1990s Broadway musical rendition of Stevenson’s tale, *Jekyll & Hyde*, for instance, Jekyll has a mentally ill father, and the start of the show frames Jekyll as obsessed with curing his father rather than with scientific discovery in general. Other film adaptations, including the 1920 silent film, also take time to illustrate Jekyll’s purity and goodness through his charity work and commitment to good deeds. The narrative then becomes primarily a morality tale, whereas Stevenson’s novel, I would argue, merely uses the trope of good and evil to enter into a discussion of reality.

**Scientific Narration and “True” Accounts in Dracula**
Much like the way in which the case study lends an epistemological framework to *Dr. Jekyll and Mr. Hyde*, the diary and journal format of *Dracula* exhibits a dedication by all characters to properly document what goes on around them. Unlike *Dr. Jekyll and Mr. Hyde*, *Dracula* consists of a series of documents from start to finish. First we begin with Jonathan Harker’s journal, and eventually, after several chapters, the narration shifts from the journal to a letter from Mina to Lucy.

One might see a scientific model or impulse in this need to document. Dr. Seward, in his study of R.M. Renfield, uses observation and note-taking to conduct his study on the brain. His diary entries may be occasionally interrupted by personal commentary about his feelings for Lucy, but for the most part the reader’s introduction to Seward in his diary is one of clinical observation, studying Renfield’s behavior. Not surprisingly, Seward’s reports are not a reliable source or record but rather an illustration of Seward’s failure to correctly interpret his observations. The reader experiences dramatic irony at Seward’s expense, realizing that the genre of the scientific case study does not necessarily translate to empirical truth.

The dramatic irony in Seward’s diary entries manifests in the way Seward’s observations make Renfield’s vampiric desires obvious to the reader while Seward remains oblivious. Seward describes Renfield as having an increasing interest in animals, with Renfield catching flies, then catching spiders to eat the flies, and finally eating one of the flies himself. Seward recounts that when “a horrid blow-fly, bloated with some carrion food, buzzed into the room, he caught it, held it exultantly for a few moments between his finger and thumb, and, before I knew what he was going to do, put it in his mouth and ate it. I scolded him for it, but he argued quietly that it was very good and very wholesome; that it was life, strong life, and gave life to him” (Stoker
The decrease in the number of spiders over a month’s time implies that Renfield also dines on the spiders after fattening them up with the flies. He also has a small flock of sparrows in his care, and Dr. Seward finally draws the line when his patient asks for a kitten.

More notable than Renfield’s escalation in requests for small animals is Seward’s failure to recognize his patient’s nefarious purposes. The disappearance of the sparrows, for instance, clearly incriminates Renfield as having eaten them, but Seward, despite the physical evidence before him, remains oblivious. He says, “I looked around for his birds, and not seeing them, asked him where they were. He replied, without turning round, that they had all flown away. There were a few feathers about the room and on his pillow a drop of blood. I said nothing, but went and told the keeper to report to me if there were anything odd about him during the day” (Stoker 70). Seward’s attendant, in the next entry, has to be the one who explicitly tells him that he suspects Renfield of having eaten the birds raw.

One reading of the series of diary entries by Seward could be that Renfield is feeding the “lower order” animals to the ones higher on the food chain – the flies fall prey to the spiders and then the spiders are food for the sparrows. But when Seward denies the request for a kitten, and the sparrows still disappear, the food chain has been broken and only one predator remains – Renfield himself. Does Seward’s silence in the previous passage indicate his inability to correctly interpret the visual evidence before him – the “feathers about the room” and the “drop of blood” on Renfield’s pillow? It’s unclear; on the one hand, Seward begins this series of journal entries with comments about the “rudiment” (Stoker 69) of an idea about the “method in [Renfield’s] madness” (69), but, in addition to not commenting on the drop of blood on Renfield’s pillow, he says that Renfield “gave many flies to one spider and many spiders to one

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97 All citations for Dracula are from the Norton Critical Edition edited by Nina Auerbach and David J. Skal.
bird, and then wanted a cat to eat the many birds” (71). There is no mention of Renfield actually eating the birds in Seward’s speculations.

This portion of the novel plays with the reader’s sense of what is and is not possible, what they can and cannot believe. Do readers cling to what they know to be possible and assume a logical explanation for the scene, or do they synthesize a more dramatically ironic interpretation? If dramatic irony occurs, then readers know more about what is “really” going on than Seward does himself because they, in suspending their disbelief, believe in the more fantastical possibility of Renfield drinking blood where Seward cannot. I would argue that the latter scenario is a much more likely effect of Stoker’s narrative.

Any first person eyewitness account, not only a scientific log such as Dr. Seward’s, will have limitations, and by constructing a narrative about the supernatural through a “true account” framework, one can see how the tensions and discrepancies therein make Dracula a robust realist novel. Many critics who argue for Dracula as a realist novel cite Stoker’s preface to the Icelandic Edition published in 1901 as proof of Stoker’s emphasis on realism and, through hyperbole of his novel’s veracity, realism’s limitations. For example, Carol A. Senf, in Science and Social Science in Bram Stoker’s Fiction, reproduces some of this preface, saying,

…Stoker says “The events here described really took place” and suggests that the novel is really a Roman a Clef [a novel describing real life]: “All the people who have willingly—or unwillingly—played a part in this remarkable story are known generally and well respected”…perhaps most important in terms of this study is the attention that Stoker devotes to science as he suggests that science will one day be able to explain events that are now “incomprehensible, although continuing research in psychology and natural
The narrative role of Stoker’s prefaces (both the original and the Icelandic) are ripe for a discussion of the novel as a genre, “true accounts,” and realism. Why would he go to great lengths to ensure the reader understood that these “documents” should be read as true accounts if he were not trying to get them to think about what a true account is in the first place? He at once makes the claim that events “really took place” and the admission that, being an edited collection of documents, the narrative has been shaped according to his specifications.

In the preface to the first English edition and following editions, Stoker makes the latter admission, in a passage that both plainly states that all accounts with the pages of the novel are true and implies that such a truth may be impossible. He says,

How these papers have been placed in sequence will be made manifest in the reading of them. All needless matters have been eliminated, so that a history almost at variance with the possibilities of later-day belief may stand forth as simple fact. There is throughout no statement of past things wherein memory may err, for all the records chosen are exactly contemporary, given from the standpoints and within the range of knowledge of those who made them. (5)

In the first sentence here Stoker admits to not presenting events exactly as they happened in the order they happened, but rather has placed them in a sequence that has some other organizing principle, one that “will be made manifest in the reading.” He admits to leaving parts out, since “all needless matters have been eliminated,” so we know this is not a complete history of the events, and finally he makes an odd claim regarding memory. It’s unclear, first of all, whose memory he refers to when he says that there is “no statement of past things wherein memory
may err.” The next half of the statement clarifies, but only slightly – it seems that all the statements made by characters in the novel are completely infallible because “all the records chosen are exactly contemporary,” meaning that no character reading his or her own account in the novel would object to anything said based on newer recollections of what happened. There are red flags in this last sentence, however, that imply that the accounts no matter how contemporary are inherently flawed because they are “given from the standpoints” – subject to bias of the narrator – and “within the range of knowledge of those who made them.” By mentioning the narrator’s “range of knowledge,” Stoker points out that knowledge is limited; it has a particular range that is only a partial view of the entire event. As he says that the accounts are true, he explains how they cannot possibly be true. Even by saying that no statement given in the novel is subject to memory erring, he draws attention to the fact that memory can and usually does err.

In Senf’s formulation of the Icelandic preface in particular, one should note Stoker’s claim that science can support the supernatural. Stoker offers up his narrative as one possible illustration of this, and believes it to be true outside the context of his fiction, saying that “in years to come” innovations in scientific theory might explain that which seems supernatural to us now. Dracula operates as an application of this claim and perhaps a foreshadowing of the future as imagined by Stoker. Since degeneration theory was so prominent in Victorian culture, such a future may have been nearer rather than farther away.

Reception of Dracula

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98 Senf, unsure what to make of the “interplay of Gothic mystery and scientific knowledge in Stoker’s works” (10), makes an argument for Stoker as a science fiction writer rather than a Gothic one. Like Arata, she feels the need to choose one genre over another, rather than seeing the “interplay” as just that. Critics looking to classify Stoker as a gothic writer, a realist, or a science fiction writer, end up chasing their own tails; they argue for one category to replace another when one is no less fallible than another.
Just as reviews of *The Strange Case of Dr. Jekyll and Mr. Hyde* indicated that readers would have actually been unaware of Jekyll and Hyde being the same person until the revelation at the end of the novel, reviews written at the time of *Dracula*’s publication imply that readers would have similarly been unaware that Dracula was a vampire until Van Helsing explains so. One reviewer, for example, writes that “The first thrill of horrible sensation came with the discovery that the driver and the Count Dracula were one and the same person” (Auerbach and Skal, eds. 363-364). This “horrible sensation” implies genuine surprise and therefore a genuine expansion of the reader’s epistemological boundaries. This novel, like all the novels discussed in this study, offer epistemological revelations and lessons about how limited humans can be when conceiving of their material reality. This reviewer’s use of the phrase “one and the same person” actually draws a direct connection between a reader’s moment of realization with Dracula and the parallel moment of realization with Dr. Jekyll and Mr. Hyde.

One can find confirmation of the novel’s atavistic subtext in reviews, grounding the overt supernatural content of the novel in topical scientific discourse. One review, out of the *San Francisco Chronicle* in 1899, describes Dracula as a man rather than an inhuman monster: “It is a somber study of a human vampire, the Count Dracula, who uses beautiful women as his agents and compasses the death of many innocent people” (366). This critic does not simply call Dracula a vampire, but rather chooses to modify vampire with the word “human.” This characterization of Dracula as both real – in the sense that he human like the rest of us – and supernatural positions a theory such as atavism as a scientific explanation for what most people would categorize as supernatural. The fact that the reviewer highlights Dracula’s criminal activity – the abuse of “beautiful women” and the murder of “many innocent people” – also
implies an atavistic interpretation of him. This characterization of the Count parallels descriptions of “degenerates” discussed in other parts of this chapter.

Some of Dracula’s critical reception might imply that the existence of the supernatural were up for debate in real life, outside the confines of Stoker’s narrative. An 1897 review in Athanaeum, for example, describes a trend in fiction in which authors sincerely make a case for the reality of supernatural phenomena:

Stories and novels appear just now in plenty stamped with a more or less genuine air of belief in the visibility of supernatural agency. The strengthening of a bygone faith in the fantastic and magical view of things in lieu of the purely material is a feature of the hour, a reaction – artificial, perhaps, rather than natural – against late tendencies in thought…How far the author is himself a believer in the phenomena described is not for the reviewer to say. (364)

This reviewer does not see Stoker’s novel as a flight of fictional fancy but rather as a serious novel with a “genuine air of belief” in “supernatural agency.” Does this mean that Stoker’s preface framing the novel as a found and edited document might have been taken seriously by some readers and critics? Based on this passage one can say that readers may have been skeptical but would have at least considered it, questioning their own beliefs. The reviewer here, for example, does not know “how far the author is himself a believer” and wonders if the “strengthening of a bygone faith in the fantastic” is “artificial,” but does not appear to be sure one way or the other. This shows that the question of whether or not readers of Dracula should actually adopt a “magical view of things” was up for discussion.

Superstition of Today, Science of Tomorrow in Dracula
One can draw a parallel between the representation of Victorian science in *Dracula* and “real” Victorian science, since that which Victorians readers would have thought to be intangible evil was suddenly rationally explained with the use of atavistic theory. When Darwin’s theory of evolution forced Victorians to rethink the future – an example of which we see in *The Time Machine*’s projected future – as well as rethink the passing of time, their minds were open to what else natural selection might produce, given enough time and what we today would call genetic mutation. Vampires, supernatural figures who have been popularized since the early nineteenth century, were already familiar to readers as other-worldly creatures – the superstition of yesterday — and Stoker makes them a scientific phenomenon explained by atavism – the scientific reality of today.  

This reframing of the supernatural as science that has not yet been discovered reflects an adoption of Coleridge’s more creative and cognitive definition of imagination. The superstition of yesterday, science of today attitude would not be possible without such an imagination because a consideration of the supernatural as potentially real requires an inventive approach grounded in scientific theory and methods. One can see Coleridge’s imagination at work in Stoker’s novel, as Van Helsing not only formulates creative yet non-fictional thought but educates and inspires other characters in the novel to do the same. When Dr. Seward reflects on a conversation with Van Helsing, for example, he says, “I was getting bewildered; he so crowded on my mind his list of nature’s eccentricities and possible impossibilities that my imagination was getting fired” (Stoker 172). Here we see imagination as a descriptor of creative but not unrealistic or impossible thought, as the scientific cases cited by Van Helsing or “nature’s

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99 The first piece of vampire fiction was a short story called “The Vampyre” published in 1819 by John William Polidori in *New Monthly Magazine*. “The story had made an indelible impression on the imagination of Europe, and Polidori had succeeded, however inadvertently, in founding the entire modern tradition of vampire fiction” (Morrison and Baldick x).
eccentricities,” as Seward says, “fires” his imagination, motivating him to approach the same scientific problem from a new, more open-minded perspective.

Jonathan Harker uses the term “imagination” to denote a cognitive function rather than a predilection for fancy. On his way to Dracula’s castle, he hears wolves howling in the night, and he says, “The sound was taken up by another dog, and then another and another, till, borne on the wind which now sighed softly through the Pass, a wild howling began, which seemed to come from all over the country, as far as the imagination could grasp it through the gloom of the night” (Stoker 18). By ascribing an active verb, “grasp,” to imagination, Stoker implies that the imagination is like the mind, able to grasp some concepts but not others. His imagination hears the sound of the dogs, but it does so in a way that is ambiguous, uncertain, and immeasurable. There is no association between imagination and fictionalizing here, but rather a correlation between imagination and the senses, such as hearing.

While not a defining feature of the entire narrative, as it is in *The Strange Case of Dr. Jekyll and Mr. Hyde*, *Dracula* does contain the same revelation of the supernatural after narrating events with Dracula through the eyes of one who does not believe that vampires exist. Jonathan Harker travels to Transylvania and stays at the Count’s home, and it takes him a laughable amount of time to realize he is in any danger at all. When the old woman warns him about “all the things evil in the world” (Stoker 12), Harker dismisses her and the superstitious traditions of the region. Other townspeople gather around and whisper Slavic words for were-wolf and vampire, but Harker’s only reaction is to make a note to himself to “ask the Count about these superstitions” (14). He does become a little fearful during the coach ride at the sound of wolves howling, and says, “the general superstition about midnight was increased by my recent
experiences. I waited with a sick feeling of suspense” (18). David Seed in “The Narrative Method in Dracula” summarizes this epistemological progression rather well, saying,

Harker constantly tries to normalize the strange into the discourse of the nineteenth-century travelogue. As a defensive reaction to his voyaging into an unmapped area beyond the reach of train timetables, he first tries to rationalize his experiences in terms of local color, and then, failing that, through muffled unease…In practice this ostensible rejection of the strange becomes more and more difficult to maintain. (64)

Seed goes on to point out that Harker takes much longer than he should to realize and admit that what is happening to him is a supernatural event, and that Count Dracula is in fact a vampire. The whole point of the reader witnessing this is to watch Harker’s “rationalism” (Seed 64) break down.

Harker also experiences what he calls an “optical illusion” on the coach ride, which is enough to alarm him, but not so much that he can’t register the cognitive dissonance as an indication that something is amiss. He’d rather blame himself, even though he plainly states: “Once there appeared a strange optical effect. When he stood between me and the flame he did not obstruct it, for I could see its ghostly flicker all the same” (Stoker 19). Other characters, before Van Helsing’s lesson on vampires, have a similar inability to recognize the supernatural phenomena confronting them. Mina, for example, sees glowing in his eyes but calls it an optical illusion; Seward says he’s going mad.

