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## Men under Microscopes: “Medical Gaze” and Homeostasis in Victorian Realist Literature

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in English

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## Abstract

This thesis aims to explore the following questions implicit in four Victorian novels: is the relationship between science and humanities continuously at odds due to fundamental differences in philosophies? Can an understanding of how medicine transformed from an art to a science help bridge the gap between the arts and sciences? As medicine transformed into a science in the nineteenth century, it adopted three key innovations: first, Claude Bernard's experimental method; second, what Michel Foucault later came to conceive of as the "medical gaze"; and third, Bernard's theory of homeostasis. The thesis traces the changes in medicine as inflected across four novels. From Charles Kingsley's *Yeast* (1848) to Charles Dickens' *Bleak House* (1852), George Eliot's *Middlemarch* (1871), and Arthur Conan Doyle's *The Stark Munro Letters* (1895), the representation of doctors, science, and internal balance reflects the contrast between arts and sciences in the nineteenth century. This thesis employs critiques of medicine in literature in an attempt to integrate the studies of sciences and humanities.

## Keywords

Victorian medicine; medical gaze; Foucault; Bernard; Eliot; Dickens; Kingsley; Doyle; homeostasis

## Summary for Lay Audience

Until the late nineteenth century, medicine was considered an art. The debates of what constitutes an art and what makes a science mark key differences in approaches to the disciplines. Through tracing how medicine evolved to become a science, specifically in the nineteenth century, this thesis looks at four novels through a scientific lens. The key questions this thesis explores are how did the evolution of medicine into a science affect literature? Can critiques of medicine apply to literature? Can scientific metaphors extend our understanding of novels?

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# Table of Contents

Abstract .....	ii
Acknowledgments.....	iv
List of Figures .....	<b>Error! Bookmark not defined.</b>
Introduction .....	1
Chapter 1 .....	13
Chapter 2 .....	42
Chapter 3 .....	72
Conclusion .....	97
Bibliography.....	104
Curriculum Vitae.....	111

## List of Figures



Figure 1: Nurse and Patient from the original watercolor drawings (copies of the etchings published in *Bleak House*) done by Hablot Knight Browne (Phiz) for Frederick William Cosens in 1866 (Courtesy of the New York Public Library)

## **Introduction: The Arts and the Sciences**

In 1880 Thomas Huxley, the scientist popularly known as “Darwin’s bulldog,” gave an address for the opening of Sir Josiah Mason’s Science College in Birmingham. Huxley spoke about the importance of scientific education and the changing view of classical education in the nineteenth century. Huxley argues against the previously held notion that literary education expands on life and culture and instead calls on the importance of science for its practical value, especially for those in professional fields. He says:

for those who mean to make science their serious occupation; or who intend to follow the profession of medicine; or who have to enter early upon the business of life; for all these, in my opinion, classical education is a mistake; and it is for this reason that I am glad to see “mere literary education and instruction” shut out from the curriculum. (34)

While Huxley is not calling for the complete annihilation of literary education, he struggles to find its practical value for those in the sciences. He notes that for some occupations, literary education is wasteful and argues for incorporating scientific education: “I find myself wholly unable to admit that either nations or individuals will really advance, if their common outfit draws nothing from the stores of physical science” (22). A clear distinction between educational fields started to grow in the nineteenth century. The development of a college exclusively for sciences that advertised against the sole study of humanities reveals the divisions occurring in arts and science disciplines throughout the century.

However, not everyone agreed with Huxley's ideas. Matthew Arnold replied to Huxley's speech in his lecture titled "Literature and Science" in 1882. Here, Arnold first argues against the notion that literary study is superficial or a mere "smattering" (Huxley 19). He says, "there is always a tendency in those who are remonstrating against the predominance of letters in education, to understand by letters *belles lettres* a superficial humanism, the opposite of science or true knowledge" (Arnold 1). Arnold alludes to the changing sentiment that humanities are of a lesser value than sciences. However, he does not merely argue for the study of literature. He holds that literature is in fact also a science. For Arnold, "all learning is scientific which is systematically laid out and followed up to its sources" (2). In terms of a balance between science and literature, Arnold defines *science* as the process of "observation and experiment." He claims that

everyone knows how we seek naturally to combine the pieces of our knowledge together, to bring them under general rules, to relate them to principles; and how unsatisfactory and tiresome it would be to go on forever learning lists of exceptions or accumulating items of fact which must stand isolated. (4)

For Arnold, science is in the system, not the content. The human mind does not separate the disciplines but instead incorporates knowledge into systems as it requires.

Arnold says, "genuine humanism is scientific" and combines sentiment and science. Arts are not classified according to content; instead, the arts are separated from science due to the lack of known method. When arts incorporate method, arts can teach science.



According to Arnold,

the more that the results of science are frankly accepted, the more that poetry and eloquence come to be studied as what they really are—the criticism of life by gifted men, alive and active with extraordinary power at an unusual number of points; so much the more will the value of humane letters, and of art also, which is an utterance having a like kind of power with theirs, be felt and acknowledged, and their place in education be secured. (5)

Arnold does not fear the loss of literature: as he says, “I cannot really think that humane letters are in danger of being thrust out from their leading place in education, in spite of the array of authorities against them at this moment” (9). The sciences and the arts inform one another, while only the institutions and authorities create divisions. The Huxley-Arnold debate and the appeal to authorities to study either sciences or literature reveal the increasingly two-sided nature of education. Arts and sciences, although independently valuable, were on opposite ends of a spectrum.

Arnold’s sentiments on science reveal the changes that literature was required to adopt. In the nineteenth century, as scientific education rose, literature developed a science of its own, or at least adopted scientific methods. The result was that literature took up scientific debates while science used literary techniques. Despite the opposing views, literature and science were interdependent. In *Literature and Science*, Charlotte Sleight argues that both share a common ground, because scientific facts are not real to humans without representation through words or images so that “even the driest experimental account is susceptible to a literary analysis” (9). If the literature in scientific writing is

crucial to its representation, then science in literary works also plays a significant role in literary analysis.

The field of medicine is particularly caught up in the debates between science and literature. In 1878, Joseph Kidd, physician to the Prime Minister of the United Kingdom, wrote a book titled *The Laws of Therapeutics: or the Science and Art of Medicine*. Kidd's purpose in writing was to "ascertain if medicine can be brought into the position of an exact Science, or if it is to remain merely an Art" (2). Kidd's language implies a hierarchy of the arts and sciences. For medicine to be "brought into the position of an exact science" reveals the higher rank that science holds, whereas to remain "merely" an art lacks prestige. Kidd claims that "in the earliest stage of society, there are many arts, but no sciences. A little later, science begins to appear. Every subsequent step is marked by an increased desire to bring art under the dominion of science" (58). Kidd describes an evolution, with art being the "lesser" form of the more evolved science. He acknowledges an "increased desire" for art to become a science so that science is the ultimate aim.

Perhaps because the dominion of science came with rank and prestige, novelists in the nineteenth century began to incorporate scientific methods and principles into their arts.

This thesis will examine important scientific revolutions that changed medicine from an art to a science to explore ways in which four nineteenth-century novels comply with or reject scientific ideals to maintain or transform their art forms. The realm of science in this study is limited to the method of observation and experiment, while literature is limited to four novels published in the era. The thesis will follow the evolution of medicine and doctors in the nineteenth century to consider the distinction between science and art. The chapters will examine three scientific breakthroughs that occurred in

medicine: the experimental method, the medical gaze, and homeostasis. While the medical profession incorporated these scientific methods to advance their practice, this thesis will consider how novels represented these ideals.

The nineteenth century is ideal for studying this dichotomy because of its emphasis on scientific reform. This thesis considers only the changes within British nineteenth century, particularly the Victorian Era from 1837-1901 A.D., to demonstrate the evolution of one society as it institutionalized practices and created divides between standards of arts and science. While science is a broad topic, this thesis focuses on medicine for two main reasons. First, medicine became an institutionalized science during this time. While science in medicine was not unique, it was not the standard practice. Multiple types of practices could co-exist until medical reforms obtained a monopoly on the practice of scientific medicine. The nineteenth century was a critical period of medical change, and thus medical reform can function as a lens through which to see how literature conformed to or resisted scientific thought. Secondly, literary works often included medical practices and doctor characters. The medical content in novels allows a closer look at how science led to changes not only in the plots of novels but also in the novel form itself. The thesis aims to explore whether there is a direct parallel between the representation of doctors and the aims of the novelist.

Scholars have extensively studied the representation of science and medicine in Victorian literature. For example, in *The Doctor in the Victorian Novel*, Tabitha Sparks examines plots which incorporate doctor characters and the changes that occur due to the introduction of science into medicine. Sparks argues that science led to a failure of the classic romantic plots in Victorian novels. In *Revising the Clinic*, Meegan Kennedy

suggests that “nineteenth-century literary and medical genres—in particular the novel and the case history—shared a central concern over different modes of seeing and stating, but diverging disciplinary norms constrained their use of these practices” (2). Unlike Sparks, Kennedy explores the relationship between clinical practice and novels in Victorian literature that does not directly contain medical content. According to Kennedy, “nineteenth-century novels may employ clinical observation and representation even where medicine is not strictly at issue” (1).

The nineteenth century is a critical period in which to study the integration of science and literature because the lines between the arts and sciences were not yet distinguished.

Debates regarding what science entailed and whether medicine qualified as a science became popular points of debate. Scientific theory devoid of literary analysis undermines its potential. In medical journals, patient histories used elaborate prose, while anatomical diagrams relied on intricate artwork and novels that utilized science to engage readers and physiologically change their thought patterns. Literary analysis devoid of scientific methods portrays only half of literature’s potential. Meegan Kennedy suggests that “clinical methods of observation and representation offered writers some useful and powerful strategies, conveying a sense of rigorous scrutiny, careful description and narration and professional knowledge” (1). The arts and sciences had a porous membrane. Advances in the methods of clinical medicine led to changes in literature.

The thesis uses four Victorian novels as primary texts. Charles Kingsley's *Yeast* (1848) and Arthur Canon Doyle's *The Stark Munro Letters* (1895) bookend the Victorian era as novels not considered in earlier discussions on medicine and literature. Kingsley’s *Yeast* is his first novel and due its lack of popularity it is not widely studied in critical literature

though it offers insight into societal changes on science. A review of *The Stark Munro Letters* appears in the *Medical and Surgical Reporter* in 1896 in which anonymous writer ALB says that “so long as the doctor of fiction remains in the obscurity of a minor part, the flaws of his makeup are not conspicuous” however when the doctor character is the main part of the plot, “the defects are glaring” (153). While Yeast represents the typical fiction with doctors in the background, Doyle’s novel puts the doctor figure in the center to give a closer look at the changes occurring in medical practice. Charles Dickens' *Bleak House* (1852) and George Eliot's *Middlemarch* (1871) both have well-known doctor characters but Dicken’s doctor, Allan Woodcourt, fits into the background of the plot while Eliot uses Tertius Ludgate as a main character thereby highlighting the effects of changes in medicine.

Michael Foucault’s *Birth of the Clinic* (1963) and Claude Bernard’s *Experimental Medicine* (1865) function here to show how the sciences and the arts diverged into distinct disciplines. Foucault’s criticism occurs in retrospect. He reflects on the changes that occurred in medicine specifically during the nineteenth century and develops the idea of an emerging medical gaze in the nineteenth century that remains persistent in medical practice today. Bernard’s work as a physiologist occurs in the middle of the century as a divide between the first half of the century when medicine was an art to after experimental methods converted medicine into a science.

Using the four novels for their diverse doctor characters and medical representations, this thesis considers the work of Sparks and Kennedy and offers new insight into what Kennedy calls the “diverging disciplinary norms” that emerged in the nineteenth century (Kennedy 2). The novels in this thesis are from different times in the century and reflect

the evolving nature of science and literature. The first chapter uses Sparks' approach to comment on how doctor roles changed in the Victorian novel as scientific thought emerged. The second chapter expands on Kennedy's use of visual representation in novels and applies a reading of Foucault's medical gaze in the four novels. While Kennedy discusses novels from Victorian authors that do not have medical content, this thesis will consider the medical gaze of doctor characters in novels. Finally, the third chapter will draw on Claude Bernard's concept of the "milieu interior," referring to the body's internal state and the internal networks created in the four literary works. This thesis aims to contrast the role of novelists and doctors, both as artists and scientists, and to demonstrate how Victorian literature incorporated scientific techniques of observation and experiment.

### **A Method for Truth: Novels and Experiments**

In 1865, Claude Bernard, a French physiologist, published *An Introduction to the Study of Experimental Medicine*, one of the first publications to establish a scientific method for medical practice. Bernard argues that "the experimental method is concerned only with searching for objective truths" (28). He says that "medicine is turning toward its permanent scientific path," indicating that medicine was not originally a science but that a process is underway that will entrench science into medicine (1). The process of science incorporates experimental methods, which Bernard says are "nothing but reasoning by whose help we methodically submit our ideas to experience—the experience of facts" (2). Therefore, it is reasonable to assume that the process involved in turning medicine into a science involved incorporating a method that seeks to arrive at the truth.

What Nicholas Dames calls “the physiology of the novel” is a theory positing that literary criticism was in direct conversation with the advances in human physiology. According to Dames, the Victorian novel was so methodically constructed, much like an experimental instrument, that “the Victorian novel was a training ground for industrialized consciousness” as novels “engaged [in] a complicated interplay with the scientific criticism of the time” (7-8). Dames also notes that such an effort did not go unnoticed even in the nineteenth century as scholars like G.H. Lewes studied the novel form as a scientific artifact. Lewes was especially interested in a scientific approach to literary analysis, arguing that “all literature is founded upon psychological laws and involves principles which are true for all peoples and for all times” (Dames 8). A few scholars, like Lewes, set out to determine the biological and neural impulses behind novel reading, and as Dames suggests, “physiology was a metalanguage of [the] nineteenth century” (39). For Lewes, the powerful truth of the novel was in its science, but novels sought truth in many other ways.

In the Preface to *The Tenant of Wildfell Hall* (1848), Anne Brontë responds to the criticism that her novel is too controversial by stating, “I wish to tell the truth for truth always conveys its own moral to those who are able to receive it” (39). Brontë’s justification for revealing the brutal reality of alcoholism and abuse is that such a revelation offers the truth, which she terms a “priceless treasure”:

But as the priceless treasure too frequently hides at the bottom of a well, it needs some courage to dive for it, especially as he that does so will be likely to incur more scorn and obloquy for the mud and water into which he has ventured to plunge, than thanks for the jewel he procures. (39)

According to Brontë, the pursuit of truth requires getting into the “mud” and will involve dirtiness and criticism. She employs a method of displaying truth by removing fantasies and representing facts. She aims to show characters and people as they appear, even if she must “incur more scorn.”

In 1824, *The Lancet* reported on a surgical medical student who was found guilty of taking a body from a graveyard. The reporter writes that such convictions “excite the utmost indignation in the minds of those who are anxious for the advancement of medical knowledge” (135). The author claims that the bill against dissection “has operated to the serious and irreparable injury of the medical student, by depriving him of the incalculable advantages arising from dissection” (135). In their ambition to advance medical knowledge, the medical community saw the dissection of human bodies just as Brontë saw the truth in the “mud.” Truth involved scorn. Despite public sentiment, novelists and doctors saw their pursuit of the hidden truths of humanity as a noble duty. The anonymous author writes, “if dead bodies cannot be procured, it will be impossible for the pupils to learn anatomy, and without anatomy, neither surgeons nor physicians can practice with the least prospect of benefitting their patients” (*Lancet* 135). The practice of dissection is for the benefit of the entire humanity. The passion for the truth in novels parallels the striving for truths and advancement in the sciences.

Literature and science shared a common ground of searching for truth but differed in their methods. Charlotte Sleigh argues that “the most important human motivations to do science aren’t so far away from literary ones: they are to answer life’s big questions,” such as the meaning and purpose of life’s phenomena (7). While sharing a common goal, the arts and sciences employ different methods. Arts focus on emotion and allow for the



scope of fantasy while science limits itself to objective facts and aims to represent things exactly as they are. As the rules of the disciplines became more stringent, we see less fantasy in arts in favour of verisimilitude. In *Fiction as Research Practice*, Patricia Leavy argues that while verisimilitude is useful in fictional writing to make the reader feel connected to the content, it is “exceptionally important in qualitative research” because “researchers have an ethical obligation to portray people’s lives responsibly” (Leavy 39). In their adherence to portraying people’s lives accurately, Victorian novelists also acted as researchers conveying facts. They adopted scientific ideals of representing facts. Yet, novels were not considered scientific writings.

Kennedy argues that “literary texts encouraged an ingrained skepticism in realist novels about our ability to see and communicate reality, as well as a laborious collection of factual detail to make up for our inherent limitations” (8). While literature acknowledge the limitation of the visible world, science embraced the visible to arrive at truth.

Literature aimed to present truth using facts with skepticism, but science presented facts with confidence. Skepticism in scientific writing was generally condemned in the nineteenth century. In 1857, Alfred Collinson, a Victorian doctor, wrote in *The Lancet* that “the art of medicine itself is in a transition state” (*Lancet* 389). However, due to medicine taking a lead in people’s health, Collinson felt it was inappropriate to publicly reveal the limitations of medicine:

I grant that the great question of the value of our art in its absolute curative agency, may be an open inquiry amongst ourselves, and a most legitimate subject for discussion, and even pure expectancy a reasonable matter for the judgement of

the professional mind to entertain; but I see not advantage in openly discussing these grave questions before a doubting and ignorant audience such as the public.

*(Lancet 390)*

The difference then between the writing of literature and the writing of medicine is that medicine needs the public trust to continue its practices. Within itself, medicine also acknowledges its limitations, but these discussions threatened the enterprise. For people to accept the doctor's gaze and adhere to treatment regimens it was essential that they believe the myth of "its absolute curative agency" even if this was debated within the institute. Literature encouraged skepticism and opened itself to interpretations while medicine, as a science, closed itself off from public skepticism. When novels represent the medical field, they allow the same skepticism to apply to the science. Chapter 1 explores how each novel represents the doctor and sciences.

## Chapter 1: Medical Representation and Reform in Novels: A Changing Narrative

The view of a medical man, when he has a problem in humanity to solve, seldom ranges beyond the point of his dissecting knife. – Wilkie Collins, *Armada*, 1864

The shift in medicine led to a change in Victorian literature. George

Eliot's *Middlemarch* is acknowledged by historical critics to accurately reflect pre-

Victorian and Victorian medical practices (Carpenter 10). The narrator in Eliot's novel

comments, "now, at the end of 1829, most medical practice was still strutting or

shambling along the old paths," suggesting that medicine lacked method and systems.

The implication of "strutting" indicates pride in the practice, while "shambling" implies

that despite high confidence, treatments lacked validation (Eliot 139). The narrator

mentions the fact that "the heroic times of copious bleeding and blistering had not yet departed, and so at this time, treatments were not based on evidence, and instead

"disease, in general, was called by some bad name and treated accordingly" (Eliot 139).

For most townspeople, the "professional practice chiefly consisted in giving a great many

drugs" and for this reason "the public inferred that it might be better off with more drugs

still if they could only be got cheaply, and hence swallowed large cubic measures of

physic prescribed by unscrupulous ignorance which had taken no degrees" (Eliot 136-7).

In claiming that the pre-Victorian practices of pill-making were laced with "unscrupulous

ignorance," Eliot, writing from a time after the Medical Reform Act of 1858, suggests

that medicine needed educational reform that was rooted in academic degrees (137). Eliot

also represents the social conflict with the introduction of doctors and hospitals. One

townswoman of Middlemarch, Mrs Dollop, "became more and more convinced by her

own asseveration, 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 415). There was a general fear of doctors using bodies for the purposes of research (medical men were charged for snatching bodies from graves as will be discussed later), so that characters such as Mrs. Dollop represent old ideas and fears, while medical reforms were legalizing dissections for research. The new knowledge that disease was treated based on degrees and science was not a comfort to a public who were used to secret cures from unknown potions. Science was associated with a new access to bodies that seemed to cross limits. The medical representation in *Middlemarch* will be discussed later in this chapter, but Eliot here demonstrates the progression of the social attitudes towards the medical profession.

### **Victorian Realism: The Novelist Doctor**

*Middlemarch* was not the only novel to reveal changing sentiments toward medicine and science. This chapter will look at four Victorian novels, Charles Kingsley’s *Yeast* (1848), Charles Dickens’ *Bleak House* (1852), George Eliot’s *Middlemarch* (1871), and Arthur Conan Doyle’s *The Stark Munro Letters* (1895), to evaluate the impact of scientific thought in literature and trace the evolution of the changing nature of medicine. Both the arts and medical practices were based on skill and intuition. However, as methods of science reached medicine, literary works shifted the focus of fiction to present the world more realistically.

To understand the intimate connection between science and literature, it is important to understand the literary response to advances in sciences. Victorian literature placed a great emphasis on representing the reality of the world. Although the exact definition of realism is debated, Caroline Levine notes that realist fiction “rejected allegory and symbol, romantic and sensational plots, supernatural explanations and idealized characters, and opted instead for the literal, credible, observable world of lived experience” (84). During the rise of science as a standard of practice, novels incorporated more realist portrayals of society in lieu of fantasy and allegory.

According to Pearl Brilmyer, “scholars of nineteenth-century literature and science have shown how the representational aims of the realist novel were informed by the scientific discourse of the time, which likewise confronted problems of objectivity, reference, and mimesis” (5). It is no coincidence that realism emerged in the Victorian era alongside the introduction of the scientific method into medicine. A Victorian realist novel may be examined for its historical accuracy and works of fiction from the time are primary sources for context of the era, at least in part because the novel showed the significant changes in medical history. The novel began to record observations of humanity to capture the truth. Victorian novels further blurred the lines between the arts and sciences, as they dealt with facts of human life, society, and science.

In *Worlds Enough*, Elaine Freedgood argues that “realism, through telling, that is, through narration, organizes the social world rhetorically, making what would otherwise be mysterious into something coherent” (24). Victorian medicine aimed to do the same. It took the mysterious body and organized it into a system that now viewed the body as an amenable structure. In this way, the sciences and the arts both tried a method of control

through systems. The role of a scientist, through study and dissection, became to identify and analyze the normal human body to establish medical knowledge of physiology. As Michel Foucault suggests in *The Birth of the Clinic*, it was in the nineteenth century that “the patient’s bed to become a field of scientific investigation” (xv). The doctor’s role as a scientist primary involved data collection that followed an organized pattern turning the once mysterious body into a series of known facts.

Just as the Victorian doctor took on a scientific role to first establish a normal that could then be used to compare diseased conditions, so Victorian literature took on the deviations from the normal. While this idea will be further explored in discussing the homeostasis of novels in the final chapter, here it is important to note that the novelist takes on the same role as the doctor-scientist. Pearl Brilmyer calls this “ethological realism,” which “is founded on the premise that the description of reality is never an ethically neutral act, entangled as it is always with normative theories about how the world could or should be” (183). The doctor’s analysis is as surrounded by normative theories as the world built in novels. Both first record the natural observations and within their narrative forms prescribe remedies according to an overarching theory.

### **The Scientific Novel: Novels as Experiments**

The intricate connection between experiment and medicine predates the Victorian era by many centuries as neither scientific method nor experimental techniques are new to the nineteenth century. As early as the thirteenth century, Roger Bacon posited that “*sine experientia nihil sufficientier sciri potest*” (without experiment nothing can be

sufficiently known). In fact, Bacon was recognized in Oxford as “the wonderful doctor who by the Experimental Method extended marvelously the realm of science” (Sidebottom 244). Most medical research depends on the very basic principle of providing a controlled environment to record outcomes that may be later replicated in the real world. Scientific experiment incorporates intuition, it modifies itself based on reactions, and it manipulates elements for a desired outcome. In taking up the scientific method into the medical profession, doctors incorporated the experimental method, not as a series of steps, but as a series of manipulations and observations of reactions. The human body became a platform to test their hypothesis with certain prescriptions, and each new body became a data-creating entity. Medicine then became the bridge between the arts and sciences, incorporating natural intuition with method. The change that occurred in the nineteenth century is that the practice of experiment became the norm of medicine. Experiment became entrenched into medical practice through law.

Alongside their realist portrayals of society, Victorian novels also became methodological experiments. The world created within the novel became a petri dish mixing human characters to create situations that predict outcomes in the real world. The readers experience the concoction and gain perspective, emotions, and character insights through the reading impacting their lived reality. This lived reality is then reflected in novels creating a cycle where novels can directly influence the world they portray. Most experimental science involves the same pattern as a novel. In *The Science of Character*, Pearl Brilmyer suggests that the novelist “used fiction to explore the dynamic, material processes through which character is formed” so that perhaps the character formation can be replicated in the reader’s world as well (4). As a medical practitioner embarked on the

role of a scientist, they created stories of illnesses and predicted outcomes of healing in prescribing medication and observing the results. Similarly, a novel creates a complex problem arising from the interactions of characters, and in altering one or many of the characters the novel finds its resolution. While the experiment of a doctor is more obvious, the experiment of a novelist is subtle. Brilmyer argues that “fiction, when it stages encounters between imaginary people in imaginary situations, produces knowledge about reality. As its initial conjectures cohered into hypotheses, it developed into a historically attuned account of a particular time and place” (5). The realist novelist employs a scientific method in their writing and fiction becomes their experimental platform.

Equating an artist with a scientist was controversial in the nineteenth century. As medicine shifted towards scientific models, it sought higher esteem in circles of knowledge. In 1824, the Society of Physicians wrote an official letter to the Editor of *The Lancet* stating that the journal contains “fearless exposure of arts by which the dignity of the medical profession is lowered” (542). As medicine incorporated science it became “higher” and consequently all forms of art were deemed lower. The incorporation of science became a matter of dignity for the doctor and a way of distinguishing science from the arts. This notion persisted through the middle of the century. In 1858, *The Lancet* cited a lecture titled “On the Advance During Modern Times of the Science of Medical Treatment,” in which doctors reflect how medicine was shifting to a form of practice which is “raised above the condition of an art and ranks amongst the strict sciences” (Headland 27).



In an essay titled “The Experimental Novel,” Emile Zola uses Claude Bernard’s *Experimental Medicine* as the grounding theory for novels. Zola chooses medicine as the primary focus because “medicine, in the eyes of a great number of people, is still an art as is the novel” and it was experimental method that advanced medicine into one of the sciences. Zola contends that “if the experimental method leads to the knowledge of physical life, it should also lead to the knowledge of the passionate and intellectual life,” concluding that “the experimental novel is the goal” (2). The urge to make novels on par with medical sciences called for novels to take on a more rigorous form so they could “modify nature without departing from nature” (Zola 11). Regarding the experimental novel Zola asserts that

the experimental novel is a consequence of the scientific evolution of the century, it continues and completes physiology, which itself leans for support on chemistry and medicine, it substitutes for the study of the abstract and the metaphysical man the study of the natural man, governed by physical and chemical laws, and modified by the influences of his surroundings; it is in one word the literature of our scientific age, as the classical and romantic literature corresponded to a scholastic and theological age. (24)

For Zola, physiology became the bridge between the arts and sciences: dissections became prominent to observe the workings of body as they really are just as realism became popular to portray the workings of society as they are.

Novels experiment with human ideas, manipulating character’s thoughts and actions to obtain desired outcomes. We might go so far as to argue that the novelist is a scientist,

and the scientist is a novelist; one experiments with ideas while the other experiments with material. The material represents ideas while the ideas represent the material. Since one cannot exist without the other in this circular relationship the arts and science are intrinsically linked. Thus, it is a combination of the realist mode influenced by science and the novel itself as an experiment that shows the various ways in which the following four Victorian novelists elevated their arts into the ranks of sciences. The following section of this chapter will examine the narrative form of these novels as incorporating scientific thought and will seek to demonstrate that the representation of medicine is directly correlated with ideas on science. Although the ways in which these novels portray reality reflect scientific discourse, the representation of medicine and doctors in the four novels varies. This chapter will look at each novel individually to explore the impact of scientific thought on both the form and the content.

### ***Yeast: An Experiment in Novel Form***

Charles Kingsley's first novel *Yeast* was published in 1848 as a commentary on social conditions in England's countryside. The novel follows the thoughts of a wealthy young man, Lancelot Smith, as he grapples with concepts of spirituality and the material world. Mostly commenting on social problems such as poverty, poor sanitation, and illness, the novel has some instances of narrative intervention and uses dialogue and letters to represent the "minds of the rising generation" (Preface). In the Preface to the fourth edition, Kingsley says that he fears that unless the hidden passions of the youth are revealed, society will witness the "faith of our forefathers crumble away beneath the

combined influence of the new truths” (Preface). Although the critique in the novel is directed mainly towards Roman Catholicism, the 1840s also saw an advance in material science and natural philosophy, which possibly threatened religious beliefs overall. Yet, in *Yeast* Kingsley turns the increased focus on the physical world into signs of deeper spiritual connection.

In the Preface, Kingsley writes, “in the following pages I have attempted to show what some of the young in these days are really thinking and feeling” (i). The aim is thus established at the outset: the book is a record of observations, or as Zola puts it, the novel becomes a platform to display the passions of men in order to “gain control of the mechanism of this passion [so] we can treat it and reduce it, or at least make it as inoffensive as possible” (24). Kingsley felt that the youth of his time were confused in faith, and he aimed to portray their thoughts to show how they may be converted. Kingsley chose the title “Yeast” to “ferment new ideas,” suggesting that the novel is a thought experiment (Ross 293). Such notions are symbolic of the idea that a novel is an experiment, giving doses of ideas, as Kingsley says, to “teach something of the real” (Preface). Perhaps to make the novel seem authentic, most of the ideas are discussed through a series of letters or conversations with minimal narrator input. However, sometimes the narrator of the novel directly addresses the reader, after a debate, for example, asking, “which of them [Lancelot or Luke] do you think, reader, had most right on his side?” (Kingsley 8). Kingsley compares an author writing a novel to a doctor prescribing medicine, someone who is “content enough to see any part of his prescription go down, by any hands whatsoever” (Preface). Kingsley takes on the role of the doctor, noting his observations and concerns and prescribing books as necessary to anyone who

wishes to know the truth of the times. Although *Yeast* was not widely recognized in its time (or even later) due to its lack of plot, it provides a good starting point to examine the debates on science and literature and their relevance to the doctor's role.