Between these two novels, the reader has ample opportunity to derive pleasure from voyeuristically watching characters shift from an ignorance to a sensibility about reality in which nothing is certain, everything is possible, and one’s senses combined with a narrow-mindedness

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100 See Seed: “The progression of events is remorselessly toward confronting Dracula’s own vampirism, confronting the very thing that Harker’s rationalism is unwilling to accept” (64).
can obstruct even the most plain and apparent circumstances. One might wonder to what extent readers would have experienced this pleasure from a sense of dramatic irony or from a sense of identification – how much did they themselves need a lesson in reality from Van Helsing? I would argue that Victorian culture was a lot more accepting of a belief in the supernatural, especially when one considers how many branches of science tried to investigate the supernatural and, through scientific theories and principles, naturalize it. But whether or not readers of Stoker and Stevenson were expected to actually buy into the supernatural premise is very much unclear.

If one thinks of the supernatural as science, does one effectively eliminate or dispel the supernatural altogether? It may be difficult for a reader to, in encountering the supernatural and the scientific in a single text, determine if they are converging or opposing forces. Arata frames texts such as Dracula, Dr. Jekyll and Mr. Hyde, and those in the Sherlock Holmes series in opposition to realism, separating the science from the supernatural. For Dracula, he says, “The “realism” of the travel narrative gives way to the fantasy constructions of the Gothic, which can be dismissed – as Harker urges readers to do in his final “Note” – as untrue. This statement implies an either/or sort of relationship between the two; in this moment of “rupture,” Harker, on behalf of the novel, Arata argues, tries and succeeds in quashing the “Gothic narrative.” Describing how Harker, within his “Note” at the end of the novel, quotes Van Helsing, Arata says, “‘We want no proofs; we ask none to believe us,” Van Helsing says in the novel’s final moments, and his words sound remarkably like a plea” (132). Arata sees this as realism’s final word over what he calls the Gothic (and I call the supernatural), as if this narrative only took place in order for Harker to denounce it as untrue in his “Note.”
This conception of realism and the Gothic as separate and competing modes does not account for science and what impact the science in the novel has on the “fantasy constructions of the Gothic” in the novel. Perhaps, instead of assuming that realism must overcome the fantastic/supernatural/Gothic because Van Helsing plants a seed of doubt in the reader’s mind, allowing him or her to dismiss vampires “as untrue,” one might see Van Helsing’s “plea” as an invitation to question the real and unreal as a part of the Victorian realist experiment. Van Helsing “asks none to believe” because he hopes his reader will take on the problem of reality for him or herself, no longer finding solace in a dismissal of what surely must be impossible. This moment is one of destabilization as opposed to resolution.

Arata claims that Stevenson also “situates himself in opposition to dominant notions of realism,” quoting the author as having said that “the motive and end of any art whatever is to make a pattern” and not to reproduce “life” (46). When he says “dominant notions of realism,” he refers to a realism whose agenda is only to reproduce life. Ruskin, Pater, and all the novelists discussed here clearly demonstrate that this is not the primary concern of Victorian realism. To think back to Nordau’s comments, realism is not about the ability to “reproduce life” because such a task is impossible; rather, it is about the negotiation between artistic representation and a “material reality.” The close of Dracula, I think, implies such a negotiation.

Picking up on Mina and Van Helsing’s characterizations of Dracula, John H. Cartwright and Brian Baker argue in Literature and Science: Social Impact and Interaction that Dracula can be beaten not because he is a supernatural monster but because he is a degenerate, a member of an inferior not superior race to humans. They write, “Ultimately, Dracula can be defeated because he is not a supernatural monster; he is the last descendant of a demonstrably inferior race” (211). While it is crucial for readers to take the atavistic scientific discourse into account,
to deny that vampires are known as supernatural monsters, ignoring centuries of folk texts through which the cultural eminence of vampires has been cultivated, is a substantial oversight. Cartwright and Baker fail to acknowledge the use of science in the text to substantiate the supernatural as opposed to denying its existence. Even Van Helsing’s methods are not entirely scientific or secular. He also incorporates superstitious rituals or spiritual methods, such as religious effigies and garlic, into his fight against vampires.

Van Helsing both demonstrates how one can think of what was once considered superstition as undiscovered science and facilitates Seward’s epistemological progression when he attempts to convince Seward of Lucy’s vampirism. He uses science – Darwin’s theory of evolution – to substantiate the supernatural – vampires. To do so he cites seemingly endless cases of natural phenomena that to most seem unbelievable but appear to have been scientifically documented:

“Can you tell me why, when other spiders die small and soon, that one great spider lived for centuries in the tower of the old Spanish church and grew and grew, till, on descending, he could drink the oil of all the church lamps? Can you tell me why in the Pampas, ay and elsewhere, there are bats that come out at night and open the veins of cattle and horses and suck dry their veins, how in some islands of the Western seas there are bats which hang on the trees all day, and those who have seen describe as like giant nuts or pods, and that when the sailors sleep on the deck, because that it is hot, flit down on them and then, and then in the morning are found dead men, white as even Miss Lucy was?” (Stoker 171-172)

His argument in these examples of spiders and bats is that if a behavior can occur in animals, it can also occur in humans. With this argument, he, like Darwin, uses observations of animals or
“lesser beings” to construct and support hypotheses about to humans. Gillian Beer, while she
does not directly address Dracula, would see both Darwin, the real-life scientist, and Van
Helsing, the fictional character, as employing similar rhetorical methods. A reader with the
proper historical context might also notice that Van Helsing specifically mentions numerous
geographical locations – the Pampas, “islands of the Western seas,” and Spain – to establish
polygenetic trends as diverging evolutionarily all at once. After mentioning polygenetics, Van
Helsing, without transition, starts to discuss vampirism – the giant spider that drinks out of oil
lamps and the bats that suck the blood out of cows. This implies that he directly relates
polygenesis, atavism, and vampirism to one another.

Van Helsing challenges preconceived notions of reality just as Jekyll does, but he
actually makes the act of testing reality’s limits an explicit part of his conversations with other
characters. He selects Dr. Seward especially in his tutelage, trying to persuade him to embrace
science as a combined practice of empiricism and faith in the unknown or “impossible.” As in
The Invisible Man and The Strange Case of Dr. Jekyll and Mr. Hyde, Seward takes on the role of
the non-believer, the one who will find any other “logical” explanation to explain what he or she
sees because the scientific supernatural truth is so inconceivable. Van Helsing, as the “mad”
scientist, becomes frustrated by Seward, who, like Dr. Kemp from The Invisible Man, is a fellow
scientist, and his inability to think outside of the parameters of his preconceived, pre-established
reality.

When he, for example, tries to get Seward to realize that Lucy is in fact a vampire, he
asks Seward how Lucy died. Seward not surprisingly responds to the question with a very
medical or scientific statement – “Of nervous prostration following on great loss or waste of
blood” (Stoker 170). His observation is not wrong, necessarily; it’s just that he has incorrectly
interpreted that observation by precluding the existence of vampires. Van Helsing then begins to lecture Dr. Seward:

“...You are a clever man, friend John. You reason well, and your wit is bold, but you are too prejudiced. You do not let your eyes see nor your ears hear, and that which is outside your daily life is not of account to you. Do you not think that there are things which you cannot understand, and yet which are, that some people see things that others cannot? But there are things old and new which must not be contemplated by men’s eyes, because they know, or think they know, some things which other men have told them. Ah, it is the fault of our science that it wants to explain all, and if it explain not, then it says there is nothing to explain. But yet we see around us every day the growth of new beliefs, which think themselves new, and which are yet but the old, which pretend to be young, like the fine ladies at opera. I suppose now you do not believe in corporeal transference. No? Nor in materialization. No? Nor in astral bodies. No? Nor in the reading of thought. No? Nor in hypnotism…” (170-171)

A reader should notice that Van Helsing cuts right to the heart of Seward’s problem – observation and perception. Even though Seward’s observation is not necessarily wrong, he still cannot “let [his] eyes see nor [his] ears hear.” Van Helsing implies that scientific study is more than just cold, objective observation based on the senses, but rather it involves an interpretation of that observation as well – an interpretation that considers “that which is outside your daily life.” The fact that Van Helsing’s problem with what Seward says is Seward’s inability to understand how Lucy lost the blood is oddly counterintuitive considering the scientific method’s reliance on the senses; such a conclusion has nothing to do with seeing and hearing. Sherlock Holmes, as we will see in the next chapter, also emphasizes the interpretation of observation.
The discussion of the senses continues, but as his monologue progresses, Van Helsing implies that the senses are not consistent from person to person – “some people see things that others cannot.” Does Van Helsing mean literal seeing or this more interpretive version of seeing? I think Stoker plays with the notion of seeing in this passage, purposefully ambiguous as to whether or not Van Helsing refers to seeing literally or figuratively. There’s the mention of “men’s eyes” in the following line that also contributes to this ambiguity.

The speech is punctuated by a metaphor, equating new beliefs to “fine ladies at the opera,” marking the end of a somewhat convoluted treatise on science and belief. The metaphor implies a critique of belief formation by Van Helsing. Older women pretending to be young or not acting their age tend to be very transparent and laughable. Van Helsing mocks these “new” beliefs, saying that none of them are really new because people like Dr. Seward are too prejudiced and stuck in the status quo of daily life; they do not have the capacity to come up with beliefs that are actually new, but insist on masquerading stale ideas as new ones, just like the old women at the opera. The list of supernatural or mystical beliefs that follow seem like a non sequitur unless one puts it in the context of the fine ladies at the opera metaphor.

The other aspect of this scene that seems strangely counterintuitive for two scientists is Van Helsing’s “thesis.” When Steward asks what his thesis is, Van Helsing answers, “My thesis is this, I want you to believe…To believe in things that you cannot” (Stoker 172). Most obviously out of place here is the lack of an actual thesis. The phrase “to believe in things that you cannot” is not a claim that Van Helsing may or may not be able to substantiate, but rather an imperative given to Seward personally. This incongruity demonstrates Van Helsing’s more inclusive conception of science – to embrace the unknown and not necessarily be tied to rigid notions of objectivity and truth.
In this passage, Seward barely speaks after he gives the wrong answer about Lucy’s death. He has a chance halfway through to mention the neurologist Charcot briefly, but beyond that he is silenced by the text. Stoker has turned what in reality was a fuller conversation between the two scientists into a monologue by Van Helsing. We even get places where it would be logical to represent Seward’s voice in response to Van Helsing, but instead we just get more Van Helsing. There are, for example, several “No?”s and “Yes”s from Van Helsing on behalf of Seward. The passage may be structured this way to assert Van Helsing’s dominance; this is not a debate between equals but rather a teaching moment in which Van Helsing is in complete control.

When Seward does finally reassert his voice, he describes Van Helsing’s treatise as listing “possible impossibilities” (Stoker 172). This oxymoron or paradox perfectly sums up what Van Helsing is trying to get Seward to believe in; the only reason Van Helsing’s ideas are impossible is because Seward relies on what society or the scientific community tells him is true, what is accepted as fact. One can also see this circumstance in Seward’s description of how he used to learn lessons – he would have to be told what is true first and then he would be able to follow an argument or theory. He needs to be handed the “object of thought” because he can’t think of it on his own.

Even though Seward has learned to be “willing to understand” impossible possibilities, he still can’t interpret his observations correctly when Van Helsing asks who bit all the small children. Instead of identifying Lucy as a vampire, Seward asks if the professor is insinuating that there is a bat like the one he describes on the loose who attacked Lucy. This is obviously a vehicle for a dramatic plot twist, as Van Helsing reveals at the end of this passage that Lucy is in fact the “bat,” but it also makes Van Helsing’s point about how difficult people find it to have
“epistemological flexibility,” as Mark H. Hennelly, Jr. says in “Dracula: The Gnostic Quest and Victorian Wasteland.”

The Many Faces of Dracula on Film

The 1931 film adaptation of Dracula, directed by Tod Browning and starring Bela Lugosi, uses strikingly similar language to Stoker’s Icelandic preface, which qualifies the supernatural or superstition as mysteries that science has yet to explain. In a conversation between Jonathan Harker, Dr. Seward, and Van Helsing at Dr. Seward’s asylum, Harker objects to Van Helsing’s claim that Count Dracula is a vampire:

Jonathan Harker: What has Dracula got to do with wolves and bats?

[Van Helsing explains that he is a vampire.]

Jonathan Harker: I don’t mean to be rude, but that’s the sort of thing I’d expect one of the patients here to say.

Van Helsing: Yes, and that is what your English doctors would say. And your police. The strength of the vampire is that people will not believe in him.

The mention of “English doctors” and “your police” in this scene echoes Stoker’s reference to “scientists” and “secret police” in his preface, too loudly to be ignored. While the film in general takes innumerable liberties with the plot and characters’ roles (i.e. Renfield replaces Harker in the opening scenes, Dr. Seward is Mina’s father instead of her suitor, etc.), it does choose to maintain – possibly even more so than the novel – an interest in science as substantiating the supernatural. This scene, for example, even though it does not exist in Stoker’s novel, figures Harker as the naïve non-believer who has been conditioned to dismiss belief in the supernatural as a mental defect, hence he says that he expects one of the patients at Dr. Seward’s clinic to discuss vampires rather than a respected scientist such as Van Helsing. Even though Renfield is
the one who tries to rationalize everything he sees in Dracula’s castle in the opening scene, Browning still preserves Harker as one whose reality needs expanding as well.

Browning’s portrayal of Van Helsing is also more focused on his profession as a scientist than perhaps Stoker’s characterization is; there is certainly more emphasis placed on his role as a scientist than in other film adaptations such as Francis Ford Coppola’s *Bram Stoker’s Dracula* (1992). He first appears to us in a lab coat, surrounded by test tubes and other experimental paraphernalia. He then, after a colleague reads to him from a textbook in Latin, announces to the room, “we are dealing with the undead.” The exchange that takes place between Van Helsing and Dr. Seward in the film also harkens back to the ideas expressed by Stoker in his preface.

Dr. Seward: But Professor Van Helsing, modern medical science does not admit of such a creature. The vampire is a pure myth, superstition.

Van Helsing: I may be able to bring you proof that the superstition of yesterday can become the scientific reality of today.

Rather than categorizing phenomena as either of “modern medical science” – the real – or as mere “superstition – the unreal – Van Helsing insists that just because an occurrence in nature has historically been denoted as myth or superstition does not mean that science cannot reveal that it is in fact a reality. Van Helsing implies, as he does in the scene in the novel where he confronts Dr. Seward’s disbelief and asks him to believe, that this in fact is the very charge of scientific exploration – to revel in the unknown and the impossible in the hopes of proving it as a “scientific reality of today.”

In Stoker’s novel, Van Helsing invokes the supernatural when he tries to convince Seward to be more open minded, saying, “Let me tell you, my friend, that there are things done to-day in electrical science which would have been deemed unholy by the very men who
discovered electricity – who would themselves not so long before have been burned as wizards” (Stoker 171). He argues that all science when it is new and radical appears to be “unholy” or magical because no one believes it to be possible. Ultimately he goes to the extreme and says that these scientists would have been “burned as wizards.” And so, logically, there is no reason why vampires would be an exception to this trend.

One might compare Browning’s rendition of Van Helsing to other film adaptations to see just how much Browning’s representation highlights the mad scientist aspect of Van Helsing’s character. Though it is not an adaptation of Stoker’s novel, Stephen Sommer’s Van Helsing (2004), starring Hugh Jackman, removes Van Helsing’s lab coat and replaces it with a more rugged duster, an Indiana Jones-esque hat, and a crossbow. Rather than a mad scientist, Hugh Jackman’s Van Helsing resembles Hollywood’s standard fare action hero, more interested in kicking butt than puzzling out the mysteries of life.

Even Francis Ford Coppola’s 1992 adaptation titled Bram Stoker’s Dracula, the second most well known adaptation after Browning’s, tries to infuse Van Helsing with a little more brawn to supplement his brain. Anthony Hopkins as Van Helsing falls somewhere in between Hugh Jackman and Edward Van Sloan of Browning’s adaptation. He performs experiments and demonstrates scientific and medical knowledge in his first few scenes in the film, but also has a dramatic scar down half his face, implying that he regularly puts himself in harm’s way and survives. At the end of the film he accompanies Lucy’s suitors, the more archetypal heroes of the film, in an action-packed pursuit of Dracula, and in these scenes he wears a duster and hat similar to Hugh Jackman’s Van Helsing. A far cry from the dottier and more studious Van Helsing of Browning’s film, who never changes out of his vested suit, Anthony Hopkins’s character in the final scenes of Coppola’s Dracula decapitates three female vampires and walks
into a dramatic medium long shot in which he triumphantly holds up their heads and hurls them down the side of the mountain. Contemporary Hollywood’s need to make Van Helsing a more physical vampire hunter rather than the bookish professor ultimately mutes or in some cases erases Stoker’s discussion of the supernatural of today and science of tomorrow.

This is not to say that all film adaptations of Dracula and Dr. Jekyll and Mr. Hyde fail to acknowledge or represent Victorian realism’s epistemological concerns. As a primarily visual medium, film versions of Stoker’s novel do have an advantage in illustrating Stoker and Stevenson’s point about visual perception’s fallibility because they can provide inconsistent images that viscerally confront the spectator rather than textually explain such images to a reader. One of Poole’s major errors when assessing Dr. Jekyll’s situation is his assumption that what he knows Dr. Jekyll to look like is the only way in which he might appear, not thinking that someone who looks like Hyde could also look like Jekyll. In Dracula, a similar visual inconsistency occurs, as Dracula takes on many physical forms in the novel. Van Helsing explicitly explains that his ability to take multiple forms is a significant vampire trait, saying that “he can, within limitations appear at will when, and where, and in any of the forms that are to him…he can grow and become small; and he can at times vanish and come unknown” (Stoker 209). According to Van Helsing, there is no fixed physical entity that is Count Dracula, no singular visual representation. All the “forms that are to him” (209) are legitimate and real.

While characters in the novel fail to recognize Dracula now and then for this reason, they still manage to come up with a set of identifying traits – his aquiline nose, red lips, and freakishly white teeth. There are other physical characteristics, however, that are in flux and vary from person to person. Some observe his large brow while others note his red eyes or extreme “pallor” (Stoker 24). And many struggle to come up with a consistent descriptor for his face as a whole –
Jonathan calls “strong” (23) what Mina would call “hard, and cruel, and sensual,” (155) and so on. And despite the set of key traits, Dracula may appear old to some and young to others. When Mina and Jonathan see him in Piccadilly Square, for example, Jonathan recognizes him, but as a younger version of the man he met in Transylvania. He says, “I believe it is the Count, but he has grown young. My God, if this be so!” (155). Jonathan of course experiences terror in this moment because he was traumatized by the Count and seeing him again has renewed that trauma, but the terror also stems from the feeling of the uncanny Jonathan gets from the visual inconsistency – that Dracula may appear in old or young form at any moment and still be a singular being.

Dracula can even take the form of an animal, as Van Helsing “recognizes” him in bat form. He says, “I did not see him; but I saw a bat rise from Renfield’s window, and flap westward. I expected to see him in some shape go back to Carax; but he evidently sought some other lair” (Stoker 250). Notice that Van Helsing does not “see” Dracula because his many visual representations make it impossible to accurately observe his physical presence, but he rather has to determine Dracula’s existence through deductive reasoning independent of his senses. He did not see Dracula per se (or at least the aquiline nosed Dracula that everyone else agrees upon), but “saw a bat rise…and flap westward.” Van Helsing assumes he sees the bat and also sees Dracula, but is careful not to naively trust his senses and thus chooses his words carefully.

Coppola’s adaptation accounts for the Count’s visual flux extremely well, as there are at least five different forms actor Gary Oldman takes in the film. In the opening scene of the film, Coppola introduces the medieval knight version of Dracula, before his wife’s tragic death and his turn to vampirism. Once the narrative flashes forward to Jonathan Harker’s journey to Transylvania, spectators meet an old and crusty Dracula who keeps Harker prisoner in his castle.
This visual representation of Dracula matches the atavistic physical description of Dracula in Stoker’s novel the most, with his extremely pale skin and exaggerated brow and nose.\(^{101}\)

Once Dracula arrives in England and begins to stalk Mina, whom he is convinced is Elisabeta, his long time departed wife, the film portrays him as “Prince Vlad,” in a scene in which he introduces himself to Mina on the streets of London.\(^{102}\) This presumably corresponds to the aforementioned scene where Jonathan, in terror, recognizes a younger version of the Count on the street. A much more dapper man than even Browning’s Dracula, this version of Dracula is young, fresh, and, if Gary Oldman is your type, handsome. He still retains the long locks from his pre-vampire form as the medieval knight named “Prince Vlad,” but is now dressed to impress in fin de siècle London. This, of course, is a liberty taken with the novel, as Mina makes it clear in this scene that the Count is by no means a handsome man: “his face was not a good face,” (Stoker 155) she says.

Finally, there are the more gruesome visualizations of Dracula, which Coppola reveals towards the end of his film when the narrative climaxes in a final confrontation between Van Helsing’s band and the vampire. In one scene he takes on a bat-like body with wings that, to escape, turns into a pile of rats, and in his final moments he looks to be somewhere in between this bat body and the pale old Count of earlier scenes.

Another visual manifestation of Dracula is his lack of a visual at all, which, of course, reminds us of the discussion of visibility and visual representation in \textit{The Invisible Man} from the

\footnote{\(^{101}\) He does not, however, have the facial hair that Stoker’s descriptions consistently mention. Most film representations of Dracula make the vampire far less Eastern European or Slavic, which tones down the xenophobia, racism, and imperialism of Stokor’s Victorian novel. See Arata’s chapter on “The Sins of Empire.”\(^{102}\) At first one might assume that Prince Vlad is entirely created by Coppola, but one can argue for this particular face of Dracula as a moment of intertextuality in film adaptation. Vlad III the Impaler, Prince of Wallachia (1431-1476) is the closest historical figure to serve as a “real life” Dracula, possibly inspiring Bram Stoker. In this instance, then, Coppola is actually reaching to other more historical source texts beyond Stoker’s novel. This historical context, of course, may be lost on some viewers, but that does not discount it as an intertext.}
previous chapter. While staying with him in Transylvania, Jonathan Harker notices that the Count has no reflection in the mirror. He says,

I started, for it amazed me that I had not seen him, since the reflection of the glass covered the whole room behind me. In starting I had cut myself slightly, but did not notice it at the moment. Having answered the Count’s salutation, I turned to the glass again to see how I had been mistaken. This time there could be no error, for the man was close to me, and I could see him over my shoulder. But there was no reflection of him in the mirror! The whole room behind me was displayed; but there was no sign of a man in it, except myself. (Stoker 30-31)

The horror at the core of this scene is not at Dracula himself but rather at the fact that a mirror, which is supposed to provide accurate visual representations of reality, fails to capture an image of Dracula. Like the invisible man, he has a real body in space and yet cannot be visually identified in the mirror. Once a mirror proves unreliable, how can Jonathan trust sight in general? One should be able to see another person standing behind him or her through a reflection in the mirror, but with Dracula this is not possible, and that is what frightens Harker.

Coppola does not spend too much time on this aspect of Dracula; he does have a version of the shaving in the mirror scene from Stoker’s novel, but instead of dwelling on his absence in the mirror, Coppola has Dracula crack the mirror in order to hide his lack of reflection from Jonathan. Instead of showing mirror images without the Count, Coppola instead chooses to embrace film’s special effects by giving Dracula’s shadow a life of its own and gliding him around the castle or getting close to Jonathan while still standing on the opposite side of the room. This eliminates the effect this scene has on the viewer – to reflect on the visual’s correspondence to the real. Browning’s Dracula, on the other hand, does not change in
appearance other than in the mirror. Bela Lugosi remains the younger, more handsome version of Stoker’s vampire throughout the film, but the camera does cut back and forth several times between a three shot with Dracula and a two shot mirror reflection without Dracula, to highlight the absence of Dracula’s reflection.

Atavism, which drives physical descriptions of Dracula in the novel, encourages a correlation between one’s physical appearance and one’s moral goodness; criminals and deviants were more likely to have “strange” facial features according to now debunked anthropologists and sociologists such as Cesare Lombroso. This theory emerges in these two novels as well – Hyde, after all, proves that evil is legible on the surface of the human body and Dracula similarly is, regardless of his form, an evil and therefore ugly being. And yet the fact that these novels show bodies that morph and have no one unified form may perhaps, then, be a challenge to the assumption that what you see is what you get. The reader is left with a question: do our eyes deceive us?

**Solving Mysteries: Mad Scientists and Detectives**

As mentioned previously, one can see Utterson as a proto-detective, a precursor to Arthur Conan Doyle’s Sherlock Holmes. Spending the entirety of Stevenson’s novel trying to solve the mystery of Jekyll and Hyde, Utterson is an unsuccessful Holmes who tries to apply rational thought, deductive reasoning, and the interpretation of observations to the representations of reality that he encounters. Until he discovers documents that contain a comprehensive account of the narrative truth, he misinterprets every clue he finds.

Perhaps a better prototype model for the Baker Street detective is Van Helsing. In a moment of crisis when Lucy’s friends and family have no idea what is happening to her, they

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103 This idea is in no way new. Medieval and early modern texts also showed that one’s inner being manifested in one’s outer appearance.
call Van Helsing to the scene of the “crime” so that he can deduce what has happened to her and help them cure her. Unlike Utterson, he successfully assesses the situation and observes all clues properly; his only struggle is with the belief systems of those around him. Looking back at the scene previously discussed, where Van Helsing tries to make Dr. Seward “see” more clearly and expand his reality’s limits, one can see an attitude towards deduction that is very similar to Holmes’s “scientific use of the imagination” (Doyle 83) that will be discussed at length in the following chapter. Just as Van Helsing urges Seward to apply an interpretative framework to his scientific observations that considers “that which is outside your daily life” (Stoker 170) and to “see things that other cannot” (170-171), Sherlock Holmes urges Watson and others to consider all possibilities and “when you have eliminated the impossible whatever remains, however improbable, must be the truth” (Doyle 274).

As we look to the next chapter, we see the roles of Utterson or Van Helsing, the sleuth, and Jekyll or (again) Van Helsing, the mad scientist who pushes the boundaries of a human understanding of the material world, fuse into Holmes, who is both a mad scientist and a detective. Unlike Utterson, who in making mistakes fosters doubts for a reader as to how knowable the world is and how discoverable narrative truth is, Holmes cultivates less doubt about what happened and instills more confidence in other characters and perhaps readers about what is possible in the world. Holmes’s primary narrative thrust, contrasting Utterson’s, is to dispel doubt, but by emphasizing endless possibilities, endless narratives, he both reassures readers of how knowable the world is and demonstrates that things may not be as knowable as he says they are.
Chapter Four: Material Reality, Observational “Power,” and a “Scientific Use of the Imagination” in Arthur Conan Doyle’s *A Study in Scarlet* (1887), *The Sign of Four* (1890), and *The Hound of the Baskervilles* (1901-1902)

Arthur Conan Doyle’s Sherlock Holmes novels do not treat science and the supernatural as the other mad scientist novels do. Unlike Stevenson and Stoker, Doyle uses scientific discourse to dispel rather than substantiate the existence of the supernatural. In *The Hound of the Baskervilles*, for example, everyone suspects that the “murderer” is a monstrous ghost dog, but by the end of the novel Holmes proves that witnesses actually saw a large but otherwise unremarkable dog covered in phosphorous. This does not, as I will show, preclude these novels from engaging in the same realist experiment. Doyle accomplishes the same goal as Wells, Stevenson and Stoker – engaging in the realist experiment – but in reverse order. Rather than showcase characters unable to accept that there may be more to their material reality than what they can see and have them insist on an explanation that does not account for the possibility of the supernatural, Doyle’s narration leads readers to believe the supernatural is likely until another explanation lifts the curtain to reveal an alternative narrative without ghosts or curses. This is not far from what we saw in *Dracula*, where the supernatural is what has not yet been explained; the superstition of today is the science of tomorrow.

Doyle takes explicit measures to preserve the supernatural in his texts – by describing Holmes’s abilities in supernatural terms, by having Holmes explicitly claim that he does not discount the supernatural, and by narrating select scenes in the style of a ghost story full of horror, suspense, and the uncanny. The fact that the conclusion of every case reveals a rational explanation for what only seemed supernatural does not necessarily undermine Doyle’s adoption of the supernatural up until that point. Even though his approach to the supernatural is different
than other authors examined thus far, he still makes the human relationship with material reality a significant topic of discussion.

Readers learn about the perception-reality relationship by watching Holmes excel at observation; unlike any other character seen so far he makes the case that seeing is a viable way of knowing; it’s just a matter of seeing well. Doyle leaves his reader to contend with a familiar triangulation of characters – the mad scientist figure who has seemingly superhuman senses, the more “ignorant” characters like Lestrade who are unable to perceive the world around them in any productive way, and a rational man who is as average as the other unenlightened characters are but who learns from the mad scientist, improving over time. Our rational man is, of course, Watson, who is often the butt of Holmes’s condescending jokes but has his sharper moments and shows signs of being able to learn Holmes’s way of seeing.

This advanced interaction with material reality that Holmes possesses reflects the history of criminology, which begins to resemble the field we know today in the late nineteenth century. All innovations in crime scene investigation, ranging from fingerprinting to toxicology, evidenced an admission by Victorian detectives that they could not solve crimes properly without scientific tools and techniques because their human senses would inevitably fail them. A technique such as dusting for fingerprints gives a detective access to a part of material reality that the human eye cannot plainly see without technological assistance. Holmes often uses these newer approaches and techniques in Doyle’s narratives, and he also serves as a metonym for what forensic scientist Edmund Locard called a “new police science.”

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104 While there are numerous sources on the history of criminology and its birth in the nineteenth century, there are also several that specifically place detective fiction and Doyle’s work in the context of such a history. See Thomas; and Wagner.
105 See Thomas in The Cambridge Companion to the Victorian Novel (185) and Detective Fiction and the Rise of Forensic Science (4). Forensic scientist Edmund Locard used the phrase “new police science” to describe his work first.
the new techniques in criminology subscribe to a philosophy in which humans need to amplify their senses in order to “detect” the material realities they confront.

An enhanced set of epistemological tools is not all Holmes needs to be Holmes. Even though other characters suspect him of possessing superpowers, Sherlock Holmes cannot physically see more keenly than the average human. The reactions of characters around him, of “average” men, do certainly give that impression, but if one carefully examines Holmes’s approach to a crime scene, one finds that it is just as much an interpretative game as it is an observational one. Doyle represents Holmes as possessing an open-mindedness and ability to account for all possibilities, no matter how improbable they may seem, and this ability perpetually puts him one step ahead of Scotland Yard. Those who call upon Holmes for help fail to reconstruct reality because they merely use their eyes and common “sense.” Holmes knows that this is not enough and inspires readers to revise their definition of seeing to one that is not purely material but rather material and imaginative.

A more imaginative approach allows Holmes to avoid erroneous assumptions about social constructs or identity formations. As Ronald R. Thomas notes,

…the special talent of the Victorian literary detective is his capacity to resist seeing the person primarily as a public character with a certain status in society, a moral reputation in community, a knowable history of accomplishment, or a complex self-consciousness. The detective is most effective when he is most suspicious of those qualities and can recognize the hidden truth beneath those social constructions. (Cambridge Companion 188)

I would add to Thomas’s claim that while Holmes will not be swayed by pre-established social constructions he does rely heavily upon them in his work. He constantly draws conclusions and
passes social judgments in response to material objects. In *The Hound of the Baskervilles*, Holmes asks Watson to reconstruct the identity of Dr. Mortimer, who they have yet to meet, based exclusively on a material object that he owns, a cane. As opposed to asking someone who knows him, meeting him in person, or reading something about him in the newspaper, Holmes says, “Let me hear you reconstruct the man by an examination of it [the cane]” (Doyle 50). In the Holmes universe, material reality reigns supreme, and the game afoot depends on how well one accesses that material reality.