While the novel engages in ongoing religious debates, Lancelot, the protagonist, is a materialist who has trouble accepting the spiritual. In his letters, Lancelot asserts,

I take my stand on fact and nature; you may call them idols and phantoms; I say they need be so no longer to any man, since Bacon has taught us to discover the Eternal Laws under the outward phenomena. Here on blank materialism will I stand and testify against all Religions and Gods whatsoever. (86)

Lancelot is the troubled youth that needs conversion, and so Kingsley presents this character as denying God and trusting only observational science. Lancelot sides with the scientist Bacon, whose ideas were based on experimentation. For Kingsley, it is a state of mind like Lancelot's that needs conversion. The novel's aims are to reconcile the spiritual with science. According to John Hawley, "Kingsley had been struck by the widening gap between the claims of religion and those of science," and Kingsley himself said, "I am sure that science and the creeds will shake hands at last" (Hawley 462). Lancelot's "blank materialism" is the extreme of scientific thought and functions as the disease of the youth that Kingsley attempts to reform. When Argemone, the female protagonist and Lancelot's beloved, asks him what he believes in, he replies,

"In *this!*" he said, stamping his foot on the ground. "In the earth I stand on, and the things I see walking and growing on it. There may be something beside it—what you call a spiritual world. But if He who made me intended me to think of

spirit first, He would have let me see it first. But as He has given me material senses, and put me in a material world, I take it as a fair hint that I am meant to use those senses first, whatever may come after. I may be intended to understand the unseen world, but if so, it must be, as I suspect, by understanding the visible one: and there are enough wonders there to occupy me for some time to come.”  
(159)

The material and the spiritual in Lancelot’s mind occur in a hierarchy. Since humans exist in “a material world,” Lancelot reasons that materialism is above spiritualism. Above the unseen, for Lancelot (and most scientists) is the seen world experienced by the human senses, and so we must “use those senses first.”<sup>1</sup> Lancelot here does not argue against God, but rather agrees that a material focus is God’s intention. By the end of the novel, Lancelot converts to Anglicanism (and not Catholicism) when he goes “through the cathedral door” (334). Kingsley’s prescription for Lancelot and readers is to turn to faith and spiritualism. The approach in the novel is not subtle at all; in fact, the letters and characters preach passionately for Lancelot’s conversion to accept faith (as an Anglican) as the “happy” ending.

In the epilogue, the narrator acknowledges that the form of the novel is not ideal, saying, “Readers will probably complain of the fragmentary and unconnected form of the book.” However, he claims that this form is intentional because it “is not an integral feature of the subject itself” (336). Furthermore, the form is intended to be a version of a young

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<sup>1</sup> Lancelot’s strict scientific view reflects the emerging positivism in the nineteenth century. According to Cheryl Welch positivism was emerging from French influences who denied theology in favour of sensory science. The implications of positivism impacted Britain more deeply than France (172).

person's mental state in order to stay true to realism. Kingsley asks, "do not young men think, speak, act, just now, in this very incoherent, fragmentary way," calling it "a very Yeasty state of mind altogether" (337). A human mind is a place where ideas begin, and the form of the novel aims to reflect the "true" state of mind. The field of experiment attempts to reflect reality so that it can impact and influence reality. Ultimately, the novel form attempts to cause confusion and doubt as a reflection of the mind but also attempts to make the mind of the reader a field on which new ideas can grow. The form itself is an experiment to capture nature as it is, and the words are an attempt to modify that nature for the one reading for deeper analysis.

### **Spiritual Diseases: Medicine in *Yeast***

The form of *Yeast* attempts to portray the reality of social circumstances. The reliance on letters and dialogue as opposed to lengthy explanations and observations relies on a connection to humanness. Since the novel posits that ultimately conversion of thought will occur by a spiritual calling, detailed explanations of the material world are only to relate to the higher power. The call to a higher power and an unknown changing force is also reflected in the novel's representation of medicine. Disease in general is not in the physical body but owing to some unknown mysterious force. Of a doctor attending an ill patient, Kingsley writes,

Even Doctor Autotheus Maresnest, the celebrated mesmeriser, who, though he laughs at the Resurrection of the Lord, is confidently reported to have raised more than one corpse to life himself, was heard to say, after having attended her

professionally, that her waking bliss and peace, although unfortunately unattributable even to autocatalepsy, much less to somnambulist exaltation, was on the whole, however unscientific, almost as enviable (345).

The doctor is referred to as a “mesmerizer”<sup>2</sup> indicating a lack of scientific method in his approach and an inclination towards intuitive healing. The Doctor here is not a spiritual figure who “laughs” at the idea of miracles yet appeals to some higher power for healing. There lacks material explanation or true knowledge for the illness since it is “unattributable” and “unscientific.” Yet, just as the form of the novel relies on guidance from a higher power, so healing is also beyond the hands of a doctor. According to Kingsley, the material truth therefore cannot be completely understood, and all material points to the wisdom of a higher power (Mangham 72).

Disease in Kingsley’s novel is attributed to poor social conditions. Healing is in the hands of the elite rich, who must elevate their own spirituality in helping the ill. Lancelot, in a passionate dialogue, states:

It is most fearful, indeed, to think that these diseases should be confined to the poor—that a man should be exposed to cholera, typhus, and a host of attendant diseases, simply because he is born into the world an artisan; while the rich, by the mere fact of money, are exempt from such curses, except when they come in

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contact with those whom they call on Sunday “their brethren,” and on week days the “masses.” (280)

In these descriptions of illness there is little to do with science and doctors. Medicine is not the driving force of healing. Rather, Lancelot believes that the power to cure is in the hands of the public, calling upon social responsibility and asking, “is not every man who allows such things hastening the ruin of the society?” (281). In this we see Brilmyer’s “ethological realism,” where reality is portrayed to prescribe a cure. When Lancelot meets artist Claude Mellott, he speaks about artists’ duty to represent “Nature as they see her” and further states that “their knowledge that the ideal is neither to be invented nor abstracted, but found and left where God has put it, and where alone it can be represented, in actual and individual phenomena” (Kingsley 286). Kingsley then believes in art as a form to represent the truth and to promote social responsibility. Overall, according to Andrew Mangham, Kingsley’s novel asserts that people “must each come to realize the larger philosophical and critical interpretations of matter before they can be successful in the social missions they undertake” (75).

For Kingsley, matter is not a natural entity that science objectively observes. It is an indicator of larger philosophical questions. The social mission of a doctor cannot be isolated in Kingsley’s view from the larger religious framework. Therefore, a doctor operating purely on a material basis ignoring the spiritual aspects of the patient will fail to heal effectively. The body thus is not a study tool; instead, the body is symbolic of spiritual confusions and social responsibilities. Prior to the scientific revolution of the mid-nineteenth century, it was the spiritual and social responsibility of the doctor that was emphasized in realist Victorian novels.



### ***Bleak House: Maintaining Science and Realism***

While Kingsley's *Yeast* portrays the social truths of England's countryside, Charles Dickens' *Bleak House* (1852) presents a social commentary on the conditions in the city. Once again, the doctor character is a symbol for a larger purpose. However, instead of being linked to the divinity above, disease connects social networks and works across groups. In *Yeast*, the doctor's powerlessness and material focus relate to the divine; in *Bleak House*, the doctor's character is necessary as a humanitarian in a social world. Although the main plot of *Bleak House* focuses on Britain's legal system at the time, the profoundly interconnected subplots reveal the functions of society. Prior to analyzing the medical aspects of *Bleak House*, it is first essential to note the narrative style and scientific discourse within the novel, which reveal attitudes toward science and, eventually, the doctor's role.

The novel changes narrative points of view, sometimes using an omniscient narrator that seems to be observing the city with an intimate knowledge of and personal connection to the story. For instance, the third-person omniscient narrator refers to "this world of ours" (11). While the narrator seems to be speaking from a familiarity and joint perspective with the reader, his narrative is interlaced with Esther's first-person narration, almost as if the narrator allows a personal account to corroborate the third-person narration. Esther's narrative breaks the suspenseful spell of the omniscient narration. On one hand, the omniscient narration is an impossible reality, for no person can be in multiple places, but

the first-person accounts of Esther are written as a journal, making the accounts seem more personable and real.

To achieve realism, Dickens had to maintain scientific laws within the fictional novel. Just as the doctor needed to transform the art of conjuring potions into experimentally grounded medical techniques, so the novelist had to transform their art into realistic observations. A prime example of this truth-seeking sentiment appears in the correspondence between Dickens and G.H. Lewes. Dickens prefaces his novel by stating, “everything set forth in these pages concerning the Court of Chancery is substantially true, and within the truth” (3). Lewes challenged Dickens’ truth and wrote letters to Dickens claiming that the death of his character Krook by spontaneous combustion—due to the “corrupted humors of the vicious body itself”—was unrealistic (Dickens 403). As medicine shifted towards experimental medicine, Lewes wrote, “it is curious to observe the inaccurately estimated men form of the value of evidence” (*The Leader* 64). Lewes argues that “the unscientific mind is scarcely ever impressed by scientific so much as by personal or historical evidence,” while criticizing Dickens, who Lewes says, “did not care what science taught” because there were “many well-authenticated cases to doubt the fact of spontaneous combustion” (*The Leader* 64). Lewes critiques a form of fiction in public discourse for not holding on to standards of reality. He finds it unacceptable that “a newspaper statement of a marvel was thought of more value than the plain teachings of science” because “every law in science is the generalized expression of thousands of reiterated generalizations” (64).

Fiction in the nineteenth century was not taken lightly. It was in direct response to society and had to uphold a standard of truth. The novel was not merely an art-form: it was a

truth-telling device that was subject to the rigour of criticism for its accurate portrayal of reality. As truth became equated with the scientific method, novels had to deploy the method for their truths to have validity. Brooke Taylor writes:

Dickens's effort to align spontaneous combustion with empirical facts is a continuation of the argument central to *Bleak House*: empirical analysis must be tempered by finer emotional feeling; otherwise, significant avenues of understanding are crippled or even destroyed. (173)

Emile Zola held that “the novelist starts out in search of a truth” (8). For this reason perhaps, readers often criticize any scientific inconsistency found in novels. So Taylor remarks that Dickens feels compelled to “deliberately ground this far-fetched event in scientific fact in order to highlight the validity of its emotional resonance in an increasingly mechanized world” (173). As truth was shifting to mean scientific evidence, so too did novels need to be scientifically sound. However, it seems that Dickens implicitly denies this changing view of literature. Instead, the narrator responds to the criticism when describing “men of science and philosophy [who] come to look,” saying that “some of these authorities (of course the wisest) hold with indignation that the deceased had no business to die in ‘the alleged manner’ and view it as ‘wholly unjustifiable and personally offensive’” (Dickens 413). Dickens is not denying that literature contains truth, but he denies that this truth can only be justified by “men of science.”

Given that the rest of the novel did not receive this kind of criticism and that much emphasis and controversy was created due to a minor plot detail that suggests some

fantastical unknown possibility, we can assume that the scientific community valued empirical fact even in storytelling. Aside from its entertainment value, the novel became a place of scientific debate. The death of Krook became such a controversy that Dickens also prefaces his book with a note: “I do not willfully or negligently mislead my readers, and that before I wrote that description, I took pains to investigate the subject” (4).

Novelists such as Dickens needed to explain to their readers the truth of their words, even if the overall story was fiction. The community critiqued the realism of novels for a minor inconsistency with scientific fact. Thus, the novelist’s work involved independent research that was grounded in observation and human experience. To present anything other than the familiar truth was to mislead readers, and so Dickens cautions, “In *Bleak House*, I have purposely dwelt upon the romantic side of familiar things” (4). While acknowledging the “familiar” Dickens also alludes to the previous idealization. This idealization and the romantic view are reflected in the doctor’s character and represent the narrative’s view on medicine. The doctor in *Bleak House* has an emotional rather than an empirical presence.

### **Holistic Health: Diseases and Doctor in *Bleak House***

While Dickens takes the “romantic side of familiar things” in describing the medical men, he adheres to an accurate representation of disease. Dickens elaborates on the symptoms of disease with the eye of a doctor. Without diagnosing or naming the disease, the novel provides an extensive description of illness, such as smallpox. The descriptions are a device to maintain the real and have a clear purpose: to display the truth of illness.

Michael Gurney observes that the “fictive illness given to his characters are real diseases, not romantic swoons,” noting that “his descriptions of diseases were superior to the medical texts of his day” as they were based on “Dickens’ actual experience, carefully observed and painstakingly reproduced with definite signs and symptoms that progress in a logical sequence” (80).

*Bleak House* was published in 1852 during a revolutionary time for medical reform with its publication positioned after the sanitation reforms and cholera outbreak but prior to significant scientific discoveries of microbes. Edwin Chadwick’s 1842 *Report on the Sanitary Condition of the Labouring Population of Great Britain* revealed drastic rates of mortality among the labouring classes living in the industrialized cities (Barnett 218). In Dickens’ time, the common belief was that disease was spread by filth in the air<sup>3</sup> attributing illness to poor conditions and crowded areas: hence the emphasis on dense fog appearing throughout the narrative of *Bleak House*. Dickens himself was a prominent spokesperson for public health reform, delivering a speech in 1851 on sanitary reform and citing Chadwick

Fifteen years ago some of the valuable reports of Mr. Chadwick and Dr. Southwood Smith, strengthening and much enlarging my knowledge, made me earnest in this cause in my own sphere; and I can honestly declare that the use I have since that time made of my eyes and nose have *only strengthened the*

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<sup>3</sup> This was the miasma theory popular in nineteenth century especially in crowded cities such as London. (Porter, *VictorianWeb*).

*conviction that certain sanitary reforms must precede all other social remedies*

(Dickens at Metropolitan Sanitary Association 1851, emphasis mine)

Hence, the descriptions of disease and illness in *Bleak House* are not merely narrative techniques. They are a portrayal of the real that also works to reform. As a representation of the need for public health and sanitation, Dickens' novels revealed the poor conditions in order to secure, as he says, "an earnest sympathy with the sufferings of the working classes" (1851). Dickens' realism was not about scientific discovery but an emotional plea to alleviate the suffering caused by poverty, disease, and poor sanitation. Since his idea of realism was to evoke emotion with the familiar, it follows that his doctor character was an appeal to sentiment.

To further appeal to the reader's sympathy, Dickens based the main doctor character on sentimental and idealistic standards. Dickens portrays Alan Woodcourt as a romantic hero who is the epitome of humanitarianism. Esther says that Woodcourt was continuously "at the service of numbers of poor people and did wonders of gentleness and skill for them, he gained very little by it in money" (Dickens 214). The doctor is praised here for helping out of the goodness of his heart without business motives. Tabitha Sparks writes that "Woodcourt's selfless treatment of the diseased poor in London, his heroism as a naval surgeon aboard a shipwreck, and his exemplary marriage to Esther Summerson all make him an admirable example of mid-century reformism and domestic honor" (10). However, this is prior to the incorporation of science in medical reform. Sparks notes that with the introduction of science the "emerging medical consciousness" in Victorian society "gradually eradicates the mode of romance and realism integrated by Woodcourt" (10). While the novel generally adheres to scientific

truth, it idealizes the role of medicine not as scientific but for the services of the public. In the same way, the novelist is a public servant, who benefits the public by their truth-telling and emotional healing. The novelist becomes a saviour of morals, a protector of ethics, and a demonstrator of emotions.

In 1849, a new theory proposed by John Snow cited contaminated water as the source of the London cholera outbreak of 1848 (Barnett 218). Dickens' novel reveals attitudes towards health and illness right before significant medical reforms took place in Britain. Since Dickens is writing in a time of changing scientific discoveries, what could be a symbol under the new medical revolutions is taken as fact. For example, the elaborate descriptions of fog seem to be a mystical feature of the narration. The fog is not merely a description of the weather. The fog seems to come alive as the connecting force between all classes and people of the city. The fog "flows" and "rows" while also "hovering" and "drooping" (Dickens 5).

While the fog is often taken as a symbol for the web of society as it, Dickens goes beyond simple allegory with his narration. Fredric Schwarzbach argues:

To say then, as often has been said, that the mud and fog are *symbols* of social malaise is to miss the point entirely: Dickens is pointing to a literal economy of filth and disease that functions not as a symbol but as fact to poison the very air his readers breathe, according to scientific laws. (95)

Within the narrative is an undeniable mode of realism, not only in the first-person narration but also in the very literal modes of disease transmission that link multiple characters. Caroline Levine notes that disease is part of what connects society: "as Jo

passes smallpox to Esther, the contagion itself becomes another point of contact that links social actors across groups” (518). Dickens is interested in the doctor’s role as a solution to the problem, focusing on a good heart and empathy to relieve the symptoms of the poor. However, as scientific revolutions continued in the nineteenth century, the doctor’s role in literature significantly changed from giving sympathy to conducting research. While the two ideals are not mutually exclusive, the realist portrayal of doctors seemed to place sentiment and science on opposite sides.

### **The Fall of the Ideal: Eliot’s Scientist Doctor in *Middlemarch***

Between Dickens’ 1852 novel and the publication of *Middlemarch* in 1871, the medical profession changed significantly. 1853 saw the third outbreak of cholera, following which John Snow published a revised report of the transmission of cholera through water (Carpenter xvi). Three years later, in 1858, the first Medical Act was passed to register physicians and monitor the standards of medical practice (Roberts 37). M. J. D. Roberts argues that although many historians believe that the medical enterprise “identified the recognition of medical professionalism as an aspect of progress towards modern science-based standards of control,” the introduction of a reform act reveals social attitudes and a lack of “cultural acceptance” (28). The Medical Act unified a body of practitioners that offered hope to the public of the time that had seen multiple cholera outbreaks and heard cries for sanitary reform. The Medical Act offered a “new-found sense of professional solidarity,” which “owed much to increasing lay respect for what medical practitioners were thought capable of achieving” (54). Roberts emphasizes the fact that the standardization of medical practice seemed to increase morale amongst the doctors and the public, but in reality, “educated public belief in advance of ‘scientific knowledge’



considerably outran the capacity of medical practitioners to apply such knowledge to clinically reliable effect” (Roberts 53). Medicine became an ideal for its incorporation of science, even as that science failed to deliver.

While *Bleak House* includes subtle hints of mystery and romanticism, Eliot’s novel incorporates science in a more subtle, realistic way. In her introduction to the Oxford University Press edition of *Middlemarch*, Felicia Bonaparte notes that Eliot was among the first to bring scientific thought into fiction, not just by introducing scientists like Tertius Lydgate among her characters, “for that had been done by others before her, but by introducing science into the very thought of her work” (xiv). Furthermore “much of Eliot’s sense of reality is based on what she knew of science; much of her sense of what it means to explore the world around her derives from its methodology” (Bonaparte xiv).

While Dickens took pains to construct his novels based on human observation and experience without adhering to the experimental techniques of science, Eliot’s scientific rigour in her writing includes the experimental method within the narration. Eliot embodies the sentiments of Zola, who said, “science enters into the domain of us novelists, who are today the analyzers of man, in his individual and social relation” and it is science that “replaces purely imaginary novels by novels of observation and experiment” (17-18). Nancy Henry and George Levine state that Eliot’s narrative style and commitment to realism made her “the single most important figure in transforming the novel from a predominantly popular form into the highest form of art.” (2) Paris Bernard believes that due to Eliot’s keen interest in presenting the “true picture of man and his environment” her novels “can be read, from one point of view, as scientific case studies” (3). In a personal letter to Dr. Joseph Frank Payne, in 1876, Eliot wrote that her

novels were “simply a set of experiments in life” (quoted in Bernard 1). On the one hand, Dickens receives criticism for his imaginary medical condition in *Bleak House* and therefore provides a disclaimer about the romanticism of his novel; on the other, in *Middlemarch* Eliot follows experimental methodology and breaks the romantic ideals for a novel that is more representative of the truth.

Since Eliot’s realism incorporates scientific thought, it follows that her main doctor character Tertius Lydgate would embody the scientific method and reflect changes in the medical profession. Unlike Dickens’ Allan Woodcourt, Lydgate is not a romantic hero, but a man of science and ambition. Lydgate is not driven to medicine out of an altruistic desire to help the poor and alleviate suffering; rather, it is through “his scientific interest [that] soon took the form of a professional enthusiasm” (Eliot 136). Lydgate admires the medical profession because he believes it to be “the most perfect interchange between science and art: offering the most direct alliance between intellectual conquest and the social good” (Eliot 136). Lydgate is interested in clinical research as he desires to apply what he learned through dissections and microscopes to his patients’ health by opening a “fine fever hospital so that it may be the nucleus of a medical school here, when once we get our medical reforms” (Eliot 116). Lydgate enters Middlemarch hoping for a reform in medical education and a change to more scientific modes of practice. According to Tabitha Sparks, “Eliot suggests that a ‘scientific explorer’ in 1829, on the verge of the Victorian era could not foresee the personal consequences wrought by a social turn towards empiricism” (Sparks 44). The doctor character is ambitious for scientific discovery and medical reform rather than for alleviating the sufferings of the poor or

reforming sanitation. In *Middlemarch*, we see a drastic change in the doctor character due to the incorporation of science that informs the narration's realism.

### **The Real Medical Doctor in Doyle's *The Stark Munro Letters***

Unlike Kingsley, Dickens, or Eliot, Arthur Conan Doyle was in fact a physician as well as a writer, and so his fictional representation of the changing role of the doctor in the late nineteenth century might be considered more authentic than those of the other novelists.

Doyle writes in his memoir:

In a book written some years afterwards called "The Stark Munro Letters," I drew in very close detail the events of the next few years, and there the curious reader will find them more clearly and fully set out than would be to scale in these pages. I would only remark, should any reader reconstruct me or my career from that book, that there are some few incidents there which are imaginary (136)

The novel's "very close detail" makes it an accurate account of Doyle's own life, with only some instances fictionalized. The epistolary form of the novel gives it a heightened voice of accuracy as an attempt to give the 'real' account of a doctor's thoughts and feelings. The form is significant not only for its realism but also because the assumed incompatibility of science and art.

Doyle's *The Stark Munro Letters* (1895) is a compilation of letters written by a doctor going through his medical education. The novel's form of documentation gives it a heightened voice of accuracy as an attempt to give the 'real' account of his thoughts and feelings. The epistolary narrative is significant not only for its realism but also because of

the assumed incompatibility of science and art. Munro, as a doctor, cannot write a novel. When Munro first arrives at Cullingworth's practice, Cullingworth suggests writing a novel to pass time until patients arrive. Cullingworth is confident that he can write a gripping tale. However, Munro reflects, "We are both writing novels, but I fear that the results don't bear out his theory that a man may do anything which he sets his will to" (Doyle 172). While Munro's own novel is "too conventional," suggesting that Munro follows a logical method in his writing, Cullingworth's is "wild rubbish" (Doyle 172). Each of their novels becomes an extension of their personality but were not effective as artwork. Because they are men of science, their novel-writing is subpar, and so they "each agreed that the other was never meant for a novelist" (Doyle 173). Doyle's use of the epistolary form for the accounts of a real doctor emphasizes the notion that science was slowly stripping away art forms in literature, and so literature began to resemble more real accounts such as letters rather than complex art forms. However, the incompatibility of writing and doctor seems to a plot device to demonstrate the extremes the disciplines had taken. Doyle himself gave up a career in medicine as he became a successful novelist (though his work was rejected when he started).

The changing form of literature to present facts represents the change within medicine to deal with facts instead of social good. While Lydgate wants reform of medical education for social good and advancement of medical research, in the *Munro Letters* we see the impact of purely professionalizing medicine for the benefit of the medical enterprise itself. Munro's associate Cullingworth will not "acknowledge any philanthropic side to the question. A profession, in his view, is a means of earning a livelihood, and the doing good to our fellow mortals, is quite a secondary one" (Doyle 161). Once medicine

becomes professionalized with reform acts, the art-form disappears in favour of a more rigid scientific method. Cullingworth asks, “What are the Medical Association and the General Council, and all these bodies for? Eh, laddie? For encouraging the best interests of the profession. Do you suppose they do that by making the population healthy?” (VII 1882). The sympathy within the professionalization of medicine disappears and social health is no longer central.

We saw in Woodcourt’s case that he does not require a social body or collective group of doctors to agree on his methods in order to provide health care efficiently. Woodcourt is emotionally motivated for the social good. Cullingworth here points out that medical reforms in the nineteenth century were a sign of the decreasing humanity in medicine as it became a science. It seems as though, to be an enterprise, the medical profession needed to have a trade-off. It exchanged individual empathy for collective uniformity. It exchanged sentiment for science. In doing so, science and sentiment became further divided.

Once the natural sciences establish a method, the new motive becomes to unify the multiple practices under that rubric. However, while science was undergoing professionalization by the British Association for the Advancement of Science (BAAS) from as early as 1831, medicine was not yet included under the scientific umbrella (Ellis 777). In 1866, there were pleas to include medicine under the professionalization of science. Heather Ellis quotes a physician, H. Bence Jones, who states, “if medical men were to receive a properly designed scientific training instead of Greek and Latin, they would tend to be men of much greater ‘influence and power’” (784). By the time Doyle

writes Munro's letters, scientific education is thoroughly embedded into the medical profession and became a standard of practice.

Munro writes about research and experiment as a natural part of his medical training. To understand the workings of the liver, Munro and Cullingworth have an idea on waxy matter about which Munro writes, "it is one thing to have an idea, and another to be able to prove it" (Doyle 23). Munro then equates proving the idea with obtaining a specimen and experimenting when he says, "we wanted some waxy matter with which to experiment" (Doyle 23). By 1881, scientific ideas had become rooted in experimental work that would lead to writing medical papers as Cullingworth did. The material and the idea are thus linked in experimental research and method, in contrast to the earlier novel *Yeast*, in which material leads to the ultimate idea of faith. Whereas Kingsley's protagonist Lancelot Smith is twenty-three years old struggling with notions of faith and eventually finding an answer in religion, Stark Munro has just turned twenty-two and finds himself firmly against any faith believing that "faith is not a virtue" and that it is abominable to disregard the "precious gift, the reason" (Doyle 28-29). While Lancelot and Stark both admire reason, Lancelot uses material reason to arrive at faith and Stark uses it to arrive at science.

In the span of fifty years, we have moved from a protagonist who observes nature to come up with ideas about life to a hero who experiments with material substances to prove ideas. Both are still heavily involved in the material world and sense, which forms the basis of empiricism. However, the critical difference is the introduction of the method. Science introduces a method to approach the material world. While science had not yet fully developed its methods, Lancelot merely observes the world. Munro, on the

other hand, transforms those observations into a well-thought-out experiment. It was not enough for the doctors to see the waxy matter. They had to isolate it, test it, and exert some of their controls over nature. It was this method that medicine incorporated.

From the publication of *Yeast* to that of *The Stark Munro Letters*, the medical profession underwent drastic changes. In earlier novels doctors had their individual practices following their own intuition. The profession lacked a unified standard which becomes apparent in the latter half of the century. Both *Yeast* and the *Munro Letters* present a

similar narrative style, using letters to reflect authentic feelings, and both novels demonstrate a struggle of spiritual mind in the face of growing scientific rhetoric.

However, while Kingsley deals with the ideas around spiritual dissonance with the material world, Doyle's novel is immersed in the material manifestation of science as a profession. These two novels bookend *Bleak House* and *Middlemarch*, in which we see contrasting doctor figures. As medicine was transformed from an art to a science, literature evolved as well. The professionalization of medicine meant a control over an art form that was then placed under the scientific method and standardized across practices.

Although novels incorporated elements of scientific method, novels remained an art and resisted standardization. This allowed novels to be a free form whereas medicine became more rigid.

## Chapter 2: Foucault's Medical Gaze: The Evolution of the Gaze in Victorian Novels

By the end of the nineteenth century, the medical profession had established itself as a scientific occupation. The institutionalization of medicine led to the rigor of system and method that propelled medicine into the next century. In *The Birth of the Clinic*, Michel Foucault characterizes the nineteenth century as a critical period of change in medical history. He argues that “the space of *configuration* of the disease and the space of *localization* of the illness in the body have been superimposed, in medical experience, for only a relatively short period of time—the period that coincides with nineteenth-century medicine and the privileges accorded to pathological anatomy” (4). Victorian medicine placed much emphasis on anatomy and physiology. The century saw the rise of dissections and anatomical drawings to teach, with the hospital as the primary site of both teaching and healing. Elizabeth Hurren says that in Britain, by 1858, “it was widely accepted that the teaching of human anatomy in dissection theatres, and detailed morbid anatomy on the dissection table, was an essential feature of a more professional form of medical training” (4-5).

The combination of the professionalization of medicine and the increased knowledge of anatomy led to what Foucault terms ‘the medical gaze.’ Foucault states that the nineteenth century was “the period that marks the suzerainty of the gaze” when “the glance has simply to exercise its right of origin over truth” (4). The ‘medical gaze’ is the doctor’s gaze that is “directed upon that which is visible in the disease—but on the basis



of the patient who hides this visible element” (Foucault 9). Ultimately, the gaze “is really retreating, since it reaches the truth of the disease only by allowing it to win the struggle and to fulfill, in all its phenomena, its true nature” (Foucault 9). Foucault recognizes a power struggle in the gaze that sees bodies only as a means for a diagnosis or knowledge of the human body. The aim of the doctor seeing the patient was not to heal but to observe data relevant to the medical sciences so that the “patient’s bed become[s] a field of scientific investigation” (Foucault xv). Once again, science is associated with the method of observation. The science notes visible clues to arrive at a deeper understanding of the general human body by allowing the patient’s illness to follow its natural course.

### **The Narrative Gaze: Observations in Literature**

Due to the intricate connection between literature and science, if the medical gaze arose due to scientific revolutions, it may be possible that a similar narrative gaze arose in literature. Claude Bernard elaborates on the difference between an observer and an experimenter: “observation is investigation of a natural phenomenon and experiment is investigation of a phenomenon altered by the investigator” (5). Literary texts’ narrators are investigators because of their observations and plot devices that manipulate the character settings. In *Revising the Clinic*, Meegan Kennedy argues that “clinical methods of observation and representation offered writers some useful and powerful strategies, conveying a sense of rigorous scrutiny, careful description and narration, and professional knowledge” (1). Kennedy centres her argument around how “the literary and medical notions of seeing and stating changed over time, in relation with each other and

with nineteenth-century historical developments” (3). “Seeing and stating” are critical in the science of an experiment.

Kennedy posits that “the changes in the genre of the case history and that of the novel are fundamentally in relation with one another throughout the nineteenth century” (9). The change in sight changed the narrative mode, and narrative perspectives changed to include scientific rhetoric. Clinical notes took on a medical gaze, focusing on disease prognosis and medical facts. These observations were written as the narrator’s observations are conveyed in a novel. However, as Kennedy suggests, “literary texts encouraged an ingrained skepticism in realist novels about our ability to see and communicate reality, as well as a laborious collection of factual detail to make up for our inherent limitations” (8). While literature acknowledges the limitation of the visible world, science embraces the visible to arrive at the truth.

This chapter will use the four novels published at different moments during the Victorian period to explore how scientific thought evolved in narratives of doctors and how the changing methods of observation within science were incorporated into literature. The chapter examines the evolution of the gaze through the latter half of the century. In Kingsley’s *Yeast*, a spiritual gaze is encouraged, enabling observers and readers to arrive at a greater spiritual truth. In Dickens’ *Bleak House*, the gaze is sympathetic to the shared suffering of humanity. The truth is not in the higher power but in the injustice of society. Eliot’s *Middlemarch* demonstrates the onset of the researcher’s gaze, which begins to form the institutionalized medical gaze found in Doyle’s *The Stark Munro Letters*. Using Foucault’s analysis of the evolution of medicine in the nineteenth-century, this chapter

will explore the novels in order of publication to follow the evolution in gaze and narrative voice.