A hawk’s eye on material evidence alone is not enough, however; Holmes does in fact need to incorporate social constructions. In *The Hound of the Baskervilles*, Holmes notices that a threatening note made of newspaper clippings comes from *The Times* because of the distinctive font. Watson, in awe as usual, claims that being able to identify the specific newspaper based on the font is remarkable. But the observation is only half of Holmes’s “trick.” Upon further examination of the newspaper clipping note, Holmes guesses that “the letter was composed by an educated man who wished to pose as an uneducated one” (Doyle 83) because “the Times is a paper which is seldom found in any hands but those of the highly educated” (83). Doyle constructs a social identity for the author of the letter, apparently based only on material evidence and seemingly using superhuman vision, but it is in fact a combination of his imagination and his ability to make social assumptions based on and in response to material objects. His conclusion about the letter is as much about his assumption that only educated people read *The Times* as it is about recognizing the font from that newspaper. This realization makes Holmes’s conclusions somewhat insidious because he presents them as based on evidence alone. Perhaps this lurking social bias is Doyle’s way of acknowledging that no human

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106 See O’Gorman for all citations from *The Hound of the Baskervilles*. For all other Sherlock Holmes novels – namely *A Study in Scarlet* and *The Sign of Four* – and the occasional reference to a short story, see Klinger.
perception filter is entirely objective, and subjective assumptions must always be a part of detection.

Doyle presents Holmes’s method of accessing material reality as a model for those readers discouraged by realism’s deflation of the senses’ abilities. His use of material reality, however, would not be effective without imagination in interpretation. His detection necessitates not only the kind of suspension of judgment that Caroline Levine discusses in *The Serious Pleasures of Suspense*, but also the broadest thinking, generating an infinite series of possible scenarios so as not to preclude the correct one.

When Dr. Mortimer suggests that Holmes has now ventured into the realm of “guesswork,” Holmes replies, “It is the scientific use of the imagination, but we have always some material basis on which to start our speculation” (Doyle 83). It is this notion of the “scientific use of the imagination” that makes Holmes a companion character to other mad scientists such as Van Helsing. Many of Van Helsing’s sentiments about how a leap of faith is required for a scientist to innovate and uncover the universe’s truths echo in Holmes’s philosophy. Imagination operates as creative thought rendered through logic and reasoning. One of Holmes’s most often quoted quips sums up this scientific imagination perfectly: in *The Sign of Four*, Holmes, in a teaching moment with Watson, asks, “How often have I said to you that when you have eliminated the impossible whatever remains, *however improbable*, must be the truth?” (274). If we think of Holmes as a realist, the seemingly supernatural nature of his work operates not opposed to truth but the very path to it; only by entertaining conventionally unbelievable events is he able to, more so than anyone else, accurately represent reality. A successful realist embraces what he cannot know or see rather than disregarding it as improbable and therefore outside the parameters of reality.
This is precisely why the supernatural is key to Doyle’s realist project – the supernatural is an unlikely possibility but one that, according to a “scientific use of the imagination” (Doyle 83), must not be overlooked. The philosophy dictates that one must keep an open mind that conceives of reality as potentially exceeding normal human perception; this is the very sentiment George Levine uses in his definition of realism as an intellectual project that enacts a “self-conscious attempt to explore or create a new reality” (20). Holmes does this exceptionally well, as he is often the only one to think of the impossible as possible and constantly questions the way things seem.

Doyle himself had a personal interest in the supernatural that manifested itself most publicly in his psychical research and advocacy of Spiritualism. The interest began as a small part of a wide berth of reading; like Holmes, he read up on a variety of topics that biographer Russell Miller describes as exploring “the uncharted potential of the human mind” (355) – telepathy, theosophy, mesmerism, occultism, and Buddhism.107 This reading, combined with social outings to séances with friends, converted him from a cynical materialist who mocked Spiritualism in his early stories to an apostle and fanatic became involved in several controversies and scandals in defense of the movement. He wrote a history of the Spiritualist movement in 1926, wrote several non-Holmesian short stories on the subject, and traveled a lecture circuit on behalf of the movement, which hinged on the belief that the living could communicate with the dead. If one juxtaposes Doyle’s own personal interest with the Holmes cases, Holmes’s acceptance of the supernatural as possible becomes clearer.

107 See Miller 355.
More specifically, the scientific approach Doyle took to explore this interest echoes Holmes’s. \(^{108}\) Holmes writes about the development of forensic medicine so deftly because Doyle was himself a trained physician, and biographers universally accept that Doyle modeled Holmes after his medical professor from the University of Edinburgh, Joseph Bell. \(^{109}\) He also had a reputation for post-conviction case reviews, where he would seek out wrongly convicted felons and prove them innocent in his free time, reminiscent of Holmes. \(^{110}\)

Doyle became a member of the Society for Psychical Research, which had attracted an array of scientific minds, such as physicists Oliver Lodge and William Crookes (inventor of the radiometer), astronomer Nicolas Flammarion, and naturalist Russell Wallace. Doyle joined in 1893 and a year later participated in his first paranormal investigation. After the investigation, Doyle told several different versions of what occurred. When lecturing he said that the team of researchers heard a “fearsome uproar” and rushed to the source of the noise only to find nothing. They left the next day with no conclusion as to whether or not the house was haunted. Doyle ends this version of the story with the fact that later the house burned down, revealing the remains of a ten-year-old boy buried in the garden. To friends, however, he would tell the same story with a different ending – to one friend the son created the uproar, and to another he said he discovered the daughter to be the “ghost.” \(^{111}\)

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\(^{108}\) See Bleiler: “When Doyle was a young man science was seriously investigating the phenomena of the supersensual world. On the historical-clinical side, the Society for Psychical Research and the American Society for Psychical Research were conducting investigations into anecdotes of survival and clairvoyance, while the scientists Wallace, Brewster and Crookes came out in support of mediumistic phenomena” (vi-vii).

\(^{109}\) See Pascal: “He was renowned among the students for his uncanny ability to deduce personal facts about the patients just by looking at them, before they opened their mouths” (23).

\(^{110}\) See Chisum and Turvey’s *Crime Reconstruction*: “Conan Doyle, it is often forgotten, was a chief architect of the concept of post-conviction case review in the early 20th century and a firm believer in overturning miscarriages of justice (27). See also Miller; the chapter “A Real Life Sherlock Holmes” discusses the two cases that directly involved Doyle – those of George Edalji and Oscar Slater.

\(^{111}\) See Miller 362.
regardless of how probable each one is, mirrors Holmes’s “scientific use of the imagination” (Doyle 83).

Like Dracula, Sherlock Holmes has inspired an exceptional number of film adaptations, offering many diverse representations of his personality and lifestyle. Over the course of the twentieth century one can see a broad shift in Holmes’s characterization from a hard-boiled, serious noir detective in Basil Rathbone’s films of the 1930s and 40s to a wild and unpredictable rehab patient in *The Seven-Per-Cent Solution* (1976). The most recent shift has been towards a comically eccentric mad scientist, seen in the Guy Ritchie film series that begins in 2009 and the BBC’s television series, whose pilot episode aired in 2010. Comparing these diverse representations of Holmes makes his Victorian mad scientist persona more visible in Doyle’s texts, and Ritchie’s film in particular shows how the supernatural is an integral part of Holmes’s scientific imagination and realism across literary genres. Adaptations of Sherlock Holmes highlight the intertextuality inherent in film adaptation and show how strong an intertext can be, as Basil Rathbone’s Holmes often operates as more of a gold standard for audiences than Doyle’s Holmes does.

**Early Criminology and an Evolving Sense of Material Reality**

In his theories and practices, Sherlock Holmes reflects the rapidly changing modes of seeing and believing in the Victorian world. The birth of criminology, like early cinema, was contemporaneous with this cultural shift. In chapter one I showed how cinema changed the ways Victorians thought about visual perception and reality; criminology occupies that same role. Once a new understanding of perception as imperfect and limited became widespread, police detectives adjusted their attitudes towards the visual accordingly. In early criminology we begin
to see innovators in what would later be called forensic science taking ownership of their senses’ limits and accounting for those limits.

Criminology is the perfect discipline in which to contemplate the relation between visual perception and reality because a crime scene investigation in of itself is a reconstruction of reality, or an attempt to reconstruct a past reality – a crime – impossible to see in the present. The turn of the nineteenth century ushered in the field of trace evidence within criminology; one looking for trace evidence assumes that every object or person that comes in contact with a crime scene must leave some physical “trace” of their presence. Around the turn of the century, professor and criminologist Edmond Locard devised “Locard’s Exchange Principle,” and a simplification of his theory, “every contact leaves a trace,” even if one cannot see such a trace, has become a common principle taught to criminology students today. The very notion of trace evidence implies a resigned acceptance that human eyes are insufficient tools of detection. Unlike early cinema, which destabilized an understanding of the representation-reality relationship as a one-to-one correlation, advances in criminology solidified the notion that there is in fact a knowable relationship between reality and representations of that reality, just not one that humans can access with eyes alone; alternative methods beyond optical observation are required. If humans are no longer able to rely upon what they see, then they must develop other ways to determine the reality around them.

Sherlock Holmes’s approach to solving crime both reflects and acts as a catalyst for the development of forensic science. Doyle portrays his professional practices as new and strange to the police, which is historically consistent with the development of new techniques in actual police work at the time. Criminal databases, fingerprinting, the use of photography in

112 See Chisum and Turvey’s Crime Reconstruction 35.
criminology, serology, toxicology, and forensic medicine all became standard practices for the first time during the late nineteenth century. Early criminologists also admit to being influenced and inspired by early detective fiction.  \(^{113}\)

Following the trend of using technology to measure that which the eye cannot see (see discussion of gauges and time in chapter one), Alphonse Bertillon, between 1882 and 1887, devised and implemented a method of identifying criminals by measuring and quantifying anatomical parts. Bertillon used data gathered from criminals to build a central database of identifying information. This method, called anthropometry or bertillonage, involved creating a “portrait parle” or “talking picture” of the criminal. A photograph or image of the criminal alone would not suffice, but rather would be supplemented with a complete textual portrait of the criminal, detailing as many physical traits and exact measurements as possible. Criminology scholars also credit Bertillon with integrating photography into the forensic investigation of a crime scene, using a scale in each photograph to accurately document the relational distances between bodies and objects at the scene.  \(^{114}\)

Once Bertillon initiated the trend of data collection and measurement, fingerprinting became the next logical advancement. As early as 1858 there are reports that a chief magistrate in India named William Herschel prevented pension fraud using fingerprints. Later, in 1880 Scottish physician Henry Faulds writes a letter to *Nature* suggesting the use of fingerprinting for criminals. Sir Francis Galton writes *Finger Prints* in 1892, *Decipherment of Blurred Finger*

\(^{113}\) See Thomas; and Taylor. Victorian literature features the “new science” of criminology as early as Wilkie Collins’s *The Moonstone* in 1868: “The reason that *The Moonstone* might qualify, as Eliot claimed it did, as the first and best of modern English detective novels is that it is the first novel of any kind to demonstrate in a compelling way the emergence of the modern field of forensic science and its growing importance to a new science called criminology” (Thomas 67), citing medical man Jennings as the primary source of scientific discourse in the novel. Most of the developments in criminology discussed here occur after this time. See also Berg 446; Chisum and Turvey 33; and Wagner 108, 125, and 166. Towards the end of the century, when Sherlock Holmes became popular, many founding fathers of forensic science have been recorded saying that fictional detectives such as Holmes inspired them.

\(^{114}\) See Thomas *Cambridge Companion* 185; Thomas *Rise of Forensic Science* 121; and Chisum and Turvey 31.
Prints in 1893 and Fingerprint Directories in 1895. His special contribution to the field is the idea of classifying fingerprints by shapes – loops and arches. Later he would collaborate with Edward Richard Henry, a police chief in Bengal, to create the “Galton-Henry system of fingerprint classification still used today in much of the English-speaking world” (Wagner 106). Locard perfected fingerprinting in a police laboratory in Lyon, as a part of the “new police science” he developed. Locard also called for an examination of microscopic particles on the criminal body. These techniques, more than bertillonage, signify an acceptance of human shortsightedness and a faith that objects that we cannot see may exist; both fingerprinting and forensic evidence reveal what is not normally available to the naked eye and then verifies whether or not a person, who is no longer visible, was present at a scene.

The early history of criminology did not simply provide Doyle with material for Sherlock Holmes. On the contrary, leaders in the field credit Doyle for inspiring them. Both Bertillon and Locard admit that they got their ideas from reading Sherlock Holmes stories and other early detective fiction. In an article he wrote later in his career for the Revue Internationale de Criminalistic, Locard writes, “I just confess that if, in the Police Laboratory in Lyon, we are interested in any unusual way with this problem of dust, it is because of having absorbed the ideas found in Gross and Conan Doyle, and also because certain investigations in which we have been involved have happened, so to speak, to force the issue” (Chisum and Turvey 33). Bertillon writes, “I love detective stories. I would like to see Sherlock Holmes methods of reasoning adopted by all professional police” (Berg 447).

115 See Thomas: “…the Sherlock Holmes stories not only provided good entertainment for their middle-class readers, they also anticipated and popularized contemporaneous advances in criminological practice as well. Indeed, both Bertillon and Edmond Locard, another pioneer in forensic medicine and criminology in France, attributed some of their own innovations to their reading of the Sherlock Holmes stories. In developing what he called “a new police science” that focused on the examination of microscopic particles on the criminal body, Locard would even instruct his colleagues and students “to read over such stories as ‘A Study in Scarlet’ and ‘The Sign of Four’” in order to understand the basis of the practices he was recommending” (Cambridge Companion 185-186).
Doyle mentions Bertillon by name in “The Adventure of the Naval Treaty” in 1893 and The Hound of the Baskervilles in 1902. The use of Bertillon in The Hound of the Baskervilles, however, is more than praise. Rather, the allusion establishes a difference between Holmes and Bertillon. Dr. Mortimer, when soliciting Holmes’s aid in the case of the Baskervilles, says that Holmes is “the second highest expert in Europe” (Doyle 56). When Holmes disdainfully asks who is the first, Mortimer names Bertillon. Holmes rudely retorts, “Then had you not better consult him?” and Mortimer’s subsequent explanation as to why he has chosen Holmes over Bertillon indicates that Holmes, as a literary detective, achieves something in his methods that Bertillon would not or could not: “I said, sir, to the precisely scientific mind. But as a practical man of affairs it is acknowledged that you stand alone” (57). This implies that Holmes has the science that Bertillon has, but he also has something else that sets him apart. The descriptors “practical” and “mad” may seem to conflict, but Mortimer’s use of the word “practical” refers more to the practical application of scientific theories. Since Holmes practices science on his own, without belonging to an institution, he has the ability to apply the forensic science developed by Bertillon to criminal investigations in the trenches, in whatever manner he pleases, regardless of how unorthodox. Not trapped in an ivory tower as someone like Bertillon might be, Holmes remains free of institutional doctrines, and this freedom allows him to foster a “scientific use of the imagination” (83). By harboring a paradox within himself – the scientist who is also a “man of affairs,” using his experimental results and scientific knowledge to solve real world problems, Holmes personifies the paradox inherent in a scientific imagination.

Criminology also became heavily medicalized in the nineteenth century, and the fin de siècle saw a particular rise in forensic medicine, allowing the body to serve as a “truth telling

116 “To the man of precisely scientific mind the work of Monsieur Bertillon must always appeal strongly” (Doyle 57).
Physical changes upon death – such as rigor mortis, first noted by Alexandre Lacassagne in Lyon – that help determine a victim’s time of death and dissections were major developments of the period. Serology, the testing for bodily fluids on evidence, and post-mortem toxicology were also becoming more common practice in what was called “legal medicine” or “medical jurisprudence” (Wagner 3). These techniques are contingent on making a physical (in this case physiological) reality knowable, but do so without relying on the naked eye. Dissection, for example, implies that there is more inside the body that invasive techniques can access while the human eye cannot (much like the X-ray discussed in chapter two) and serology and toxicology rely upon arbitrary visual markers, such as colors, to indicate chemical results that signify the information that the human senses alone could not detect.