### **Spiritual Gazing and Truth-Seeking in Charles Kingsley's *Yeast***

In his sermon “The Physician’s Calling,” Charles Kingsley says that “the medical man is complained of at times as being too materialistic—as caring more for the bodies of his patients than for their souls. Do not blame him too hastily. In his exclusive care for the body, he may be witnessing unconsciously, yet mightily, for the soul” (31). Kingsley argues that because the service of the medical man is spiritual, healing being a mission of God, it is impossible for the doctor to not act in alignment with spiritual goals. He seems to be pre-emptively denying the existence of the medical gaze, claiming that even in its focus on the physical it aims for a higher purpose. Perhaps it is for this reason that Kingsley’s doctor characters and narrative gaze do not solely focus on observations of material. However, in *Yeast*, materials are merely a means to obtain a higher understanding of spirituality. For Kingsley, regardless of method and intentions, any fight against disease is spiritual because, according to him, “the medical man has set his mind to do one thing, —to hate calmly, but with an internecine hatred, disease and death, and to fight against them to the end” (30). Ultimately, Kingsley believes that the doctor “shows by his acts that he believes God to be a God of Life, not of death; of health, not of disease” (31). Kingsley attributes belief to the gaze so that all material evidence leads to the spiritual truth even when it is not apparent, and it is this spiritual gaze he employs in *Yeast*.

In *Yeast*, Kingsley uses sight as a truth-seeking device. In his quest for truth, Lancelot often observes the world around him and writes his reflections. Lancelot says, “I may be intended to understand the unseen world, but if so, it must be, as I suspect, by understanding the visible one: and there are enough wonders there to occupy me (Kingsley 160). Lancelot believes in his senses as the truth-seeking device, making him a man of science. For Lancelot, the unseen is only accessible through the seen reality. Science, however, rarely interacts with the unseen because its methods of observation and experiment rely upon the immediately accessible. Foucault holds that “the correlative of observation is never the invisible, but always the immediately visible” (107). The pure observational gaze is absent from Kingsley’s writing because the spiritual implication of losing belief in God is too grand for him.

When asked about his religious belief, Lancelot replies, “if that Hebrew Bible is to be believed by me, it must agree with what I know already from science” (Kingsley 160). Lancelot’s emphasis on the material makes him a man of science. Kingsley’s assertion that even though someone observes the physical does not make them devoid of spiritual understanding is seen here in Lancelot. Lancelot does not deny the spiritual world, though it is accessible to him only through his senses. Although Lancelot seems to accept a spiritual realm, he asserts a hierarchy of the material over the spiritual. This hierarchy elevates science over spirituality and makes Lancelot respect Bacon, the scientist, over religious texts such as the Bible. Lancelot says, “my only Bible as yet is Bacon. I know he is right, whoever is wrong” (107). Even though Kingsley would like to see an overall spiritual gaze in the work of scientists, science was shifting to become an authority to an

elevated rank with its value associated with knowledge derived through sight and observation.

Kingsley's ideas on spiritual truth were not uncommon in the early Victorian period. Accordingly, Kingsley often employs spiritual metaphors and medical languages interchangeably. Lancelot says, "We must all take the bitter medicine of suffering," making medicine and suffering both processes of healing (Kingsley 262). Lancelot also says, "I have no faith in people doctoring themselves, either physically or spiritually," conveying the need for an outside authority figure, i.e., a doctor, to change the states. "Doctoring" suggests that the person in authority acts. That action is gazing and guiding. Luke replies to Lancelot, "I am not my own physician; I follow the rules of an infallible Church, and the examples of her canonized saints" (263). A physician is assumed to be someone with authority. In Luke's case, he assigns the authority to the Church. The subtle equation between spiritual authorities and doctors reflects Kingsley's view that doctors perform God's work and that there should exist "a body of men whose whole mind and time should be devoted to one part only of our Lord's work—the battle with disease and death" (29). Kingsley sees the focus on the body as spiritual, but later Foucault would see the focus on the body as oppressive because it denies the spirit of the person. Kingsley says that "the great principle of the division of labor should be carried out," and while some people take care of the physical, others deal with the spiritual, but they all serve the same higher purpose (29).

Foucault's idea that the gaze is oppressive is focused medicine at the end of the nineteenth century, which saw an expansion of the gaze. Foucault relates the stark contrasts between the eighteenth and nineteenth centuries regarding health care. During

the eighteenth century, “medical practice could accord an important place to regimen and diet,” and so it “involved the possibility of being one’s own physician” (Foucault 35). By contrast, as Foucault suggests, nineteenth-century medicine “was regulated more in accordance with normality than with health; it formed its concepts and prescribed its interventions in relation to a standard of functioning and organic structure and physiological knowledge” (35). There was a shift in authority, where scientific knowledge was now privileged with a gaze that goes beyond the body to establish its normative practice. It was through dissections that the gaze transgressed the outer layer and went into the realm of the previously inaccessible insides.

In his 1846 lecture “How to Study Natural History,” Kingsley notes the discovery of “the tiniest animalcule from the stagnant pool” and the fact that in these microscopic accessible worlds, “imagination find[s] inexhaustible wonders and fanc[ies] a fairy-land” (299). Kingsley’s comment on the tiny particles in stagnant pools coincides with John Snow’s 1849 discovery of cholera in water pumps (*Lancet* 1302). The gaze was now accessing worlds not just within the human body but also phenomena that the naked eye could not see. As Foucault argues, it was in the nineteenth century that “doctors described what for centuries had remained below the threshold of the visible and the expressible” (xii). This was the beginning of a privileged scientific gaze that the average person could not hope to emulate.

Kingsley’s protagonist struggles with the changing gaze. In *Yeast*, Lancelot reflects that the human

is a novel phenomenon, and all phenomena, however magnificent, are surely fair subjects for experiment. Magendie may have gone too far, certainly, in dissecting a live dog—but what harm in my pulling the mane of a dead lion? (127)

Naming the human a phenomenon reduces the body to a subject of an experiment. It renders the body an object to be gazed at as legitimately as other natural phenomena like stars and trees. In 1822, Magendie's discoveries following live dissection, albeit controversial, were still celebrated for their contribution to science and the introduction of vivisection. Vivisection was first considered abhorrent in Britain, as Lancelot suggests. However, by 1832 (under the Anatomy Act), it was expected that medical research involved dissection instead of being a shameful practice done secretly by doctors. Kingsley demonstrates the beginning of the purely scientific gaze, but the gaze is transformed by the end of the novel. Since the purpose of *Yeast*, according to Kingsley's Preface, was to understand the younger generation's problems and "the absolute necessity of solving them at once," it follows that Lancelot's mindset is also transformed into a spiritual gaze (xviii).

Earlier in the novel, Lancelot says:

Every man sees facts through narrow spectacles, red, or green, or blue, as his nation or his temperament colors them: and he is quite right, only he must allow us the liberty of having our spectacles too. Authority is only good for proving facts. We must draw our own conclusions. (155)

Lancelot shows unwavering confidence in an individual's ability to decipher truth based on sight. Although he acknowledges each sight's prejudice, he believes the ability to follow one's perception is a "liberty."

However, Lancelot is lost on his path to the truth after Argemone's death. He says, "I still dread my own spectacles," his faith in his sight to determine truth showing a diminished confidence (332). It is only when he loses the absolute confidence in his sight that he can follow the conversion into faith, as the stranger tells Lancelot that his journey begins "By renouncing all your idols—the idols of the race and of the market, of the study and of the theatre. Every national prejudice, every vulgar superstition, [and] every remnant of pedantic system" (Kingsley 332). The stranger urges Lancelot to let go of the system and idols, one of these idols being the gaze itself. So, the stranger argues, "you must empty yourself before God fills you" (Kingsley 332). While Lancelot tries to reconcile material systems with faith, his ultimate conversion involves abandoning any other system.

Lancelot comes from science towards faith.

By contrast, Kingsley tries to reconcile faith and science because of his belief that faith eventually leads to science. In his 1846 lecture *How to Study Natural Things*, Kingsley asserts that "God's earth and God's word will never contradict each other," and so he finds the "average of scientific men, not less, but more, godly and righteous men than the average of their neighbors" (229). The publication of *Yeast* two years later has Lancelot affirming Kingsley's belief that "scripture and science will be ultimately found to coincide." In response to anyone contradicting this idea, Kingsley says, "if you cannot see it, we cannot help you." Kingsley maintains that one must see the spiritual truth and have a gaze that seeks a higher state. Only then can the material world bring one to



religious truth. The believers, according to Kingsley, “see design everywhere,” and their faith depends on a spiritual gaze. At first, Lancelot gazes at the natural world without the spiritual gaze, but his sufferings, the loss of his love, lead him to adopt a new method of seeing.

Kingsley holds that doctors are not materialistic because they do God’s work. At this time, he could not foresee the doctor as a scientist. The doctor scientist aims for medical advancement and research. The doctor-scientist persona does not do God’s work but the scientist’s work. Foucault later criticizes this medical gaze because it does not seek to heal but only to know. However, the transition to the science-gaze in the nineteenth-century happened subtly. The gaze moved from spiritual to sentimental as it held on to previous ideals before succumbing to new revolutions in science.

### **The Doctor’s Sympathetic Gaze in *Bleak House***

The doctor’s work is far from spiritually motivated in Dickens’ *Bleak House*. In this novel, we see a shift in locus. Foucault notes that in the nineteenth century “the locus in which knowledge is formed is no longer the pathological garden where God distributed the species, but a generalized medical consciousness” (31). While doctors appear in *Bleak House*, they do not fully conform to the later medical consciousness. Nevertheless, there is a shift away from the spiritual notions of disease. The doctor has the purpose of serving humanity rather than a higher power. Dickens’ doctors reflect the transition period of doctors between spirituality and complete medical consciousness.

Doctors in *Bleak House* are often associated with death. Kennedy notes that the “deathbed is a haven of sentiment because it marks where clinical medicine must fail. It thus offers a reminder that the material facts of clinical knowledge must be subordinated to the unsounded truths of the spirit” (117). Doctors being placed by a deathbed in Dickens introduces them as working in spirit rather than in science. Foucault notes that “in eighteenth-century medical thought death was both the absolute fact and the most relative of phenomena” (140). Yet, in the middle of the nineteenth century, Dickens seems to revive eighteenth-century ideas and the absence of clinical doctors by portraying coroners surrounding dead bodies in *Bleak House*. The absence of deathbeds indicates a lack of localization of illness or doctors (as opposed to hospitals). Notably, even in death, Dickens’ doctors express sympathy.

The first doctor character in *Bleak House* appears during the investigation of Nemo the law writer’s death when, upon finding Nemo’s body, Mr. Tulkinghorn immediately requests a doctor. The narrator describes the doctor’s gaze: “the dark young surgeon passes the candle across and across the face and carefully examines the law-writer” (Dickens 126). The act of gazing and carefully examining is the doctor's primary purpose. Here, the unnamed doctor gazes at a dead body, not to cure or dissect it but to determine the cause of death. The doctor's presence involves a careful examination. He later remarks, “I knew this person by sight very well” (Dickens 126). The doctor recognizes sight as the first access to knowledge of the person. During the inquest to determine Nemo’s cause of death, the surgeon remarks that “the first thing to be done is to view the body,” and so they “make their inspection” and “see all that is to be seen” (Dickens 133).

Dickens establishes the direct action of a doctor as gazing. The body is viewed as both subject and artefact.

However, Dickens also separates the professional doctor from the humanitarian doctor. Mr. Tulkinghorn observes “three kinds of interest exhibited near the bed,” and one of them was “from the young surgeon’s professional interest in death, noticeable as being quite apart from his remarks on the deceased as an individual” (Dickens 127). Just as the bed is an area of focus for the young surgeon, so Foucault also frequently considers the bed a space of interest. He argues that “the medical gaze circulates within an enclosed space” so the “medical space can coincide with social space, or, rather, traverse it and wholly penetrate it” (31). The instance of the multiple interests surrounding the body is a social space. Multiple doctors gaze upon the same body during the jury’s examinations. Foucault describes the space of medical confinement as one where “intersecting gazes form a network” (31).

Similarly, Dickens makes a distinction between professional duties and human interests. The doctor’s remarks that Nemo “must have been a good figure when a youth, and I dare say, good-looking” are far from professional medical gazing (Dickens 127). The doctor exhibits a human gaze as he personifies the body that once lived. He expresses sympathy for what has become of a man who was once a good figure. Instead of solely focusing on the body as an object to examine in death and taking records of symptoms, the doctor humanizes the experience. In her analysis of other works by Dickens, Kennedy argues that he presents a sentimental gaze for patients:

Dickens’ sentimental sights reference and relish eighteenth-century fiction.

However, the field of eighteenth-century knowledge most relevant here is its

medicine: curious, individualized, saturated with sensibility, in which a patient's pathological body provides an index to character. (106)

The coroner comments on the dead man's character rather than just the disease and adopts a sentimental gaze familiar in Dickens' works.

Kennedy does not consider *Bleak House* in her analysis; however, the sentimental gaze is present not just in moments of death and illness but as a character trait of Allan Woodcourt, the primary doctor character. Kennedy suggests that Dickens' "use of sentiment also recalls eighteenth-century medical narrative norms that sought to certify the physician's insight by demonstrating his sensibility and sentiment as healing and diagnostic tools" (107). Woodcourt's strength as a doctor is his ability to sympathize with patients and evoke emotion in readers. The first appearance of Mr. Woodcourt has him talking to Miss Flite "in a grave kind of voice as if he were appealing to her while speaking to us and laying his hand gently on her arm" (Dickens 178). Throughout the descriptions of Woodcourt, he is sympathetic in his voice. There is an absence of a gaze that looks to diagnose, replaced by kind gestures of "laying his hand gently." Woodcourt's description also implies he is not recording data for observational notes; he is engaging in human interaction.

Throughout the novel, emotions and sentiments crowd instances of Woodcourt's observations. For example, Woodcourt "look[s] at [Miss Flite] with an observant smile" (Dickens 178). His observations are not harsh, and include a smile, a show of kindly emotion. After Esther falls ill, she has marks on her face. When she sits without a veil in front of Woodcourt, she observes that "he was so very sorry for me that he could scarcely

speak” (Dickens 549). Esther sees his sympathy. Even when Woodcourt gazes at Richard, Esther notices that Woodcourt “frequently glanced at his face as if there were something in it that gave him pain” (Dickens 549). Esther notes that Woodcourt’s gaze evokes emotion in himself. The doctor role Woodcourt embarks on includes empathy. But this is a testament not only to his character but to what Dickens believes medicine at large should include.

In [Figure 1](#) we see a nurse and a patient in Hablot Knight Browne’s watercolour painting for one of his illustrations for *Bleak House*. The nurse looks compassionate, and the patient clings on to the nurse for support. The patient is in her own room, and the role of the care-giver is one of comfort much like Woodcourt. Dickens’ insistence on empathy is not only for his doctor character but for the entire medical community. Kennedy argues that “with the imagined ability of the sentimental aesthetic to solicit and direct the gaze and affect of the viewer, Dickens hopes to enlist viewers’ hearts in his social reformist projects, marrying idealism to a goal often associated with realism” (107). Among these projects we might include the provision of health care. Since Dickens sees medicine as a social endeavour meant to alleviate suffering, he evokes emotion in how the doctor perceives others to garner pity for the suffering poor of London. Dickens provides the example of a compassionate doctor.

While there are numerous examples of Woodcourt’s sympathy, particularly intriguing is his use of his title as comforting. In approaching a poor woman on the street, while “avoiding patronage or condescension” he says, “I am a doctor. Don’t be afraid. I wouldn’t hurt you for the world” (Dickens 554). In Woodcourt, Dickens demonstrates the correlation between being a doctor and a commitment to care for others while avoiding

harm.<sup>4</sup> Woodcourt's doctor title is used to comfort the poor. This is in accordance with Dickens' ideal doctor's role to serve the poor to whom he speaks without condescending. The absence of a patient bed here suggests that doctors are for humanity and not a hospital enterprise. Woodcourt meets people where they fall ill, in their spaces. Foucault discusses the importance of natural spaces saying, "the natural locus of disease is the natural locus of life—the family: gentle, spontaneous care, expressive of love and a common desire for a cure" (17). Woodcourt is a natural doctor, in all his expressions and genuine kindness. Throughout the novel, the word "hospital" is mentioned vaguely a mere four times. Woodcourt represents the opposite of Foucault's "hospital doctor" who operates in an "artificial locus" (17). In *Bleak House* Dickens demonstrates the sympathetic gaze, one that is not localized to a space or patient but extends towards every human it encounters. Dickens' doctor actively resists the changing medical movement and holds on to the ideals of a humanitarian doctor role rather than a researcher.

### **The Scientific Gaze: Lydgate's Medical Gaze in *Middlemarch***

Moving away from eighteenth-century ideals, Eliot's *Middlemarch* explores the impact of scientific doctors. Tertius Lydgate, a scientist-doctor, navigates the spaces and the gazes that Foucault criticizes. Through Lydgate, Eliot demonstrates the effect of the new gaze, which is neither spiritual nor sentimental, rejecting both Kingsley's and Dickens' ideals. *Middlemarch* is largely involved in discourses of science and literature. Kennedy

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<sup>4</sup> The Hippocratic Oath was introduced into the graduations of medical students since 1500 in Germany and was included in Western schools by the 1700s (Hajar, 155)

notes that in *Middlemarch*, “both narrator and narrative are openly preoccupied with the questions of science, observation, and objectivity” (122). *Middlemarch* represents a critical change in the gaze. In juxtaposition to other texts, Lydgate’s development of the medical gaze becomes a historical marker of scientific ideals changing the form of medicine.

The first change in science was the privileging of sight (occurring before this era but in the Victorian era, we see that a society undergoing medical reform first focused on sight), and Eliot actively connects science with sight. The narrator relates that in *Middlemarch*, “there was still scientific work to be done which might have seemed to be a direct sequence of Bichat’s” (Eliot 139). Xavier Bichat (1771-1802) was a French physiologist known for his anatomical discoveries and knowledge of tissues. The advancing of the inner workings of humans meant that the gaze exceeded superficial or emotional interactions. The gaze itself dissected humans into parts and tissues, and Eliot calls Bichat, not a scientist, but a “great seer,” who “did not go beyond the consideration of the tissues as ultimate facts in the living organism, marking the limit of anatomical analysis” (Eliot 139). Bichat extended the gaze to a limit, and it was now up to other scientists to extend the gaze beyond tissues. These French ideals were “already vibrating along many currents of the European mind,” and it was with these ideas that “Lydgate was enamored,” so “he longed to demonstrate the more intimate relations of living structure” (Eliot 139).

The narrator introduces Lydgate as a researcher gazing at parts, not humans. His introduction is not as a doctor showing empathy for his patients as Woodcourt does. Instead, the narrator says that Lydgate

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. (139)

Lydgate's investigations include using the scalpel of dissection to gaze into bodies and microscopes to gaze beyond bodies. The narrator notes that these instruments had a revival in their community and this revival is directly correlated with changes in medical practice. Lydgate is primarily a scientist as he gazes at the material world to advance the knowledge of a scientific community.

In contrast to Allan Woodcourt, who meets patients in their natural spaces, Lydgate aims to open a hospital. Foucault argues that the hospital “creates disease by means of the enclosed, pestilential domain that it constitutes” and marks the beginning of the “institutional spatialization of disease” (18-20). Lydgate's passion for the new hospital in Middlemarch is rooted in scientific discovery and not in humanity: “the Hospital was to be reserved for fever in all its forms; Lydgate was to be chief medical superintendent, that he might have free authority to pursue all comparative investigations” (Eliot 425). The hospital is a place of investigation and study. Lydgate receives authority and an opportunity to exercise his medical gaze. Foucault criticizes this space as “a homogenous space in which no intervention is authorized except that of a gaze” (19). Middlemarch does not react positively to this hospital.

In Middlemarch, “there was an immediate refusal on the part of every medical man in the town to become a visitor at the Fever Hospital” (Eliot 426). The issue of the hospital had



become political. Foucault calls this a political consciousness where “the first task of the doctor is therefore political: the struggle against disease must begin with a war against bad government” (33). Lydgate’s failure occurs because he is too ambitious for scientific discovery to consider the political nuances within the hospital. For him, patients are difficult

Whereas Fever had obscure conditions, and gave him that delightful labor of the imagination, which is not mere arbitrariness, but the exercise of disciplined power—combining and constructing with the clearest eye for probabilities and the fullest obedience to knowledge. (154)

Lydgate is ambitious to achieve “disciplined power” over patients in order to view obscure cases. His desire is for knowledge, not humans. The medical community in Middlemarch does not oppose Lydgate for his desire for knowledge; rather they do not react well to the authority Lydgate wants over patients.

When Bulstrode decides to step away from the hospital, he says, “it will be desirable to win a more general support to the New Hospital by a change of system” (Eliot 641). Lydgate’s ambitious goals with the hospital fail because of a failure to modify his practice in accordance with existing methods. When Bulstrode decides on “an amalgamation with the Infirmary, so that the New Hospital shall be regarded as a special addition to the elder institution, having the same directing board,” he accepts that a separate science institute is not a viable option in Middlemarch (Eliot 641). It is important to note that hospitals as centres for research and patient care were a development of the late nineteenth century, some decades after the time in which the

novel is set. In the early nineteenth century, hospitals were still usually infirmaries and places for elder care as Bulstrode notes here. Society rejected the idea of the hospital as a scientific place.

Lydgate responds to the amalgamation of the hospital with other institutions by saying, “one of the first results will be that the other medical men will upset or interrupt my methods” (Eliot 641). Lydgate is concerned with losing authority over his methods. His scientific gaze focuses on method rather than care, and he expresses an ownership of his science in saying “my methods.” In *Middlemarch*, in the earlier nineteenth century, there is not yet a political medical consciousness united under a singular method. Eliot presents the challenge of a changing medical system. Not only was medicine without method and institute prior to changes that took place in the nineteenth century, but it involved heavy debate and reform in establishing its rigor and prestige in the method. In denying Lydgate a space for fever observation, the town takes away Lydgate’s power to employ the medical gaze. Foucault argues that “the medical gaze circulates within an enclosed space in which it is controlled only by itself in sovereign fashion it distributes to daily experience the knowledge that it has borrowed from afar and of which it has made itself both the point of concentration and the centre of diffusion” (30-31). Lydgate’s gaze requires the space and sovereignty which he is denied when the hospital is joined with the infirmary.

Along with rejecting political motives, Lydgate also resists having any religious affiliation within the hospital. In contrast to Kingsley’s *Lancelot*, Lydgate sees no connection between faith and science. Prior to opening the new hospital, the first issue that the board of directors needs to decide is who will be the chaplain. The matter of

having a spiritual guide within hospitals is of utmost importance to those in Middlemarch but one that Lydgate disregards. Bulstrode explains to Lydgate that although there is a “peculiar bias of medical ability is towards material means,” he hopes that Lydgate recognizes “the existence of spiritual interests in [his] patients” (Eliot 117). This conversation occurs in the section titled “Old and Young,” where Lydgate and Bulstrode represent the changing of old medical ideals into newer scientific models. While Lydgate claims to acknowledge spiritual values, he replies with a caveat, saying, “but those words are apt to cover different meanings to different minds” (Eliot 118). Lydgate dismisses spirituality as something subjective. Furthermore, he asserts that when it comes to religious matters, “as a medical man I could have no opinion on such a point” (Eliot 117). In stark contrast to Kingsley’s hope that doctors do God’s work, Lydgate creates a clear distinction between faith and medicine.

It is unsurprising then that the medical men in Middlemarch “implied that [Lydgate] was insolent, pretentious, and given to that reckless innovation for the sake of noise and show which was the essence of the charlatan” (Eliot 426). A town with eighteenth-century ideals sees the new medical knowledge as pretentious and fraudulent compared to their individual methods. The performance of science is insulted for its methods that do not conform to older societal ideals in religion, politics, and human sentiment. Lydgate, meanwhile, sees himself as above others in his desire to live an “exclusive scientific life” and as he feels “a triumphant delight in his studies, and something like pity for those less lucky men who were not of his profession” (Eliot 155). However, the medical community in Middlemarch dislike both the pretense and the authority of a scientific medical practice. When it was an art form, medicine operated on chance, with no absolute

authority given to a system. There was no isolated space for medicine to conduct itself; rather, it was among the social spaces of human life. There was also no scientific gaze which dominated medical practice, and so no monopoly on the practice by one prevailing organization. Lydgate represents the epitome of the changing medical views, as he demands an isolated space to practice the medical gaze and denies the artistic form of medicine.

Kennedy argues that “like Eliotian realism but unlike most other sciences, mid-century medicine struggled to fulfill the demands of its empiricist skepticism without renouncing its more idealist, humanist aims. Physicians and novelists had to simultaneously embrace a stringent realist ideology and the idealist demands of their art” (123). Eliot felt a need to depict an ambitious scientific doctor rather than a humane one such as Woodcourt in her commitment to realism. However, in this depiction, Lydgate loses the readers’ sympathy because he cannot reconcile his scientific ambitions with the doctor’s humanitarian role.

### **The Institutionalized Gaze: The Medical Enterprise in Doyle’s *The Stark Munro Letters***

By the time Doyle published *The Stark Munro Letters* in 1895, scientific ambition, pride in the profession, and separate institutes for medical care had been established. Whereas in *Yeast* and *Bleak House*, the clinic does not exist, and in *Middlemarch*, the clinic is conceived as an over-ambitious idea, in *The Stark Munro Letters*, the clinic is born. The medical establishment is casually mentioned in Doyle's novel without any argument. For example, Munro puts on his “professional coat,” the new uniform of the medical practitioner. Such a uniform is absent from all three previous doctor characters. The same

practice that struggled with unity in Middlemarch now has a symbol of collective thought and uniformity. Novelists do not have an associated uniform since they are not part of an institute. When medicine was an art, it retained individuality. As it shifted into a scientific enterprise, it required uniformity.

Yet Munro prides himself and the scientific community on individual thought. The scientific community does not realize its own resemblance to the very systems of uniform thought (such as religion) that it criticizes. Munro says, “The whole essence of our thought is independence and individual judgment; so that we don’t get welded into single bodies as the churches do” (Doyle 172). Here, not only does Munro clearly separate the church from medical practice, in a stark contrast to Kingsley, but he also asserts that medicine allows room for independent thinking. Yet, in the institutionalized medical practice and the training which Munro undergoes, he becomes part of the collective he so vehemently dislikes. Munro repeats Kingsley’s concern that the young generation is drifting from faith, but Munro considers it a necessary change when he says,

Taking the scientific, the medical, the professional classes, I question whether it exists at all. The clergy, busy in their own limited circles, and coming in contact only with those who agree with them, have not realized how largely the rising generation has outgrown them. (Doyle 173)

Again, Munro fails to realize that the medical community is also becoming its own “limited circle” so that doctors find themselves only amongst those who agree with the science of the time. The danger in acknowledging this is that subsequent generations may

also outgrow science for the same reason the youth became distanced from the church. The most drastic change in medicine occurred through its institutionalization.

The letters show numerous examples of the professionalization that has already occurred in medical practice. In his review of Doyle's novel, an anonymous author A.L.B wrote in the American Medical and Surgical report that it is precisely because the changes in medical practice are not "emphasized by the author, but that they are alluded to in the most incidental manner" that confirms the accuracy of the medical representation (155). For example, one of Dr. Stark Munro's first appointments is with Lord Saltire's son, James. Unlike Woodcourt, who treats the patients he attends to humanely, Munro maintains a distant relationship, referring to the person not by name but by their role. After Lord Saltire introduces James by name, Munro still refers to him consistently as "my patient" (Doyle 92). Although Munro provides descriptions of his patient's home and family, he remarks, "the thing that interested me most of all was to see my patient" (Doyle 91). The doctor's gaze is focused and singular. Dr. Munro immediately acts out his doctor role as he "drew a chair over to his sofa and began to ask him a few questions about his health and habits" (93). Without asking about the person's interests and without any words of comfort, Munro asks only for facts about the patient's health. When Munro meets James, he immediately begins to collect data. Although James is not in a clinic and begins to resent "the constant watch," Munro describes his duty as follows: "I was supposed to have my eye on him all day" (96). Facts of health and constant observation establish a distinct patient-doctor role.

In describing James Cullingworth, Munro provides short anecdotes that reveal characteristics limited only to clinical relevance. Despite knowing Cullingworth

personally, when assuming a doctor role, Munro notes that he “looked at his chart, and saw that he was over 102 degrees,” and when talking to James, Munro asks, “any symptoms?” (Doyle 248). In this doctor-patient interaction, Munro collects information, looks at chart records, and assumes a professional role rather than a human connection. In describing his work at Horton's practice, Munro says, “all the names of patients under treatment are pinned up on a big board. We sit round with notebooks open and distribute those who must be seen between us” (Doyle 120). The use of notebooks and discussion amongst doctors is something Foucault considers: “the examination of cases, the writing up of detailed account of them, and their relationship with a possible explanation” are all part of the scientific enterprise of the changing medical form (Foucault 58). The medical gaze is distributed amongst patients as the clinician compiles notes to make a collective diagnosis based on science. The collection of information and round discussion of the patients further dehumanizes the patients visiting the clinic. As Foucault argues, a clinic involves a “constant gaze upon the patient” (54). There is an apparent lack of emotional connection. The language surrounding care has changed from Woodcourt's empathetic smiles and lack of notetaking to Munro's emotionless information collection.

Furthermore, in Cullingworth's introduction to the clinic, he lays some ground rules for dealing with patients. Although in the context of the novel this is understood to be a satirical extreme of doctors, Cullingworth's attitude is a commentary on the underlying tones of the new medical practice. He stipulates that “[it] should be pure condescension on your part seeing them at all” (Doyle 171). The gaze reduces the patient to a commodity. Cullingworth believes that the doctor has inherent authority and believes that a hierarchal doctor-patient is part of the profession. He also tells Munro, “Never make the

fatal mistake of being polite to them” (Doyle 172). The training dehumanizes patients so that seeing is based not on social conventions but on professional rules. The role-based practice is a direct consequence of scientific thought.

After seeing Cullingworth's clinic, Munro reflects:

I, watching his prescriptions, could see a quickness of diagnosis, a scientific insight, and daring and unconventional use of drugs, which satisfied me that he was right in saying that, under all this charlatanism, there lay solid reasons for his success. Indeed, “charlatanism” is a misapplied word in this connection, for it would describe the doctor who puts on an artificial and conventional manner with his patients rather than one who is frank and true to his extraordinary nature.

(Doyle 176)

Although Munro is taken aback by Cullingworth’s fast-paced clinic, he observes the “scientific insight” that seems to justify the practice. While the doctors in Middlemarch accuse Lydgate of charlatanism because they cannot understand scientific reasoning, Munro defends himself against the same accusation. The association of medical man with charlatan is significant because in both the methods are misunderstood. When lay people cannot understand why a doctor follows a particular method, for them it appears only conventional. Munro can defend against the accusation that medicine is performative because he has studied the sciences and understands the process. Therefore, Munro says that he can understand the “solid reasons” behind the prescriptions and diagnosis. Munro speaks with the prestige of a doctor without acknowledging that medicine has an element of performance. Here again we see the exclusive enterprise medicine has become by the



late nineteenth century. Its methods are only understood by the few involved directly in it with their training, while to the rest of the public medicine still appears to follow artificial rules.

Munro connects science with what is accurate; therefore, it cannot be “artificial.” In Eliot’s novel, scientific reasoning is still largely an illusion used to justify pretenses in the medical profession. In Doyle's novel, science comes with a justifiable prerogative. Foucault discusses the importance of the clinic in establishing the acclaim in the new scientific realm of medicine: “The clinic figures, then, as a structure that is essential to the scientific coherence and the social utility and political purity of the new medical organization. It represents the truth of that organization in guaranteed liberty” (Foucault 70). Although Munro does not directly use the word “clinic” in his descriptions, the details of his practice and medical language imply the organization at work: “scientific coherence” is represented in uniforms, records of observation that doctors share, and distinct doctor-patient roles. While these are not new to the nineteenth century, the mention of these practices in texts, especially in contrast to the other novels, marks the significant changes that occurred in the medical profession.