According to criminology historians, legal medicine was at first exclusively part of the medical profession, but, as Holmes demonstrates, detectives who were not necessarily doctors began to adopt medical knowledge and practice in their work. He demonstrates this frequently in Doyle’s narratives, as he often pokes and prods at bodies upon arriving at a crime scene. Doyle makes a point to represent Holmes using the cutting edge techniques of legal medicine. Two passages in *A Study in Scarlet*, for example, indicate Holmes’s familiarity with a dissecting room. First, Watson hears from the mutual friend who introduces him to Holmes that Holmes has been known to bludgeon cadavers: “When it comes to beating the subjects in the dissecting rooms with a stick, it [knowledge] is certainly taking on a bizarre shape…to verify how far bruises may be produced after death. I saw him at it with my own eyes” (Doyle 19). In the following chapter, after Watson has moved in with Holmes, he says, “Sometimes he spent his day at the chemical laboratory, sometimes in the dissecting-rooms, and occasionally in long

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117 See Thomas 31.
118 See Wagner 3.
walks, which appear to take him into the lowest portions of the City” (28). In the first example in particular, we see Holmes trying to perfect an observational technique – he tests bruising on the body so that when confronted with other bodies he might be able to make accurate conclusions about wounds inflicted before or after death.

As discussed in chapter two in relation to Dr. Jekyll, there is also an epistemological connection between the medical case and the criminal case that makes a detective turned medical professional or a doctor turned criminologist (i.e. Watson) seem logical. Bertillon initiated the profiling of criminals, and modern medicine begins to profile patients in the same way, reconstructing a narrative using observation, deduction, and scientific techniques and tools.119 In Altered Conditions: Disease, Medicine, and Storytelling, Julia Epstein argues that medical cases are as much social constructions as they are medical ones, saying, “medical case histories engage the conventional features of historical and literary writing, that is, of narrative…Clinical diagnosis, in fact, contains a narrative epistemology in its effort to encapsulate particular kinds of knowledge about the body” (31). Through writing fiction that demonstrates and dissects Holmes’s methods, Doyle has encapsulated the inherent connections between medicine, criminology, and literature.

**Mr. Sherlock Holmes, Mad Scientist**

*A Study in Scarlet* is the novel that introduces Holmes and Watson as characters, establishing Holmes’s philosophy on the “scientific use of the imagination” (Doyle 83). Several passages from this first novel establish Holmes as a mad scientist figure and describe his detecting skills as supernatural powers. His obsessive, unorthodox, perhaps renegade approach to science echoes the personalities and attitudes of the Time Traveller, Griffin, Dr. Jekyll, and Van

119 See Epstein for a relevant history of medical narratives. For a recent example of this approach to medical patients, see Sanders.
Helsing. Doyle characterizes Holmes as a supernatural phenomenon and several of the Holmes novels as whole narratives also interrogate supernatural phenomena, like the hound in *The Hound of the Baskervilles* and the orientalist representations of mystics in *The Sign of Four*. These novels follow the narrative trajectory of the ghost story or horror genre until Holmes provides a more “rational” explanation at the end. Holmes himself does not rule out the supernatural, as a passage from *The Hound of the Baskervilles* shows – the supernatural is one of many viable options generated by his scientific imagination philosophy. As discussed earlier, Doyle exhibits an interest in the supernatural and psychical research, which indicates that he personally did not dismiss the supernatural as possible either. Finally, Doyle indicates his conscious attempt to work out issues of realism and the supernatural with a meta-narrative which explicitly discusses literary genre.

Doyle spends a considerable portion of his first Holmes novel, *A Study in Scarlet*, establishing the eccentricities that would endear the character to readers for over a century after; one need only look to the two most contemporary film adaptations (to be discussed at the end of the chapter) and their massive popularity for proof.\(^{120}\) Since most readers think of Sherlock Holmes as a private detective first and foremost, Holmes’s role as a scientist in Doyle’s fiction often slips through the cracks of the popular imagination. Similarly, readers do not often link his eccentricities with his scientific pursuits. Doyle describes Holmes’s habits and career, I would argue, as those of a mad scientist, just as Wells does for the Time Traveller and Griffin, Stoker does with Van Helsing, and Stevenson does with Dr. Jekyll.

When Doyle first introduces Holmes in *A Study in Scarlet*, he describes Holmes as “A fellow…working at the chemical laboratory up at the hospital” who is “…a little queer in his ideas – an enthusiast in some branches of science” (Doyle 18). He is a “fellow” and an “enthusiast” working at the laboratory and not a titled doctor or researcher, and is “a little queer in his ideas,” never having “taken out any systematic medical classes.” Holmes has taken the unconventional, unbeaten path to genius: “His studies are very desultory and eccentric, but he has amassed a lot of his out-of-the way knowledge which would astonish his professors” (18). Holmes is also so dedicated to scientific inquiry, says Watson’s friend, that he would be willing to poison someone, not out of malice, but to render an experimental result. This extreme behavior continues later in *The Sign of Four* when Watson complains about Holmes’s private experiments. Watson says,

He would hardly reply to my questions, and busied himself all evening in an abstruse chemical analysis which involved much heating of retorts and distilling of vapors, ending at last in a smell which fairly drove me out of the apartment. Up to the small hours of the morning I could hear the clinking of his test-tubes, which told me that he was still engaged in his malodorous experiment. (313)

Holmes’s dedication and focus are consistent with the mad scientist archetype. He becomes a recluse, “hardly reply[ing]” to Watson’s questions, and shows no consideration to the others. An experiment, for example, ends in “a smell which fairly drove me [Watson] out of the apartment.” Holmes even sacrifices sleep to get results, as Watson hears him “up to the small hours of the morning.”

In addition to describing Holmes as an eccentric, sometimes mad scientist,
Watson as narrator describes Holmes’s powers of deductive reasoning in supernatural terms, as if his conclusions are acts of divination more than exercises in logic. When Watson comments on Holmes’s published article, “The Book of Life,” for example, he says,

It struck me as being a remarkable mixture of shrewdness and of absurdity. The reasoning was close and intense, but the deductions appeared to me to be far-fetched and exaggerated. The writer claimed by a momentary expression, a twitch of a muscle or a glance of an eye, to fathom a man’s inmost thoughts…So startling would his results appear to the uninitiated that until they learned the processes of which he had arrived at them they might well consider him a necromancer. (Doyle 39)

Linking external perception, “a twitch of a muscle,” with access to another person’s interiority, “a man’s inmost thoughts,” creates a cause and effect relationship between Holmes’s observation and what one can only call mind reading. In addition to comparing him to a necromancer, A Study in Scarlet ascribes a “chimerical” (41) quality to Holmes. There are several occasions throughout the Holmes series when Watson calls him “inhuman.” In “A Scandal in Bohemia,” Watson implies that Holmes appears to be a witch: “My dear Holmes…this is too much. You would certainly have been burned, had you lived a few centuries ago” (9). When Holmes places handcuffs on a perpetrator in A Study in Scarlet, they “appeared as if by magic upon his wrists” (121), and, in The Sign of Four, Watson, while lecturing Holmes about the dangers of using cocaine, refers to Holmes’s detecting skills as “great powers with which you have been endowed” (216).

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121 Some examples include The Sign of Four: “‘You really are an automaton – a calculating machine,’” I cried. “There is something positively inhuman in you at times’” (Doyle 235) and “The Greek Interpreter”: “the somewhat inhuman effect which he produced on me” (635).
In *The Hound of the Baskervilles*, Watson accuses Holmes of having “eyes in the back of his head” (Doyle 49). The phrase may be an idiom, but taken literally it is yet another example of the diction Doyle uses to evoke the supernatural, making Holmes himself seem like a supernatural phenomenon. The fact that Holmes was able to observe Watson where the average person probably would not is seen as a supernatural power – seeing without looking, literally having eyes in the back of his head, X-ray vision, etc. One might even go so far as to say that the image of Holmes with eyes in the back of his head makes him monstrous. Holmes quickly dispels any notions of the supernatural when he explains that he merely thought to look at Watson’s reflection in the “well-polished, silver-plated coffee-pot” (49), showing that one needs tools to pick up the naked eye’s slack. Holmes cannot keenly observe Watson with his own eyes, but rather must rely on material objects (and a very basic form of science, reflection) such as a shiny coffee pot. Holmes’s “powers” of observation appear to be supernatural because he seems to undermine the notion of sight as limited, but he in fact has a different operating definition of seeing altogether that does not rely on the naked eye alone. He sees that which no one else can see because he knows that he needs mechanical or scientific tools to accurately view the material reality before him. Holmes is Doyle’s way of saying that once we acknowledge that our senses are fallible and relatively poor at representing material realities, we need not be resigned to this fate; rather, we must look to other modes of seeing that do not rely on the senses exclusively.

Doyle cannot expect all readers to find Holmes’s skills attainable, and so he designates Watson as an intermediary character, a halfway point between Lestrade and Holmes. Watson’s reaction to Holmes ranges from skeptical to awestruck, to just plain annoyed, but all these reactions alienate Holmes from the reader. Like Filby, Kemp, Dr. Seward, and Mr. Utterson before him, Watson models a typical reaction to the mad scientist, mirroring the reader’s
reaction. He then, as a role model for the reader, develops and learns unlike the other more “common” and less “rational” characters. Holmes constantly tests Watson, asking him questions to which he himself already knows the answer, and these pop quizzes often lead to backhanded compliments and condescension. Over time, however, Watson improves, earning genuine praise from Holmes. When Watson decides to wait and see who approached before firing his gun at Holmes in *The Hound of the Baskervilles*, for example, he says, “I did not know who you were, but I was determined to find out” (Doyle 168). Instead of assuming that Holmes was the criminal, Watson suspends his judgment, and “was determined to find out.” This suspension of judgment, combined with a determination to access material reality through investigation, observation, perception, and experimentation, cuts Watson from Holmes’s cloth.

Doyle also positions Watson as the reader’s ally through his role as narrator. Even though *The Hound of the Baskervilles* is not the first Sherlock Holmes story, Doyle still chooses to name the first chapter “Mr. Sherlock Holmes.” Such a title sets the reader up to think of Holmes as the object of study or the subject matter of the novel, rather than the protagonist. I would argue that the chapter title draws attention to Watson as the narrator and reminds readers that Holmes is not our narrative lens but rather an odd spectacle. If we have access to what goes on in Holmes’s head, the illusion is broken and the magic is gone. It is appropriate for Watson as the recorder or documenter of this story to title a chapter “Mr. Sherlock Holmes” because part of his agenda as a writer is to record and capture Holmes’s unusual character. This chapter functions as a psychological, medical, or scientific case study; when he makes Watson narrator, Doyle deputizes him to investigate the case of Sherlock Holmes, as the medical doctor’s time with the detective serves as a dissection, distillation, and explanation of his philosophical as well as practical methods.
The title also reminds readers that Watson is Watson and not a more impartial third person narrator. When one considers the chapter title in this light, the connection between this reminder of the narratological circumstances of the novel and the, albeit more obvious and more prolific, self-reflexive references to writing, storytelling, and subjectivity found in *The Time Machine*, becomes apparent. Watson’s narration is a realist experiment in itself, one in which he attempts to work out not only Holmes himself but how to represent Holmes. The occasion to narrate allows Watson to practice the observational skills he has learned from Holmes on Holmes. When he begins this first chapter, Watson, instead of simply stating that Holmes asks him to examine and assess the cane a visitor has left in their house, proceeds to give the reader an excess of detail. He mentions a hearth-rug, and describes the cane not just as a cane but as “a fine, thick piece of wood, bulbous-headed” (Doyle 49). The lengthy description of the cane continues, as Watson says that it is known as a “Penang lawyer” (49), and has a “broad silver band, nearly an inch across” (49). When he approaches a crime scene, Holmes exhibits an acute awareness of the material reality around him, and so Watson attempts to perform a similar act for the reader. Holmes then swoops in and puts Watson to shame, demonstrating that Watson’s interpretation of these details, his imagination of this man based on these details, is incorrect. Doyle shows that this attention to detail may serve as a cornerstone of realism, as pre-George Levine critics have described, but, through Holmes, he demonstrates that any assurance that perceptions of the material world constitute reality requires more than a scrupulous collection of details. Watson represents a scrupulous detail collector who still fails; after his presentation of details to Holmes, he still manages to get it all wrong.

In order to represent those that still rest blind faith in their senses and to distinguish Watson’s ability to learn, Doyle often uses Lestrade and his fellow officers from Scotland Yard
as a contrast to Holmes. In *A Study in Scarlet*, Doyle has readers hear Lestrade’s assessment of a scene before offering Holmes’s superior one. When Lestrade picks up a ring that has fallen off a dead body, he says, “There’s been a woman here…it’s a woman’s wedding ring” (Doyle 58). Notice that instead of simply reporting what he sees – a gold ring, Lestrade has automatically narrowed down the interpretation of that observation – that the ring must belong to a woman and that woman must be married. Gregson, a colleague of Lestrade’s, says “This complicates matters,” (58) but Holmes has a different take on the situation. He smugly asks, “You’re sure it doesn’t simplify them?” (58) More importantly, Holmes follows up this rhetorical question with the statement, “There’s nothing to be learned by staring at it,” (58) meaning that the human eye is not nearly as helpful as Lestrade and Gregson think it to be. Instead of using his eyes exclusively, Holmes, when it is his turn to look around the room, pulls out “a tape measure and a large, round magnifying-glass from his pocket” (61). These are tools that compensate for the limited abilities of the human eye – a tape measure provides data for bertillonage and the magnifying glass enhances the eye’s abilities, revealing that which is normally too small for the naked eye to notice. Readers learn much later that the ring is a wedding ring that belongs to a woman, but Lestrade’s assumption that the presence of this ring indicated the presence of a woman would have derailed the case because the murderer – a man – uses the ring, which belongs to his dead lover, Lucy, as a way to signal to his victim that the murder is revenge for Lucy’s death.

**Generic Intermingling and the Interpolated Ghost Story**

Aside from using characters and their responses to the material world around them as a way to grapple with issues of human perception and realism, Doyle’s experimentation with a dual-genre narration also works towards this end. Several of his novels contain interpolated ghost
stories that lead the reader to believe that the supernatural operates as a conceit of the narrative until a character, usually Holmes, provides another explanation, another version of the narrative, after the fact. This interpolation of a fantastical narrative within a more realist one allows different literary genres to intermingle, offering readers multiple literary possibilities. Detective fiction as a named genre was fairly new while Doyle was writing. Other than Edgar Allan Poe, who Doyle openly credited as the first writer of detective stories, no author had been categorized in the genre. Predecessors such as Wilkie Collins, using suspense and mystery, were often classified as authors of sensation fiction, shilling shockers, gothic novels, or scientific romances.

In a passage from *A Study in Scarlet* one can see that Doyle starts the Holmes series with an awareness of genre. While initially getting to know Holmes, Watson observes what areas of knowledge are strong or weak. His comments on literature specifically create a meta-fictive moment that prompts a reader to pause and think on the very narrative Watson occupies: “His ignorance was as remarkable as his knowledge. Of contemporary literature, philosophy, and politics he appeared to know next to nothing” (Doyle 32). Watson distinguishes in his list of Holmes’s skills between “Literature” and “Sensational Literature.” Holmes does not know anything about the latter but has an “immense” (35) working knowledge of the former. Holmes himself admits that the only reason he knows sensation literature so well is because it is useful for his work; Watson says, “he would acquire no knowledge which did not bear upon his object. Therefore all the knowledge which he possessed was such as would be useful to him” (34). A reader can infer from this that his immense knowledge of sensation literature indicates that this genre of literature, and only this genre, helps him with his investigations.

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122 See Murch. At Poe’s centennial birthday dinner, Doyle asked, “Where was the detective story until Poe breathed the breath of life into it?” (83).
What does sensation literature have that other literature does not? Caroline Levine’s notion of suspense as a realist device seems to be the perfect answer. Doyle’s singling sensational literature out of all other types of literature compels readers to think about what genre of literature they are presently reading as well as the role of that genre in the larger literary canon. A reader might wonder, for instance, what the difference really is between a sensation novel and a detective novel, and if Sherlock Holmes novels are really just sensation novels that happen to have a detective as a main character. Hopefully such a reader would see that while a sensation novel delivers the same suspense and shift from unknown to known, detective novels deputize a single character to demonstrate how to overcome the limitations of human perception.

In seeing how valuable sensation literature is to Holmes’s success, the reader may also begin to see novels not unlike the one they are reading as more than entertainment. Through Watson’s observations, Doyle explicitly solicits a discussion of literary genre, and one cannot help but think that this is a nod to his readers, referring to the very literature that he is writing and they are reading.

This meta-fictive allusion to sensational literature primes readers for the generic intermingling that will follow throughout Doyle’s novels. Whenever he introduces a potentially supernatural element into a narrative, Doyle never employs dramatic irony; readers never know more than the characters (and in fact often know less) and can make erroneous assumptions just as Watson does. *The Sign of Four* and *The Hound of the Baskervilles* in particular force readers to discern whether or not the supernatural suggestions made by the narrative are in fact true. This lack of dramatic irony allows Doyle to present two accounts of the same set of events, as the supernatural explanation holds compelling probability throughout most of the narrative only to be explained later in non-mystical terms.
In doing this, Doyle enables the reader to indulge in the supernatural version of the case and then realize how easily they have made assumptions and accepted the explanation implied by the narrator once Holmes solves the case. In a way this teaches readers Holmes’s methods, as they fall for the “trap” of the supernatural narrative and know better next time not to trust a singular perception of a situation and instead imagine all possible perceptions. This is a “have your cake and eat it too” situation – since Doyle interpolates the paranormal into the “normal,” readers learn the value of Holmes’s “scientific use of the imagination” (Doyle 83), leaving the novel with a sense that both interpretations of observations made throughout the case were possible and therefore worth investigating.

In *The Sign of Four*, there are several instances in which the narrative interpolates a small ghost story. Watson feels “something eerie and ghost-like” (Doyle 240) as he and Holmes travel with Miss Morstan to their rendezvous point, and there are two scenes in which mysterious faces appear in windows. First Watson sees the face of one of their travel companions in a window while the body of the man remains in the room, and the impossibility of this frightens him. He then explains the doppelgänger moment by recounting the discovery of said companion’s twin brother. Though this explanation strains credulity and relies heavily upon coincidence, Doyle provides both a supernatural and a natural narrative; he gives readers the pleasure of a ghost story and, in light of the more “rational” explanation, the lesson that what one sees is not always what one gets. To create a narrative that has simultaneous supernatural and natural explanations is no easy task. The natural versions of the narratives seem almost as fantastic – twins exist, but they are uncommon, dogs can be covered in phosphoresce, but rarely are. The effort, then, must be to some end. Doyle reaches and strains to layer and fuse the two narratives

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123 The authority of the narrator, whether a third person or Watson, persuades readers to suspend disbelief and see the supernatural as one legitimate lead of many to follow.
to encourage readers to see the two alternate realities of the same narrative as equally possible or equally fallible.

*The Hound of the Baskervilles* has a more sustained supernatural narrative, maintaining the appearance of a supernatural beast until the phosphorous-coated dog gets shot at the novel’s end. Out on the moor, for example, Watson and Sir Henry hear a strange noise and in response Watson narrates events in a way that heightens the reader’s fear:

> As if in answer to his words there rose suddenly out of the vast gloom of the moor that strange cry which I had already heard upon the borders of the great Grimpen mire. It came with the wind through the silence of the night, a long, deep mutter, then a rising howl, and then the sad moan in which it died away. Again and again it sounded, the whole air throbbing with it, strident, wild, and menacing. The baronet caught my sleeve and his face glimmered white through the darkness. (Doyle 142)

By saying that the “strange cry” they hear is “in answer to his words,” Watson implies that it was not a coincidence but rather that some sort of supernatural being has heard Sir Henry’s statement about “the power of evil exalted” and decided to respond. The fact that the strange cry “rose suddenly” is uncanny and the descriptors Watson uses all carry supernatural or horror connotations – the moor is gloomy, the cry is not only strange, strident, wild, and menacing, but resembles a howl or a moan. Phrases such as “the silence of the night” seem to serve no purpose other than to make the moor sinister and threatening, as if it were a monster in of itself. Doyle delivers the detailed, fear-ridden description of the sound as narration as opposed to dialogue in order giving the supernatural speculations significant narrative authority because Watson’s voice fades out, giving way to a more third person omniscient narrative style. Watson, the reader’s
rational man, as narrator makes the supernatural account of events just as plausible as a more “rational” one.

Since the supernatural version of the narrative always precedes the anti-supernatural one, one could argue that Holmes represents a rationality that quashes the superstition of other characters. A conversation Holmes has in *The Hound of the Baskervilles*, however, modifies this conclusion in a significant way. When Dr. Mortimer first approaches Holmes, he confesses that, as a man of science, he, worried for his credibility, kept his discovery of giant paw prints of a monstrous hound at the scene of the crime a secret. Holmes asks, “And you, a trained man of science, believe it to be supernatural?” After Mortimer replies with, “I do not know what to believe,” Holmes explains, “I have hitherto confined my investigations to this world,”…“In a modest way I have combated evil, but to take on the Father of Evil himself would, perhaps, be too ambitious a task” (Doyle 419). Holmes does not rule out the supernatural as a possibility, and at no point does he say that supernatural forces do not exist in this world – they just aren’t his specialty. Later, when Watson accuses Holmes of “inclining to the supernatural explanation,” Holmes retorts, “The devil’s agents may be of flesh and blood, may they not?” (428). It is far too reductive to characterize Holmes as a detective who only believes in science and uses that science to dispel the supernatural, and the same can be said of the narratives he inhabits as well.

Through his narrational experiments, which weigh both the supernatural and the natural in the balance, Doyle teaches a valuable lesson to readers about genre. Conventions and rules laid out by a particular genre have been made to be broken. In a novel there never can be one singular genre characterizing one singular text but rather the notion of genre itself fosters hybridity and intertextuality. As Bakhtin says, “the novel parodies other genres…it exposes the conventionality of their forms and their language; it squeezes out some genres and incorporates
others into its own peculiar structure, reformulating and re-accentuating them” (5). Other more current scholars have also appreciated genre as a pliable paradigm by design. In “Genres as Fields of Knowledge,” Wai Chee Dimock offers such a view of genre, saying that “It is the sum of the not yet realized, with no actualized shape, a kind of general solvent out of which particular entities can acquire particular features” (1379). In “Genres in Motion,” Stephen Owen warns against “identifying” and “recognizing” any given genre because that puts us in danger of engaging in “legislation or border control” (1389). To call a novel like *The Hound of the Baskervilles* by the name of one genre only would not make sense; rather, one must see the interplay of several genres – detective novel, sensation novel, science fiction novel, realist novel, fantastic novel – forming rich discursive layers.

**Genre, Intertextuality, and the Sherlock Holmes Franchise**

There is an inherent intermingling of genres when a film adapts another text. When a filmmaker imports a novel into a film he or she reframes that novel to conform to the expectations of another cinematic genre like the Hollywood action film, and something entirely new emerges. This input/output equation raises an epistemological question about adaptation, one that is not so much about the inviolable source text and the authenticity of its copy, but rather about the threshold of recognition. At what point can one realistically call a film or character Sherlock Holmes? At what point does Sherlock Holmes cease to be Sherlock Holmes, regardless of the names and places invoked by a creator? A film adaptation without at least some similar features to a source text would not be considered an adaptation. A director could title a film *Sherlock Holmes* but if it starred a 12-year-old girl who solved crimes entirely by accident and had no sidekick, viewers would not go through the process of parceling out the similarities and the differences and would not experience the mixing of genres inherent in adaptation.
Eventually the meaning of Sherlock Holmes would empty out and run its course. This is proof that there is some universally agreed upon notion of who Sherlock Holmes is.

Conversely, any adaptation of anything remotely resembling the Sherlock Holmes Doyle created cannot be culturally consumed without first being culturally mediated, filtered through a collective consciousness and cumulative cultural memory. The more adaptations there are, the more there is to wink and nod about. By the time Guy Ritchie, for example, adapts Holmes in 2009, he has so many elements to play with, so many past texts and adaptations to reference, that he cannot help but build the parody of Holmes as a character continually subjected to adaptation into his film.

This question of a threshold of recognition becomes especially apparent with Sherlock Holmes because pertinent adaptations often adapt Holmes as a literary character as opposed to a single text written by Doyle, and the characterization of Holmes propagated by the myriad of film adaptations of him has superseded that of Doyle’s texts. As Thomas Leitch explains, a franchise is a unique situation that only a select few classic literary characters find themselves in: “The Holmes adaptations, in other words, take as their primary referent not the particular story they are ostensibly adapting – *A Study in Scarlet, The Hound of the Baskervilles,* and so on – but the franchise as a whole” (213). The deerstalker hat and cape that have become synonymous with Holmes do not actually originate from any of Doyle’s texts but rather the drawings by Sidney Paget that appear alongside Doyle’s text in periodical publications like *The Strand.*

Whether or not viewers have seen them, these illustrations and the films inspired by them mediate the relationship between Doyle and the film adaptation spectator. Viewers expect to see the

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124 See Leitch: “Movie audiences know that Watson wears a mustache and Holmes is clean-shaven, but they do not know this because Conan Doyle ever says so” (208).
deerstalker hat because that’s what they’ve always seen; they use franchise Holmes as a referent as opposed to literary Holmes.

Paget’s illustrations inspired the first major cinematic adaptation of Holmes – the fourteen films featuring Basil Rathbone in the 1930s and 40s. Wearing the iconic deerstalker hat, Rathbone solidifies the image of Holmes that dominates the franchise with his steely, dignified performance and to this day continues to be the most commonly conjured image of Holmes. Only when Herbert Ross adapts Nicholas Meyer’s novel The-Seven-Per-cent-Solution in 1976 does anyone successfully deviate in any significant way from that original depiction. After Ross’s film one notices more liberties taken with the Holmes franchise, with more emphasis on Holmes as an eccentric, comic character. Guy Ritchie’s Sherlock Holmes and the BBC series Sherlock demonstrate this trend particularly well with their more off-the-wall renditions of Holmes, pushing stories towards the genre of comedy rather than serious drama.

The franchise phenomenon shows that the intertextuality that occurs in film adaptation is not strictly between a single text and a single film. Film theorist Robert Stam combines Bakhtin’s “dialogism” with Kristeva’s “intertextuality” in order to think of film adaptations as not an attempted imitation of a source text but rather as a text with multiple discourses running through it, one of which happens to be the source novel. He says,

Notions of “dialogism” and “intertextuality,” then, help us transcend the aporias of “fidelity” and of a dyadic source/adaptation model which excludes not only all sorts of supplementary texts but also the dialogical response of the reader/spectator. Every text, and every adaptation, “points” in many directions, back, forward, and sideways. (Stam and Raengo 27)
Novels already are dialogic, and, according to Stam, films based on those novels continually contribute to an endless discursive accretion. The novel-film relationship, then, can be seen as “dense informational network” rather than a parent-child, linear, or uni-directional model. Sherlock Holmes is a prime example of this multi-directional intertextuality because any given spectator might draw from a variety of sources when they see a film that features the detective – Basil Rathbone’s Sherlock Holmes, a select novel by Doyle, or just an image of Holmes in a deerstalker hat that he or she has seen in a comic book, video game, or advertisement. While Rathbone has helped cultivate the predominant image, a viewer’s preconceived notions of Holmes can be informed by anything he or she has culturally consumed.

**Basil Rathbone: The “Definitive” Sherlock Holmes**

Basil Rathbone’s portrayal of Holmes, often cited as the definitive Holmes, operates as more of a signified against which all future signifiers could be measured than Doyle’s novels and short stories do. The many adaptations of Doyle’s Holmes have cultivated the prim, proper, and stoic detective who dons a deerstalker hat. Leitch describes Rathbone as having “faultless diction, catlike grace, and unfailing courtesy” (225). This representation not only circulates alongside any depiction of Holmes in Doyle’s “original” work, but it also wields more authority in popular culture.

When one juxtaposes the Rathbone films with Doyle’s texts one can see the four novels and 56 short stories more clearly as products of Victorian culture because the films tend to downplay the mad scientist aspect of Holmes’s character, Doyle’s characterization of his “powers” as supernatural, and the supernatural in general. One can speculate that this occurs because only the first two films, released in 1939, take place in the Victorian era; the later

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125 See Leitch 231.
126 Jeremy Brett, while portraying Holmes as much more violent and passionate, very differently than Rathbone, also appears in a series of films in the 80s that do not explore Holmes’s mad scientist character. See Leitch 227.
Rathbone films take place in the 30s and 40s, often pitting Holmes against twentieth century villains like the Nazis. With a turn towards comedy post-*The Seven-Per-cent-Solution*, however, adaptations in the latter half of the twentieth century do incorporate mad scientist mannerisms and mis-en-scenes, and some of them treat the supernatural in a similar fashion to Doyle.

**Meyer and Ross’s *The Seven Per-Cent Solution***

Nicholas Meyer’s novel *The Seven-Per-Cent Solution* and the 1976 film of the same name presents, possibly for the first time, a characterization of Holmes that both departs from the mainstream franchise imagining of him and still pleases fans of that franchise. The novel was a *New York Times* bestseller and the film, released two years later, was nominated for two Academy Awards, including one for Best Writing: Adapted Screenplay. The film stars Nicol Williams as a Sherlock Holmes who succumbs to a severe cocaine addiction and spends most of the film frantic, volatile, and unhinged – very different from other more cool and collected portrayals past. *New York Times* reviewer Vincent Canby writes, “Nicol Williamson creates an entirely new Sherlock Holmes within our memories of all the old ones – a man of incomparable mental brilliance who walks the world pursued by the hallucinations of his addiction” (*New York Times* 1976). Doyle does mention throughout the series that Holmes uses cocaine, most prominently in *The Sign of Four* when Holmes admits he takes “cocaine…a seven-per-cent solution” (Doyle 214) and Watson tries to warn him of the drug’s medical dangers.

Meyer’s novel and Ross’s film claim that Holmes did not die in *The Final Problem* but rather went into hiding because of his cocaine addiction. Moriarty, in Meyer’s version of the Holmes universe, is not a diabolical villain but Holmes’s math tutor who Holmes, in his drug-induced state, thinks is conspiring against him. They then proceed to show how Sigmund Freud cures Holmes of his addiction and solves another case with him. In order for Williamson to play
a convincing drug addict, he displays manic and disturbing behavior for a significant portion of the film, and this offers an unusual temperament for Holmes to viewers – a Holmes no longer in control of himself and every situation he finds himself in.

This adaptation is also the first of many to acknowledge and address the complexities of adaptation and the Holmes franchise. Meyer and Ross frame *The Seven-Per-Cent Solution*’s narrative in a way that both alters the narrative fabula and insists on creating the illusion that it is a part of the fabula that Doyle created. The novel has been so carefully and explicitly situated into Doyle’s canon that one cannot fault it for any discrepancies a viewer may perceive. Making comments that explain away any differences or revisions readers may notice, Meyer playfully accepts the challenges inherent in adaptation and demonstrates an awareness of those problems. The novel opens with a fictional forward that establishes an alternate universe in which Meyer’s novel is a lost manuscript written by Watson, found by Meyer’s uncle, and passed on to Meyer to publish.

Doyle has already laid the groundwork for this sort of narrative reframing, since he himself has framed Holmes as a character textually constructed by the narrative’s premise. The narrative represents Watson’s retelling of Holmes’s adventures and therefore acknowledges that Watson’s narration provides a subjective representation of Holmes distinct from any abstract notion of Holmes as a “real” person. This acknowledgement facilitates, possibly sanctions, varied characterizations of him in the future. *The Seven-Per-Cent-Solution* is not only a wink and a nod to this acknowledgement but a continuation of it.

Watson’s narration in this lost manuscript frequently makes statements that operate as disclaimers for fidelity driven readers. For example, he says, “Lastly, my style may appear dissimilar to that of my earlier writing because this adventure of Sherlock Holmes is totally
unlike any that I have ever recorded” (Meyer 18). Upon reading this statement, a reader who might accuse Meyer of not imitating Doyle or Watson in narrative style must accept any discrepancies as intentional. Watson's reflection on his previous writing acknowledges that Doyle portrayed Watson as dumb (or at least much dumber than Holmes). When Meyer’s Watson says he was exaggerating in previous representations of himself, Meyers gets to change Doyle's Watson while still maintaining narrative consistency under the guise of authorship’s subjectivity.