Munro operates within a structure of science and business. Medical practice has now become an organized scientific enterprise: a structure of science. In his clinical practice, Munro reflects:

Cases came dribbling in from day to day—all very poor people, and able to pay very poor fees—but still most welcome to me. The first week I took (including that operation fee) one pound seventeen and sixpence. The second, I got two

pounds exactly. The third, I had two pounds five, and now I find that this last week has brought in two pounds eighteen; so I am moving in the right direction.

(Doyle 155)

Munro refers to his patients as “cases” and instead of descriptions of their health, conditions, or even personalities, Munro describes only the money he gains from each. Munro is not purposefully dehumanizing the patients whom he sees: he acknowledges that the poor are welcome to him. However, as part of the system, Munro cannot see outside of the new structure that views patients as commodities and disease as business. Munro’s indication that the increased gains in money mean that he is “moving in the right direction” rather than concerning himself with the comfort or health of his patients demonstrates how deeply embedded the medical enterprise has become in the doctor’s practice. Foucault’s criticism of the dehumanizing changes nineteenth-century medicine brought is relevant even in literary works.

### **The Art of Gazing**

From Kingsley to Doyle, each novelist incorporates the changing medical ethos into their works. Whereas Kingsley urges reconciliation of the spiritual with the material, Dickens champions sympathy, and Eliot leans toward reality. Doyle’s novel, in an epistolary form, describes the changed medical practice. The nineteenth-century evolution of science in medical practice influenced the doctor’s gaze, and these novelists used the changing views to construct their doctor characters. Kennedy posits that since “physicians disagreed about the complementarity of their humanist ‘art’ and empiricist ‘science,’” it

follows that “many physicians gloomily forecast an incommensurability between the precise detail of clinical observation and the longer view of humanism” (123).

The struggle between the arts and sciences becomes more apparent in the medical field as the clinic’s structure allows little room for emotion. Each novelist chooses a side. In a time when medicine was not yet established as a science, Kingsley reconciles faith with humanity and science, while Dickens holds on to humanitarianism. In her realistic portrayals, Eliot demonstrates the struggle between affect and science, whereas Doyle fully adopts the scientific model. Each novelist represents the medical gaze according to their changing times. Kennedy argues that the “debate over progress in medicine centered on questions of visibility, particularly the problem of reconciling different kinds of medical vision” (124). Medical vision is an important marker of the changing systems.

A genre of art, such as a novel, allows for varied interpretations. In novels, the narrator’s notes on human life are an artistic interpretation of the world, no matter how real the descriptions seem. The narrator’s gaze is subject to scrutiny and interpretation. A field of science, such as medicine, aims for multiple observations to arrive at a single truth.

Kennedy notes that “many early-century medical writings then use the pejorative term ‘speculation’ as shorthand for ‘inductive reasoning unfounded on facts’” (158). The medical profession presumably closed itself off from interpretation and speculation as it became rooted in the sciences and seemed utterly to repudiate art. The art of the novel, in contrast, became speculative. Whereas medicine once based treatments on intuition, by the late nineteenth century it prided itself on using scientific observation to arrive at the truth. Yet, even in this seemingly exclusively scientific approach, art is still operant.

Foucault criticizes medicine’s reliance on the scientific gaze when he says, “the art of

describing facts is the supreme art in medicine” (114). He argues that “for a clinic, all truth is sensible truth” that is derived only from immediate “sensory knowledge” so that the “whole dimension of analysis is deployed only at the level of an aesthetic” (120-121). Foucault’s description of the shallow analysis of medicine reveals that medicine, too, is still rooted in interpretation and aesthetic values but only denies it. Thus, Foucault calls the clinic an unacknowledged art form. He says,

the whole complex structure of the clinic is summarized and fulfilled in the prestigious rapidity of an art since everything, or nearly everything in medicine, is dependent on a glance or happy instinct. (121)

Although medicine claims its observations lack speculation, the gaze involves a suppressed individuality to maintain a scientific model. Foucault refers to the individuality of the gaze when he says,

Certainties are to be found in the sensations of the artist himself rather than the principles of the art. The technical armature of the medical gaze is transformed into advice about prudence, taste, and skill: what is required is “great sagacity,” “great attention,” “great precision, great skill [and] great patience.” (121)

Novelists also possess “great sagacity,” “great attention,” “great precision, great skill [and] great patience,” but their observations do not always conform to an organized structure. In analyzing the character’s gaze, we realize that the gaze is subjective. It may attempt to follow an ideal, whether spiritual, sentimental, or scientific, yet it is unique to the individual artists who use the gaze. An analysis of doctor characters reveals that doctors gradually adopted changing views of medicine, but their appearance in novels

still represents an art. The representations of their work within the texts, whether it reflects God's plan, heroic humanitarianism, or scientific research are also an art form. By representing medical thought in their novels, these authors used medicine as an art form. The gaze is just one of many examples directly affected by scientific thought that influenced the depiction of doctor characters in novels.

### Chapter 3: Homeostasis in Victorian Novels

For there is no creature whose inward being is so strong that it is not greatly determined by what lies outside it. – George Eliot, *Middlemarch*

Medicine did not always include experiments. One of the fundamental changes that transformed medicine from an art to science was the entrenchment of the experimental method. Although Claude Bernard was an early nineteenth-century French physiologist rather than a medical doctor, his aims to have “the experimental method pervade medical science” significantly impacted Victorian medicine (3). Bernard posits an intimate connection between observation and experiment:

Only within very narrow boundaries can men observe the phenomena which surround him; most of them naturally escape his senses, and mere observation is not enough. [...] But man does not limit himself to seeing; he thinks and insists on learning the meaning of the phenomena whose existence has been revealed to him by observation. So he reasons, compares facts, puts questions to them and by the answers which he extracts tests one by another. This sort of control, by means of reasoning and facts, is what constitutes experiment. (4)

According to Bernard, experiments involve some form of control. While observation is the basis of the experiment, it is only with external theories and reasoning that an actual experiment occurs. So, an average human observing nature like Lancelot in Kingsley’s *Yeast* is not experimental as he observes nature. However, Eliot’s Lydgate, as he observes patients and seeks control over their fevers, turns his patients into experiments.

In *The Birth of the Clinic*, Foucault criticizes the link that transforms observations into experiments. The “medical gaze” is not a neutral observation. Instead, it observes to gather facts and further tests the patient’s body for its knowledge rather than the benefit of the ill. Eventually, the meaning of disease and the theory behind a diagnosis became more important than the treatment of the patient. Foucault directly references Bernard when he says: “physiological knowledge—once marginal and purely theoretical knowledge for the doctor—was to become established (Claude Bernard bears witness to this) at the very center of all medical reflexion” (35). The theory of experiment became an established practice in the nineteenth century.

As doctors became scientists, their tools for observation became more nuanced as they gathered facts. Bernard notes that the doctor “has had to increase the power of his organs by means of special appliances; at the same time, he is equipped himself with various instruments enabling him to penetrate inside of bodies to dissociate them and study their hidden parts” (5). Eliot references her scientist doctor becoming enthused by research “not only of the scalpel, but of the microscope” (139). Dissections and microscopy became part of the standard practice of Victorian medicine, not for their need in health care but for their significance in medical research. These practices allowed observations to expand the “narrow boundaries” to gather concrete facts.

As a science, medicine prided itself on its presentation of facts. In his appeal to make medicine a science, in 1868, Joseph Kidd says, “in medicine, the ultimate appeal must be to facts, which true science discovers, arranges, combines, and interprets” (37). Kidd’s remarks on science reflect Bernard’s definition of the experiment. In the latter half of the nineteenth century, science and experiment became synonymous. Science became that

which uses the experimental method to arrive at its conclusions. Kidd also maintains that Bernard's contributions were revolutionary for medicine: "Claude Bernard's demonstration of the effects of the section of the sympathetic nerve in the neck marks an era in physiology most instructive to the physician" (Kidd 58). While acknowledging Bernard's contribution to the knowledge of medicine, it seems that the subjectivity of the experiment is a scientific blind spot. Kidd also asserts that the failure of medicine to become a science is due to the "neglect of the observation of the actual phenomena of disease" and doctors who instead "substitute theory or opinion" (16). It seems that the medical community did not acknowledge the existence of individual opinions.

Meegan Kennedy argues that "the movement toward experimental medicine at mid-century, influenced by the French pathologist Claude Bernard, helped make space in medicine for a kind of insight, hypothesis, or 'speculation'" (5). Kennedy's approach is contrary to what medicine thought of itself. For doctors like Joseph Kidd, medicine was moving away from subjective speculation. However, the simple push towards objective facts seems to mask an artistic approach. An experiment involves following intuition and anticipating unknown outcomes. Meegan Kennedy discusses the role of subjectivity in science:

Speculation and insight in nineteenth-century medicine, unlike mechanical observation, invite a sympathetic or humanist mode of investigation that acknowledges the subjective experiences of both narrators and their objects of study. (5)



While observation tools seemed to increase objective facts, they were shaped by individual perception and only expanded the realm in which an individual could exercise an opinion. The doctor-scientist appears at odds with the humanist doctor. It seems that as medicine became a science and doctors became part of a more extensive system of practice, it closed the space for the “humanist mode of investigation.”

Yet, the introduction of conjecture into science puts the reputation of science in disrepute. In *Middlemarch*, Eliot writes, “everybody liked better to conjecture how the thing was than simply to know it; for conjecture soon became more confident than knowledge” (677). Conjecture is associated with the layman’s opinion, as it is what everyone is involved in and lacks foundation. However, it is conjecture and the conviction of Lydgate’s guilt that ultimately drives the plot of *Middlemarch*, as discussed later in this chapter. Conjecture is set as the opposite of knowledge and science. Yet, it plays a fundamental role at the beginning of experiments because conjecture is human, and investigations are based on human intuition. This notion is heavily debated in the science community. Lydgate, Eliot’s iconic doctor-scientist character, says:

the purest experiment in treatment may still be conscientious: my business is to take care of life, and to do the best I can think of for it. Science is properly more scrupulous than dogma. Dogma gives a charter to mistake, but the very breath of science is a contest with mistake and must keep the conscience alive. Alas! the scientific conscience had got into the debasing company of money obligation and selfish respects. (Eliot 695)

The human figure behind science is what turns the idea of science into a practiced art form. While nineteenth-century science proponents pushed for science's purity, they forgot that science itself is a dogma ascribing to facts of science as the highest authority. Lydgate dissociates science from dogma, making science free of error. He claims that any notion that science is tainted is false. However, the actual practice of science involves human error. Therefore, the "doctor-scientist" will continuously be at odds in trying to fit the conscientiousness of an ideal science that humans cannot practice on humans.

It is in novels that the humanist mode expands itself. Bernard introduces a method of inquiry into science that gave room to theory, and by making experiment a science, he made human error a part of scientific inquiry, which Lydgate vehemently denies. The room for experiment speculation explains why Emile Zola also uses Bernard as the basis for his *Experimental Novel*. Zola says that

the scientific domain is extending and conquering all the manifestations of human intelligence. Since medicine, which was an art is becoming a science, why should not literature also become a science by means of the experimental method? (29)

Zola insists that "it is the experimental method alone can bring the novel out of the atmosphere of lies and errors in which it is plunged" (41). However, if the experiment allows for speculation, then there seems to be a contradiction between the objective truth claimed by science and its allowance for the humanist undertones of an experiment.

An experiment is not based on solid facts but begins with human intuition and speculation. Zola believes that "men still look upon the doctor as an artist because there is in medicine an enormous place still left to conjecture" (29). However, the experimental

method does not eliminate conjecture but only places it within a structured system. This is the humanist side of an experimental technique that proponents of science such as Zola often neglect.

Once the humanist side of investigation opens, its applicability expands further into literature and blurs the lines of science and arts once again. The four Victorian novels examined in this thesis grapple with the contest between humanity and science. With the established enterprise of medicine taking the importance of science to one extreme, novels allowed room for varied interpretations on the balance of science and humanity.

### **The Experimental Method and Homeostasis: Restoring the Balanced Normal**

While scholars focus on Bernard's contribution to medicine through his experimental method, Bernard's impact on Victorian literature is far more extensive. Zola used experimental techniques as a grounding force for the novel to become scientific.

However, before Zola's experimental novel, we must examine the premise on which experiments operate: the normal. Bernard's premise for an experiment is that a "normal" state must exist, a stable internal environment. Any experiment disrupts that environment, and the body compensates. There is an emphasis on returning to a previous normal state.

In his *Lectures on the Phenomena of Life Common to Animals and Plants*, Bernard explains the concept of an internal environment:

I believe I was the first to insist upon this idea that there are really two environments for the animal: an external environment in which the Organism is placed and an internal environment in which the elements of the tissues live. (83)

Bernard's distinction between outside and inside sets the grounds for the concept of homeostasis, which is when an organism strives to maintain a constant internal environment in the face of external pressures. The desire for dissections and anatomical knowledge increased to determine the constant internal state.

The foundation of an experiment is this internal balance, later known as homeostasis. An experimenter exerts some change on the organism's external environment and then observes the changes created by the internal systems to counteract the imbalance.

Bernard emphasizes the reactions that occur internally, saying, "it is again the internal environment that receives the influence of the external environment, and reawakens each element in turn, according to its sensibility or excitability" (79). An attempt to maintain an internal environment matches the striving for the norm, which also arose in the nineteenth century.

In *Enforcing Normalcy*, Lennard Davis notes that between 1840 and 1860, British society moved towards a conscious elimination of the ideal in favour of an average standard (24).

While Davis argues that this creation of the norm defines the disabled, it is also intimately linked to the concept of homeostasis. Once research determines a standard of normal functioning within an organized body, any deviation from that standard would be abnormal and therefore a target for correction. Once medical practice ascribes to the normative, interventions further stigmatized any deviations from the norm. Foucault discusses the normative narrative overtaking medical practices:

the prestige of the sciences of life in the nineteenth century, their role as model, especially in the human sciences, is linked originally, not with the comprehensive

transferable character of biological concepts but rather with the fact that these concepts were arranged in a space whose profound structure responded to the healthy/morbid opposition. When one spoke of the life of groups and societies of the life of the race or even of the psychological life one did not think first of the internal structure of the organized being but of the medical bipolarity of the normal and pathological. (Foucault 35)

Just as Davis cites the “hegemony of normalcy” constructing the disabled, in medicine, as Foucault notes, the standard body constructed the pathological (45). Patients became experiments as doctors treated their pathological conditions in a manner that sought only to return to the standard of most human bodies. Therefore, every treatment that seeks to return to a previous condition becomes an experiment.

As physiological knowledge expanded in the sciences to include a regular functioning system within the body, this translated into medical practice and novels. Davis argues that

the normalizing devices of plot to bring deviant characters back into the norms of society, to the normalizing coda of endings, the nineteenth- and twentieth-century novel promulgates and disburses notions of normalcy and, by extension, makes of physical differences ideological differences. Characters with disabilities are always marked with ideological meaning, as are moments of disease or accident that transform such characters. (15)

Just as in the body, an illness threatens the social norm. Within the plots of novels, deviance threatens the ideological foundations of society. Instead of physical differences

representing ideological differences, in the four novels discussed in this chapter, ideological differences themselves are abnormal and considered a diseased state. While Davis focuses on physical deformity, the insistence on returning to the norm exists even in the absence of outward disability.

Within medicine there were two competing narratives of the normal. On the one hand there was an effort to maintain a norm, and on the other, a desire for progressing away from the normal. In some ways, diseased conditions and unsanitary conditions were normal to the Victorians. Medicine started off as an anomaly fighting against the norm of illness, but with time its normative practices became comparable to standard bodies rather than standard conditions.