Meyer even goes so far as to locate Doyle in this alternate universe where Watson is not the fictional character created by Doyle but the prolific author of Holmes’s chronicles who works with a literary publisher named Dr. Doyle. Watson asks Freud if he knows Doyle and explains to him that “Dr. Doyle has influence with certain literary magazines in England. He writes books more than he practises medicine nowadays, and it is to him that I am indebted for placing my own humble accounts of Holmes’s doings with the publishers” (Meyer 112). This allusion to Doyle, even though it literally changes history by fictionalizing the author, legitimizes Meyer’s adaptation as pastiche rather than mimesis. This approach to the Holmes franchise sets a precedent for future adaptations that, albeit less explicitly, also play off previous representations of Holmes. Alternatively, Meyer and Ross’s work reflects a point in Holmes’s history where there are too many adaptations, too much cultural memory, to ignore.

While the film adaptation of Meyer’s novel does not provide as much narrative framing as the novel itself, it does make a similar gesture in the film’s opening credits. Alongside names of cast and crewmembers appear Sydney Paget’s illustrations from *The Strand*’s original publications of Doyle’s stories. This both lends credibility to the film as an adaptation because it demonstrates a knowledge of publication history, but it also, more importantly, operates as a
disclaimer to readers, in a manner similar to Meyer’s foreward; it shamelessly presents readers with the source material that informs their imagination of Holmes so that any departure from those images may be understood as deliberate or with the franchise’s source material in mind. A consciousness and a conscientiousness of the adaptation process continue with footnotes placed at the bottom of opening credit inter-titles.

For example, instead of simply naming Joel Grey as an actor in the film, the inter-title reads, “Lowenstein* is played by Joel Grey…* There is reason to believe this character is totally fictitious.” An admission that this character may be fictitious protects the film from critics who might make accusations of inaccuracy. It also establishes a sense of free play with “the truth,” which in this case is narrative truth. By emphasizing the subjectivity of any text, the film lifts the burden of adaptive “integrity”; since there is no way for any text to be historically accurate or an accurate representation of a designated reality, no one can fault this text for anything. This sense of free play and historiographic metafiction also manifests itself in the inter-title that appears soon after the opening credits, introducing the film: “In 1891 Sherlock Holmes was missing and presumed dead for three years. This is the true story of that disappearance. Only the facts have been made up.” 127 The implication that facts can be made up throws the whole notion of factual and not factual, faithful and not faithful, legitimate and illegitimate, into question. The design of the inter-title also evokes the page of a book, reminding the reader of the film’s literary origins. The style, however, featuring an ornate dropped capital “I,” evokes the nineteenth century or earlier as opposed to the twentieth century in which Meyers writes. This creates stronger ties with Doyle than Meyers, emphasizing that this is an homage to his original work first and

127 See Hutcheon for definition of historiographic metafiction.
foremost, ignoring the fact that the film is primarily an adaptation of a contemporary novel by Meyer.

Another credit says, “Mary Morstan Watson* by Samantha Eggar…. Watson’s only canonical wife. (See Sign of the Four).” This footnote defends against viewers who might object to Watson being married by directing them to a specific text and is very particular to describe her as the “only” canonical wife, as if to say that other, inferior films may present imposter wives. This footnote demonstrates Ross’s knowledge of Doyle’s work in an extremely playful way, thus making his film more of a wink and nod homage and less of a cheap imitation.

Meyer’s novel and Ross’s film take a conscientious and “frankly revisionist” approach (Leitch 231) as opposed to sloppily imitating Doyle. The constant reminders and self-reflexive references to Doyle and the Holmes canon demonstrate Meyer and Ross’s understanding of the intertextuality inherent in creating a film adaptation. By making the adaptation process and an orientation of Meyer’s novel and Ross’s film to Doyle’s canon more visible in their respective narratives, they are able to communicate to audiences that differences between what they have read or seen before and what they will read or will see are interesting nuances natural to the adaptation process as opposed to errors.

Once The-Seven-Per-cent Solution portrays Holmes as relatively wild and crazy rather than neat and tidy and acquires critical acclaim for it, less serious adaptations of Holmes become more acceptable. As a result, more recent adaptations take a turn from Basil Rathbone’s “classic” portrayal and emphasize Holmes’s role as a comic stock character, in the tradition of burlesque or comedy, picking up on the already comic strains in Doyle’s text. Sherlock Holmes, more so than other mad scientists, invites more light-hearted adaptations because when Holmes demonstrates his superior observational skills to a degree extreme enough to amaze audience
members, it is to the point of absurdity and therefore laughter.\textsuperscript{128} His professional success and the generally positive results yielded by his powers also make comedy appropriate.\textsuperscript{129}

Late twentieth and twenty-first century adaptations can also smoothly shift into a comic mode because Hollywood has fostered a tradition of comic detectives who work outside the legal system, unlike government or police authorities (i.e. detectives of the \textit{Law and Order} franchise). Sherlock Holmes has inspired an entire lineage of eccentric detectives – \textit{Columbo, Murder She Wrote, Monk}, and \textit{Psych}, to name a few. All of these “modern day Sherlock Holmes” characters, despite not resembling Holmes in any other way, use the same observation-based sleuthing techniques that he does. Performances by Benedict Cumberbatch, Robert Downey Jr., and Jonny Lee Miller (in CBS’s \textit{Elementary}) fit comfortably (and in Miller’s case, perfectly) in this cinematic heritage, as these series operate as intertexts for contemporary viewers in a way that they would not have for readers of Doyle.

The pseudo-scholarly society, The Baker Street Irregulars, exhibits the playfulness and humor inherent in Holmes’s lore and fan base. The Irregulars are an elite group of Sherlock enthusiasts who publish articles in \textit{The Baker Street Journal} and host “Sherlockian” themed events. The group began with the publication of a constitution and by-laws \textit{sic} in 1934 and annual dinners around Holmes’s birthday, and has thrived ever since, determined to study and celebrate the life of Sherlock Holmes. Former editor of \textit{The Baker Street Journal} Philip A. Shreffler says, “Above all, what studying the Sacred Writings and keeping green Sherlock Holmes’s memory meant to the Irregulars was writing about Holmes and his adventures as historical reality, historical fact” (1). This over-the-top reverence for Holmes, as all of the

\textsuperscript{128} This comic aspect sets Holmes apart from the other mad scientist characters examined thus far. The Time Traveller doesn’t seem to have a humorous bone in his body, and others such as Griffin, Van Helsing, and Dr. Jekyll all seem to be serious men who remain serious in adaptations of them. The science practiced by the other characters we’ve discussed do not translate well into party tricks, as Holmes’s deductive reasoning does.

\textsuperscript{129} As a contrasting example, Griffin’s life ends in tragic and violent ruin at the close of \textit{The Invisible Man}.  

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Irregulars’s activities, is very much tongue in cheek. In advance of his franchising by corporate filmmaking and far in advance of the more recent comedic approaches to Holmes, the early Irregulars already presented him as a stock character. Through their zealous fandom they created a cult of authenticity, worshipping Doyle’s canon as “the Sacred Writings” while also having fun with it.

**Guy Ritchie’s *Sherlock Holmes***

A tongue in cheek attitude also occupies many films in the action adventure genre, which Guy Ritchie – famed for his action films – brings to his adaptation of Holmes as a comic mad scientist. Films in general offer us a dispensary of information about Holmes that the novels cannot, and the mis-en-scene in Ritchie’s film offers us visual clues about Holmes’s personality and lifestyle that have no substantial counterpart in Doyle’s text; they depict him as an eccentric engrossed in scientific experiments just the same. Once Watson enters at the start of the film, the room says it all – Holmes lives in chaos. He sits in complete darkness, and screams when Watson draws back the curtains, letting sunlight in. Ritchie has filled the room with nondescript bottles, beakers, and other contraptions. In a waist-level close up taken from behind Watson as he tries to tidy Holmes’s desk, we see him handle a gun, a magnifying glass on a metal stand, and a pile of random papers and letters. This overstimulation/saturation of miscellany for the spectator characterizes Holmes as extreme – in personality, in dedication to experimentation, and in awareness of the material reality/perception relationship.

The dialogue offered in the scene, as it does in the novel, complements the mis-en-scene. When asked what the matter is, Holmes responds with “My mind rebels at stagnation. Give me problems, give me work. The sooner the better.” As he says this, he comes crawling out from the shadows, and we see that his hair is a mess, and he’s wearing a ragged robe. All signs point to
mad scientist behavior – Holmes is so dedicated to whatever random and obscure experiments he conducts in order to pass the time between cases that he neglects his personal hygiene, his dress, and the sun. This statement is an interesting contrast, though, to the original use of this line in *The Sign of Four*. In the novel, when Watson tries to convince Holmes that taking cocaine is harmful, he responds with, “My mind,” he said, “rebels at stagnation. Give me problems, give me work, give me the most abstruse cryptogram or the most intricate analysis, and I am in my own proper atmosphere. I can dispense then with artificial stimulants” (Doyle 216-217). It’s somewhat odd that Ritchie would not include the use of cocaine in this scene, let alone the entire film. The most compelling explanation would be that this makes Holmes a more family friendly character for the sake of the ratings board or projected target demographics. Thanks to intertextuality, however, some viewers may read between the film frames and remember that the dialogue spoken by Robert Downey Jr. in this scene comes from Doyle’s *The Sign of Four* or that a major, successful adaptation only a few decades earlier, *The Seven-Per-Cent Solution*, spent a lot of time showcasing Holmes’s cocaine addiction. The viewers who are completely unaware of either intertext miss the context of the scene that highlights Holmes’s interest in chemistry. On the other hand, there is still more than enough in the film as a whole that represents Holmes as a mad scientist.

The scenes that exist purely to characterize Holmes as a comic and loveable mad scientist continue throughout. Watson, much later in the film, walks in on Holmes plucking violin strings while staring intently at a tube full of flies. He explains that he has discovered that upon playing “atonal clusters” as opposed to a chromatic scale, “they fly in counter clockwise, synchronized, concentric circles.” He stares so intently at the flies that he does not even notice Watson opening the jar and letting them loose. After Holmes confesses that it took him six hours to gather all the
flies in the tube, Watson without hesitation releases them, to Holmes’s dismay and the audience’s laughter. Sometimes the mad scientist characterization comes through quick one-liners from Watson, such as “You do know what you’re drinking is meant for eye surgery.” While these moments often provide comic relief during the film, they do not lessen the effect. Spectators, while laughing at Robert Downey Jr.’s humorous performance, come to understand Holmes as the character who has the keenest sense of perception and material reality. The dog, the flies, and eye surgery fluid are all part of experiments for which scientific discovery is the only goal. All Holmes wishes to do in these moments is to use scientific tools and methods to discover aspects of material reality that are not readily available to his own natural senses.

The way in which critics respond to Ritchie’s film is indicative of the franchise phenomenon because they do not acknowledge the parallels between Doyle’s Holmes, the comic mad scientist, and Ritchie’s Holmes. Many reviews of the film upon its theatrical release described the film as a major departure from Doyle’s novels and short stories.\footnote{Michael O’Sullivan of the Washington Post, for example, argues that “Guy Ritchie does not care about you [Holmes fans]” because he draws more from other popular film genres than Doyle’s canon: “What else have we got? Would you believe a dash of James Bond, a pinch of Batman and a sprinkling of kung fu? For Downey's Holmes is not just a master of disguise, deductive reasoning and scientific inquiry. Here, he's also a prize-winning pugilist whose brain gets only slightly more of a workout than his fists” (O’Sullivan). Most reviews like this one would fall under the rubric of what scholars in adaptation studies call the “fidelity studies” (Diamond 95) or the “fidelity model” (Geraghty 193). By invoking the name Sherlock Holmes in the film’s title, Ritchie invites a comparison to Doyle and to previous film adaptations of Doyle’s work.} These reviewers, whether they realize it or not, actually refer to both Doyle’s texts and the Rathbone film adaptations. Descriptions of Holmes as a prizefighter, boxer, martial artist, or swordsman—all of which Ritchie highlights—litter Doyle’s stories. The reviewers point to the supernatural themes of the film as different than Doyle’s vision when it in fact is the subject of many texts, as this study has already discussed. This is not to say that Ritchie is cognizant of his choices and their effect on the Holmes franchise. Rather, he is the product of adaptation’s inherent intertextuality and likely not self aware enough about the adaptation process to make points
about Holmes and the Doyle canon intentionally. Nonetheless, his film provides an occasion to examine a cultural mediation unique to Holmes.

Ritchie’s film serves as the best recent example of intertextuality because his use of multiple source texts was actually discussed in the media. Numerous reports from news sources in anticipation of the film’s release said that Ritchie based his film on a comic book written by producer Lionel Wigram and drawn by John Watkiss.131 There have since been many debates in the Internet entertainment news world about whether or not this comic book or graphic novel actually exists. The Watkiss images do exist; they now appear all over the Internet, but they originally appeared in a pamphlet of concept art drawn in a comic book style, created for the studio pitch of the film. Even though this text doesn’t circulate in any official capacity (it never saw formal publication), can we call it a “source text”?

The fact that this series of images can be found on the Internet, or even that they have been mentioned in interviews and news articles about the film, immediately positions them as intertexts that signify on not only the film itself but the film’s adaptation of Holmes. Many film reviewers complain that Ritchie’s Holmes is too much of an action hero, but, in the context of the comic book genre, this makes more sense. Guy Ritchie’s previous films function as yet another intertext. When viewed in conjunction with his other films, such as Lock, Stock, and Two Smoking Barrels (1998) or Snatch (2000), both considered gritty yet playful films, Ritchie’s Sherlock Holmes, again, makes a lot more sense, as a film that operates within several genres in addition to detective fiction or mystery – the caper film, the crime thriller, the buddy film, and British comedy, to name a few. Whether it is the caper film genre, the comic book genre, the ghost story genre, or the detective fiction genre, there are always several genres making

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131 See BBC News; and Fleming.
meaning, adding meaning to a film adaptation simultaneously, each with its own set of conventions, expectations, and rules.

The producers of the film want to have it both ways. They want to be different with a fresh take on an old character, departing from Doyle, but also reaping the benefits of his “brand.” While the narrative of the film itself does not appear to recognizably resemble any one of Doyle’s plots, the film’s end credits, presented in sepia, in the style of early photography and film, still make a point to say that “Sherlock Holmes and Dr. Watson were created by the late Sir Arthur Conan Doyle and appear in stories and novels by him.” On the one hand this statement invites spectators to look for the “original” stories and the “original” characters in this adaptation. A close reading of the statement can imply otherwise; this end credit inter-title at no point uses the more commonly invoked phrases “based on” or “adapted from.” It merely states that the characters that appear in this film also happen to appear in stories and novels by Doyle. There is no implied adaptive process, as Doyle is only credited for the characters of Holmes and Watson and not for the film’s narrative. Perhaps this accurately reflects the nature of adaptation in the shadow of a longstanding franchise. Ritchie acknowledges here that, in the twenty-first century, different approaches to the same character effectively spiral off in every direction while still relationally reliant on an authentic point of origin.

In addition to portraying Holmes as a mad scientist as Doyle’s novels do, Ritchie’s film uses the supernatural and film editing to conduct its own experiments in realism. The film, like a novel such as The Sign of Four, occupies both the ghost story/horror genre and that of a realist novel because it carries on as the former and ends more recognizably as the latter, leading the reader/spectator to second guess any beliefs or assumptions he or she has. A representative example of two versions of the same event in the film would be the scene in which Standish, a
dissenting member of the Four Orders, spontaneously combusts. The way in which the scene has been shot and edited creates a cinematic illusion that supports the supernatural, but then Holmes dissects the scene to undermine a spectator’s indulgence in the illusion. This dual presentation of the same scene makes viewers of the film aware of how film constructs reality, encouraging them to adopt Holmes’s “scientific use of the imagination” (Doyle 83). Like the “rache” scenes from *A Study in Scarlet* that we will examine shortly, the “correct answer” could be either version of the scene – the point is that both scenarios were *possible* regardless of the probability of each.

The first time spectators encounter this scene, Ritchie does everything he can to cinematically establish cause and effect between Blackwood’s evil will and the pyrotechnic event. The camera begins with a medium long shot of Standish and cuts to a medium close up of Blackwood. We then get a longer shot of Standish drawing his gun, this time with Blackwood’s face in the foreground, glaring. After a few reaction shots in response to the sudden fire, there is a close up of Blackwood glaring, with an engulfed Standish in the background. His downward gaze establishes a relationship between Blackwood’s interiority and Standish’s fiery demise, thus creating a naturalized cause and effect. The camera, through this series of shots and its inclusion of Blackwood’s face in the frame in order to establish an association between the him and the fire, tells the audience that they have just witnessed supernatural powers at work. Spontaneous combustion on its own may be a scientific phenomenon, but the causality established between Blackwood’s gaze and the fire makes the event a supernatural one.\(^\text{132}\)

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\(^\text{132}\) One might attribute this editing to the demands of classical Hollywood cinema, whose continuity editing convention dictates that there always be psychological motivations for actions, but the fact that there are two different presentations of the same scene indicates that Blackwood’s close up in the foreground demonstrates more than his psychological state.
Only later do we get an explanation of the actual mechanics of Blackwood’s actions. Ritchie ends the film with Holmes exposing the tricks up the villainous Lord Blackwood’s sleeve in a climactic fight scene atop a partially constructed London Bridge. He explains to Blackwood (but really to the audience) how Blackwood set a man aflame with only his mind, how Blackwood paid a guard to act possessed, how he broke the slab that covered his “grave,” how he drowned his father in a bathtub without being there, and how he faked his own hanging. Blackwood’s impending doom, as he slips off the bridge, builds tension while Holmes offers exposition, saying, “There was never any magic, only conjuring tricks.” (His use of the word “conjuring” here certainly reminds a reader of Wells’s *The Time Machine* – see chapter two.)

When he gets to Standish’s death, he explains, “The death of Standish was a real mystery, until you used the same compound to blow up the wharf. An odorless, tasteless flammable liquid, yet it burned with an unusual pinkish hue. Did Standish mistake it for rain? All it took was a spark. A simple rigged bullet in his gun – ingenious.” Throughout this monologue Ritchie intercuts footage from the earlier scene to show spectators a series of flashbacks – Watson warning Holmes on the wharf, Riordan’s laboratory (first with Holmes investigating it, then with Riordan actually experimenting in it), Standish walking up to the temple, Standish firing his gun and subsequently catching on fire, and Riordan putting the rigged bullet in Standish’s gun. Throughout this flashback-filled montage, in stark contrast to the version of the scene presented earlier, there is no sign of Blackwood and therefore no way for the spectator to attribute the actions to him.

If one looks closely at the counterpart shot to the one presented in version one of the scene, which includes Blackwood’s face in the frame with Standish, we see that the shot has been reframed such that the gun and not Blackwood is the subject in the foreground. Holmes’s
voiceover explains that Blackwood placed a faulty bullet that would explode upon firing the gun and so in kind the camera shows the gun and not Blackwood as the cause of the fire.

Based on these scenes one can see how Ritchie, like Doyle, deploys multiple genres in the same narrative; his Holmes case contains both a supernatural and a realist narrative just as *The Hound of the Baskervilles* does. Not only does this challenge the reviewers who might question the supernatural happenings in the film as inauthentic, but it also shows us that to expect a Sherlock Holmes case to obey the laws of a single genre – a “detective story” is nothing short of absurd. Genre, despite being a category designed to include and exclude, is always already hybrid, multiplicitous, and malleable, rules made explicitly to be broken. The challenge for scholars in adaptation studies to resist indicting adaptations for “straying” from a source text – whether that source text is the “original” novel, an illustration, or other film adaptations – remains. Even though scholarship in adaptation has pronounced fidelity studies passé and instead explores issues of intertextuality, the film industry and media still cling to this evaluative mode.

**BBC’s Sherlock**

The BBC’s *Sherlock*, like Ritchie’s film, nods towards the mad scientist persona Doyle cultivates in a comic way. As Scotland Yard searches 221B Baker Street in “A Study in Pink” (pink rather than red because the victim dresses entirely in hot pink), Detective Sargeant Sally Donovan walks into the scene from the next room with a fish bowl of eyeballs. When she says, disgusted, that she found them in the microwave, Holmes responds by saying they were for an experiment. In “The Great Game,” Watson opens their flat’s refrigerator and jumps when he sees a severed human head there. Holmes explains that he got the head from the morgue and needs it to study the coagulation of saliva after death.
There are also several scenes throughout the show that take place in a lab full of microscopes and beakers and the camera cuts to inserts of bacteria to show that Holmes studies microscopic particles to solve cases. In “A Scandal in Belgravia,” for example, Holmes hovers over Watson at his desk while holding a beaker full of green liquid and a blowtorch, wearing goggles. In an earlier scene Watson explains that no one reads Holmes’s website while Watson’s blog enjoys immense popularity because Holmes only writes about esoteric scientific subjects, like “240 types of tobacco ash.” All these scenes provide the mad scientist dimension to Sherlock’s character, showing that he, as Doyle’s Holmes, cannot help himself when it comes to experimenting for its own sake. The modernization of the series, however, does give the use of science a quality much more evocative of the television procedural crime drama genre – including shows like *CSI, Law and Order, Bones, NCIS*, and others – that has made forensic science so prevalent in contemporary popular culture.

Unlike Ritchie’s film, which takes place in Victorian London, the BBC series *Sherlock* provides a modernization of Holmes’s cases in addition to an adaptation of Doyle’s work. Holmes lives in the twenty-first century and texts, emails, and conducts research for cases on the Internet. After Watson and Holmes’s initial meeting, for example, the camera cuts to a scene where Watson receives a series of text messages from Holmes and then proceeds to type “Sherlock Holmes” into a Google search. Due to its modernization, the smart phone saturated series does not present many cases that have supernatural implications – the episode titled “The Hounds of Baskerville” is the only one to air so far.

This adaptation of the hound’s tale, however, has been updated in such a way that the relationship between science and the supernatural shifts. Instead of a family name Baskerville is a top-secret government testing facility rumored to have produced a genetically mutated dog.
Instead of science dispelling the supernatural, as it does in Doyle’s text, science takes the place of the supernatural – genetic mutation becomes the notion to be believed or not believed. Some characters in the episode believe the urban legend of the hound to be true, but they at no point believe that it is a product of the supernatural – only science. This makes the debate for the reader about whether or not one should believe that science has the ability to produce something so unnatural. In the end, there is no dog, only a hallucinogenic drug designed for biological warfare, causing anyone exposed to it to become paranoid and imagine that they see a monstrous dog.

The cinematic form of the television adaptation allows director Paul McGuian to shoot scenes in the style of a classic horror film, as if spectators are meant to suspend their disbelief and think the mutated dog is real. The most substantive example of this occurs when Holmes locks Watson in a lab to test out the hallucinogenic drug he suspects to be the cause of the hound’s legend. The audience has yet to hear Holmes’s theory on the drug when the camera shows Watson’s hallucinating POV, which includes growls and flashes of shadow. In sharing this POV they also, alongside Watson, think the hound is real. Before Holmes figures out a drug has been used, he finds himself under its influence. Normally cool and collected, Holmes genuinely seems frightened to spectators unaware of the drug’s effects. In a moment that seemingly breaks any rule Doyle has made for his detective’s behavior, Holmes makes a shocking statement: “I’ve always trusted my senses and I saw the hound so what does that mean?”

The BBC series’ close, scene for scene adaptation of *A Study in Scarlet*, renamed “A Study in Pink” because the victim wears bright pink, aptly demonstrates Holmes’s “scientific use of the imagination” (Doyle 83), the open-mindedness that allows him to have a more holistic and
therefore superior conception of seeing. When characters such as Lestrade and Sergeant Donovan react to Holmes’s performance as a criminologist, it is not awe but bewilderment or repulsion that they exhibit because he is such a weird guy. Doyle’s detective is also an oddity, of course, but the other characters treat him as a magician rather than the “freak” that Sergeant Donovan addresses in “A Study in Pink.” She asks Watson if Holmes followed him home, and radios “Freak’s here; bringing him in.” At the end of the scene, when he leaves the crime scene, she actually calls Holmes a psychopath and says that one day a body he examines will be his own murder victim because “psychopaths get bored.” In a later scene when forensic scientist Anderson calls Holmes a psychopath, Holmes corrects him, saying, “I’m a high functioning sociopath – do your research.” Holmes’s own words corroborate Donovan’s assessment; he refers to four serial killings as “Christmas” and “finally something fun going on.” Due to these comments implying Holmes’s perversity, his sick and twisted nature, or a more clinical mental illness, the series places much more emphasis on Holmes’s superior intellect as the defining feature of his casework. Watson, in the first episode, constantly calls him “brilliant,” “amazing,” and “extraordinary,” and creators Steven Moffatt and Mark Gatiss, with the help of actor Benedict Cumberbatch, deliver a more arrogant than mystical Holmes. For example, Cumberbatch’s Holmes sends a text message to Watson to come home if it’s convenient, and then sends a second message moments later saying, “If inconvenient, come anyway. SH,” indicating that he’s a person who puts his own priorities above those of others. When trying to persuade Holmes not to pursue suspects on his own, Lestrade says, “I’m dealing with a child.” And finally, Watson ends “A Study in Pink” with the following observation: “That’s how you get your kicks, isn’t it? You risk your life to prove you’re clever,” implying that Holmes’s primary motivation is to remind those around him that he is smarter than they. Benedict
Cumberbatch says that his portrayal of arch dandy Holmes is “both a genius and a madman,” and one can see the sheer arrogance he brings out in his performances. The show’s writing facilitates such a performance: during “A Study in Pink,” Holmes says to the police officers and detectives around him, “Oh, look at you lot. You’re all so vacant. Is it nice not being me? It must be.” He also says, “Dear God, what is it like in your funny little brains? It must be so boring!” and these kinds of jokes keep coming throughout the episode.

Doyle’s Holmes is also extremely arrogant, of course – we see him toying with Watson and Lestrade constantly, but the absence of a supernatural characterization of his powers of deduction highlights how the culture in which Doyle wrote was much more concerned with realism explored through the supernatural. In no way am I arguing that *Sherlock* presents Cumberbatch as a more intellectually formidable Holmes than Doyle’s original depiction, but at no point in the BBC series does anyone describe Sherlock as having supernatural powers. Since *Sherlock* is a modernization that relishes in the twenty-first century as an age of informational technology, the scientific supernatural discourse of the late Victorian era is less relevant.

There are many contemporary films and television series that feature psychic detectives, with a mix of those that dispel and support the supernatural. USA’s *Psych* mocks supernatural abilities by featuring a detective who farcically masquerades as a psychic because his Sherlockian observational skills are not as suspicious to the Santa Barbara Police Department when couched as a supernatural gift; they would suspect him of knowing so much about the crime because he were the murderer, otherwise. Similarly, CBS’s *The Mentalist* follows a con-man who poses as a psychic even though he does not believe in psychic abilities in order to act as a consultant for the California Bureau of Investigation. On the other hand, shows like FOX’s

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133 See PBS’s “Masterpiece Mystery!”
The X-Files and Fringe take the supernatural seriously and feature investigators that take themselves very seriously. The BBC’s Sherlock, in keeping with the anti-supernatural detective trend, never presents Holmes as having unnatural gifts, fake or otherwise. Instead of a witch or a psychic, Benedict Cumberbatch’s Holmes is a “high functioning sociopath” who “gets off” on solving crimes. The characterization of Holmes’s deductive reasoning is entirely different.

Even though it lacks supernatural themes, the BBC series still has lessons in realism to teach its viewers. A comparison between A Study in Scarlet and “A Study in Pink” proves how Holmes’s investigations showcase the instability of the signified and how important Holmes’s open-mindedness to all possible interpretations of observations is to his investigative process. In Doyle’s novel, there are letters written in blood on a corner wall that spell “rache.” Gregson and Lestrade assume the victim died before spelling out the name “Rachel,” but Holmes is quick to correct them. He says, “‘Rache’ is the German for ‘revenge’; so don’t lose your time looking for Miss Rachel”’(Doyle 64). This correction by Holmes shows that to make an observation with one’s eyes does not necessarily constitute accurate “seeing.”

The writers of BBC’s Sherlock reverse this scene so that the forensic scientist, Anderson, suggests “rache” is German for revenge and Holmes, later in the scene, in a manner similar to Doyle’s Holmes, smugly and sarcastically contradicts him, saying that the victim was in fact trying to write “Rachel” before she died. When Holmes mentions a “Rachel,” Lestrade asks under his breath, “She was writing Rachel?” Sherlock mocks him in his reply: “No, she was leaving an angry message in German – of course she was writing Rachel.” Why change this detail in the case? One explanation is that the writers of the show thought that “Rachel” was more believable to a contemporary audience than the German “rache,” or they wanted to characterize Anderson as someone who asserts obscure knowledge to impress others whereas
Holmes, not biased by the social implications of an answer or theory, only cares about correctly converting his observations into accurate perceptions. Whatever the motivation for the change, the lesson for the viewer remains the same. It matters not which answer is right and which is wrong because either way the scene still shows that no accurate conclusion can be drawn by seeing the letters “r,” “a,” “c,” “h,” and “e” scrawled out in the corner of a room. Regardless of which interpretation of “r-a-c-h-e” is correct, Holmes points out that the first explanation thought of, which usually seems the most likely, is not always the right one.

Unlike adaptations of other novels discussed in past chapters, Sherlock Holmes’s continuing presence in popular culture, no matter how variant a form he takes, actually perpetuates the same Victorian realist epistemological lesson: that in navigating reality, one must not rely exclusively on the common senses, and that pinning down and mapping out reality is not a simple task. Whatever form Holmes takes today, whether it be a twenty-first century Londoner, a burlesque Victorian, a cocaine addict, a recovering cocaine addict, or even an OCD American ex-cop, his crime solving skills still prompt us to stop and think about our senses and the material world we desperately want to contain and tame with those senses.134

Perhaps the contemporary version of Doyle’s lesson for Victorian readers can be found in the intertextual discoveries made here. If a contemporary reader of Doyle does not necessarily see the Victorian realist experiment at work then he or she may, upon seeing the BBC’s “A Study in Pink,” be in a better position to receive the realist message. To see that the scene plays out differently in the television episode than it does in the novel and yet makes no difference – the different “right answer” still facilitates Holmes’s solving of the case – may make a reader see

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134 Here I refer to, in order, the BBC’s Sherlock, Guy Ritchie’s Sherlock Holmes, The Seven Per-Cent Solution, CBS’s Elementary, and USA’s Monk.
how either interpretation could have just as easily been a reality in a way that Doyle’s readers
never could have.

The resurgence of supernatural narratives in popular culture is also no coincidence, but
rather indicative of a need of contemporary audiences to contemplate the real and the unreal. The
supernatural is not simply dismissed in Doyle’s novels, but rather is used as a light-hearted way
to explore a serious epistemological unknown. We see that same desire for exploration in the
most recent adaptations of Holmes and in contemporary film, television, and fiction generally.

Materiality itself is the subject matter of Holmes’s experiments. Through his uncanny
abilities, he might give Victorians and contemporary audiences hope, teaching Doyle’s readers
and viewers of adaptations that if they use the technology and scientific tools at their disposal
they can restore their confidence in the correspondence between the material and the larger
epistemological construct called “reality.” Or, in his more comic occupation of the mad scientist
archetype, he might make a mockery of any such hope. The history of criminology that unfolded
at the time of Doyle’s writing makes the former rather than the latter more compelling, as real
scientists and criminologists might have been viewed in the same way Holmes was – as a
paranormal anomaly to some and a chemically doused hound to others. If Holmes is a tragically
comic character, a hyperbolic representation of human abilities that serves as a painful reminder
that reality is just outside of our grasp, then his lesson to readers about the necessity of using
one’s imagination as if it were a scientific tool is lost or in vain.
Works Cited – Introduction


**Works Cited – Chapter One**


Works Cited – Chapter Two


**Works Cited – Chapter Three**


**Works Cited – Chapter Four**