The four Victorian novels in this thesis represent some ideological disease in society. Kingsley and Eliot particularly endeavour to return to the previously known norm and reject the diseased ideologies, whether it is Lancelot's denial of faith or Lydgate's ambition for medical pursuits. In both cases, the society constructed within the novel is at odds with the ideals represented by these young men. Dickens, however, seems to accept a new normal, one that is inherently diseased. In *The Stark Munro Letters*, Munro also seems to observe the world as a new normal. In *The Healthy Body and Victorian Culture*, Bruce Haley argues that "Victorians sought a concept of health which was environmental in a broad sense, which took into account the individual's responsiveness to elements, both physical and psychological, in the outside world" (105). This notion of responsivity to the outside is prominent in Victorian novels, and so foreign ideas and new concepts are made the "outside" while the norms of society are "inside." The interaction between the novel's outside and inside cultures creates the diseased conditions the authors set to

eradicate. Using homeostasis as a model to analyze literature expands the middle ground for science and literature and opens both literature and science to new interpretations.

This chapter will explore the homeostasis of the four novels in this thesis to understand how each novel constructs an internal environment and then experiments on their normal with “deviant” ideas. Novels prior to Bernard’s discussion of the milieu interior still foreshadow ideas of balance and the external world. The idea of balance in science was not foreign to the literary texts. As the rigour of science allowed less room for the humanist approach to seep through into medical practice, the novels managed to represent science and art simultaneously. The chapter looks at how the texts represent opposing ideals along with how they construct an internal balance within their novel worlds. Furthermore, as experimenters, each author introduces a foreign idea or concept that impacts the balance and disrupts the normal. The chapter will explore how the texts restore balance and strive for either a previous or new normal.

### **“Anarchic Forces”: Spiritual Disease as Differences in Faith in *Yeast***

In *Yeast*, Kingsley attempts to show balance as a combination of spirituality and materialism. John Hawley describes Kingsley’s views on health, saying that Kingsley believed that “the state of health was the absolute harmony of mind and body” so that “any intellectual consciousness which threatened that harmony, was a disease” (112). The disease that Kingsley aims to correct is the extreme focus on the material world as it threatens the internal balance of mind and body.

Just as dissections provide an internal look at the body's state, Kingsley dissects the minds of individuals to demonstrate the inner workings of thought. The doctor attempts to alter the inner bodily state through prescriptions. Similarly, Kingsley attempts to prescribe religion as a response to the imbalance in mind. In the Preface to his first edition of *Yeast*, Kingsley says,

the young men and women of our day are fast parting from their parents and each other; the more thoughtful are wandering either towards Rome, towards sheer materialism, or an unchristian and unphilosophic spiritualism. (Preface)

Kingsley notices an imbalance in thought. His prescription for any deviation is the true Christian religion, which he believes is capable of “claiming, and subduing, and organizing those young anarchic forces” (Preface). Kingsley's language of exerting control over internal states in response to external pressures foreshadow the concept of homeostasis.

The external influences of Roman Catholicism or the material world shift the balance away from Kingsley's standard. Therefore, he prescribes what will subdue the change to maintain the religion (Anglicanism) that is at his time the normal. Kingsley considers the shifted nature of the young minds as “anarchic,” revealing that he believes in a system in which deviations are chaotic. Similarly, once medicine had established systems of physiological functions, any shift was regarded as anarchic, so the treatments prescribed also involved subduing chaos and organizing deviance. In an 1842 *Lancet* article, William Budd, a Victorian physician, writes, “it must be borne in mind that this element is an organized thing, essentially different in nature from the normal tissues of the body”



(295). In lieu of describing disease as harmful to health, it is contrasted against the normal, and the two are not synonymous.

Since medicine and literature both borrow each other's narratives, the disease narrative translates into literature as differences in opinion or faiths that stray from what the original society is used to. When disease is defined as that which is "different in nature from the normal," ideological differences become diseases. Thus, Kingsley's assertion that the "the medical man has set his mind to do one thing, —to hate calmly, but with an internecine hatred, disease and death" extends to hating anything that is out of the normal (26). The medical metaphors pour into literature, so that a hatred for disease extends to hatred for the abnormal when disease is so simply defined. Understanding the foundations of the changing metaphor in medicine explains why Kingsley's earnest appeal to write the novel was to correct the diseased states of youth's mind. Kingsley's aim is to restore balance to a previous state as he denies the progression of the current state.

### **"Raised in Corruption": The Elimination of the Immoral in *Bleak House***

In general, throughout *Bleak House*, Dickens resists scientific motifs of the mid nineteenth century. In maintaining a romantic narrative, Dickens does not adhere to realism in his novels, and so does not use scientific metaphors such as homeostasis. For example, in his assertion of spontaneous combustion, or depiction of a humanitarian doctor, Dickens constructs a novel that actively resists the changing medical metaphors

and insists upon the science of his romantic ideals. As a result, *Bleak House* does not adopt the changing medical narrative as easily as other novels. However, Dickens does manage to conceptualize the concept of an internal state. In *Bleak House*, the internal environment is not the ideal, nor is it balanced. Instead, the internal environment of London is corrupt in and of itself without any outside influences and represents chaos. During the burial of Nemo, the narrator says:

With houses looking on, on every side, save where a reeking little tunnel of a court gives access to the iron gate—with every villainy of life in action close on death, and every poisonous element of death in action close on life—here they lower our dear brother down a foot or two, here sow him in corruption, to be raised in corruption: an avenging ghost at many a sick-bedside, a shameful testimony to future ages how civilization and barbarism walked this boastful island together. (137)

Dickens constructs an interconnected society, but one that is mired in corruption. The personification of the houses makes them part of the collective mourning of someone from within the community. By relating that the houses are “on every side,” the narrator encloses the city’s space. The internal environment consists of people who live inside the houses, the people of the town, and the people on the streets. The narrator calls Nemo “our dear brother.” In this collective narrative, even an outcast who is not well known is part of the collective body.

The passage ends without offering much hope for change but rather an acceptance that the internal states are full of barbarism and perhaps will stay that way in the future. In

calling this “a shameful testimony,” Dickens depicts the internal world as one of despair and corruption. Furthermore, the environment itself is continuously “in corruption.” *Bleak House* sets out to expose the imbalance of the internal environment rather than maintain it.

In contrast to the spiritual imbalance tackled by Kingsley, Dickens establishes moral homeostasis. The problems that arise are not due to the entry of something foreign but to the evils of society itself. In Dickens’ narrative, immorality is expelled from the narrative to establish balance. Nemo and Lady Dedlock are killed off in the narrative and are tainted with the scandal of having an illegitimate child. Their child, Esther, remains in the plot but with a grand wedding as if to correct her parents’ mistakes and restore the moral homeostasis. Thus, Nemo’s death is significant for restoring another type of balance. In removing Nemo from the plot, Dickens removes the immorality of having an illegitimate child which would have no reconciliation. For Dickens’ plot to end happily, there can be no reunion of Lady Dedlock and Nemo due to the scorn they would face in society. They are a part of the interconnected city whose lives impact other characters as well, but Dickens eliminates both Nemo and Lady Dedlock.

Gary Mark Guinn argues that while the punishment of death for the sins of Lady Dedlock is typical to the Victorian principle of punishing a fallen woman, Dickens’ morality is in showing the contrast between the “integrity of John Jarndyce, Esther Summerson, and Allan Woodcourt as held up against the hypocrisy and selfishness of a vast array of ‘villains’” (137). Dickens sets up no internal homeostasis. Rather than an inside or outside distinction, the inside world is corrupt, one that needs reform and further emphasises the importance of moral people. Dickens constructs a world of chaos, and in

this world, Dickens does not restore a balance but shows the efforts of the few selfless people who manage the disorder within society.

**“This Particular Web”: Homeostasis in Bodies and Plots in *Middlemarch***

Using homeostasis to analyze how Middlemarch (the town) deals with Lydgate reveals how scientific metaphors became intertwined into realist literature, especially by Eliot. Unlike Dickens, who favours romanticism, Eliot strives for realism. Realism in novels mirrored observations of science. In a realist novel, the principles of science are more stringent, and thus the applicability of a novel’s homeostasis becomes more apparent. Eliot’s novel is significant in studying the relationship between science and art because she discusses the changing sentiment towards science with her characters while employing science within her text.

Lydgate represents the changing form of medicine into a research-based practice, but he also serves as an outside influence on the internal network of Middlemarch. He disrupts the homeostasis of Middlemarch. For Eliot, in adhering to science, a restoration of homeostasis requires the elimination of the foreign. However, this concept does not transfer so neatly when applied to human society. Before Lydgate’s introduction as “a new settler,” the narrator says,

I at least have so much to do in unraveling certain human lots, and seeing how they were woven and interwoven, that all the light I can command must be concentrated on this particular web. (Eliot 132)

The narrator establishes society as a complex web. Society as a body becomes an overarching metaphor in *Middlemarch*, especially since physiological sciences became the forefront of medical interventions. The narrator equates the task of analyzing human life with a doctor's research. Lydgate also believes that bodies "are not associations of organs which can be understood by studying them first apart" but instead "must be regarded as consisting of certain primary webs or tissues" (Eliot 138). Similarly, each character is not set apart in the novel; rather, the narrator emphasizes their relationship with each other and with the entire body of Middlemarch. The narrator's study of the collective whole of society creates an inner world. Thus, Lydgate becomes a representation of the outside world.

During Lydgate's initial time in Middlemarch, the societal body is ready to accept the foreigner. Eliot's narrator remarks that "Middlemarch, in fact, counted on swallowing Lydgate and assimilating him very comfortably" (144). Not only does Eliot reinforce the idea of the societal body by grouping Middlemarch's people as one whole "swallowing" Lydgate, but she also acknowledges that the body does not immediately reject foreigners. The introduction of the foreign forms is the basis of an experiment. In order to determine the stability of the inner world, we test its reaction to change. Thus, Lydgate is like an experimental drug tried on Middlemarch. Eliot establishes the constant internal state of Middlemarch and then introduces a new idea through Lydgate.

However, Lydgate's failure to integrate into Middlemarch is a part of his failure to recognize the interconnected webs of society. In Lydgate's ambitious gaze, he focuses only on medical reform, ignoring society's sentiments, political concerns, and even his marital bond. The irony here is that Lydgate's singular ambition to understand the

networks within the body leads to his failure to attend to the different organs that function within the body of society. Eliot seems to comment on experiments and science, revealing the dangers of ignoring networks. In the concept of homeostasis, the internal state is influenced and changed during the experiment. Its impacts are not limited to the target organ. In the case of Lydgate, his entrance into Middlemarch does not just change the views on medicine. He sparks debates on the chaplaincy, marries into the Vincy family, and becomes part of a scandal with Bulstrode.

Lydgate's foreignness exposes and expels Bulstrode as well. Just as Lydgate is ultimately forced to leave Middlemarch, so too is Bulstrode. In a simple experiment, the body rejects what it does not recognize. Like Dickens, Eliot has hints of moral homeostasis. However, she does not associate the immoral with an inside network. The narrative form seems to suggest that the inside network is pure, while corruption comes from the outside. Bulstrode is also a foreigner to Middlemarch, and while he was respectable and conformed to the internal ideals, society embraced him. However, as soon as Bulstrode is involved in a scandal, he is also expelled.

Lydgate and Bulstrode are tainted with shame when Raffles dies after Lydgate attends to him. Lydgate comments on the distinction the inner community of Middlemarch makes, closing him off because of their assumptions. Lydgate says, "they will all feel warranted in making a wide space between me and them as if I were a leper" (Eliot 696). Lydgate is isolated from the body as a disease is, as he reflects that he is "set down as tainted" and ready to be shunned (Eliot 696). He also acknowledges the space between himself and the people, marking a clear distinction of Lydgate as outside the norm. His association with a leper is significant since his new ideas are like a contagion. The metaphor of new

ideas as disease is a recurrent theme in *Middlemarch*. Lydgate says, “even if I could be cleared by valid evidence, it would make little difference to the blessed world here” (Eliot 696). Middlemarch is a world that prides itself on its pure state; even in the name itself, the “middle” resists extremes and strives for the normal state. Middlemarch, in its entirety, reflects the notion of the homeostasis model of maintaining the middle as the ideal.

Despite the overt drive for maintaining the middle, Eliot hints at a changing narrative in science and literature. In the last pages of *Middlemarch*, Eliot writes, “there is no creature whose inward being is so strong that it is not greatly determined by what lies outside it” (Eliot 785). The external environment seeps through and the barriers between inside and outside are not so clear. The same is true of literature and science. Within the same society, literature will reflect changes in science and science will reflect changes in literature. There is no discipline that is completely isolated from outside influences. Science apparently strives for an internal homeostasis, eliminating forms of “art” to maintain the strict science. However, science is not an isolated entity, especially in the field of medicine, which deals directly with people: it cannot maintain itself so strictly as a science. Eliot’s reflection reveals that the ideal of maintaining the middle is perhaps an impossible one. Instead, the evolution of the middle seems to be more realistic.

*Middlemarch* as a novel reveals the implications of striving for homeostasis, so while using scientific metaphors it also comments on the pitfalls of scientific theories that seek an internal balance. *Middlemarch* demonstrates not only how literature is deeply impacted by science, but also the limitations of science when it does not consider its implications on society through art. Since it is not realistic to assume that the metaphors

within science do not transfer over onto literature, when those same metaphors are extended in a novel's experiment, it can inform science to update its models. Jane Hildebrand argues that Eliot's writing is influenced by the new scientific notions that "the inanimate and non-human world, whether natural, cultivated, built, manufactured, or some combination of these, ceased to be conceived aesthetically as a mere pictorial backdrop for human action and development, but was instead intimately, dynamically, and materially involved in human life itself" (1000). Eliot subtly maintains her internal world while arguing against its applicability to human life, since her narrative has hints of the porous membrane between the internal and external worlds.

### **"The Average of the Race": Doyle's Evolving Homeostasis**

Doyle's *Stark Munro Letters* (1895) represents a new model of balance that ties together the themes of restoring balance seen in the previous novels. Kingsley and Dickens both promote the idea that disease seems to be disproportionately allotted to the poor class. They both extol good actions and selflessness as a means of dealing with the evils of society. Eliot constructs a plot that reflects the changing ideals regarding the average and the normal. However, by the time we see Doyle's doctor character, the doctor views balance from an evolutionary perspective.

Munro believes that the elimination of immorality is a natural process. Dickens removes his villainous characters through their deaths, and while it seems to be a plot device to keep the romantic ideal alive, Munro's reflection makes it seem like a natural part of life.

Munro says,



It seems to me, then, that Nature, still working on the lines of evolution, strengthens the race in two ways. The one is by improving those who are morally strong, which is done by increased knowledge and broadening religious views; the other, and hardly less important, is by the killing off and extinction of those who are morally weak. (Doyle 100)

The idea of the foreign is not a threat in Munro's model. Knowledge and broad religious views are instead a sign of progress. This model, however, is explicitly devoid of humanity. Munro relates the necessity of suffering for the improvement of the whole average. The morally weak are also human, but their extinction, according to Munro, is needed. Unlike Dickens' Woodcourt, who tends to the weak, Munro as a doctor treats them, but also believes their diseases are inevitable.

In the elimination of the morally weak through excess drinking, Munro believes that the subsequent illnesses such as "struma, tubercle, nervous disease, have all lent a hand towards the pruning off of that rotten branch, and the average of the race is thereby improved" (Doyle 100). For Munro, disease works to eliminate what will not serve society and to create a normal that is better than the previous state. It is no accident that Munro's ideas are influenced by Charles Darwin's *Origin of Species* (1859) and by later Social Darwinism. By the end of the nineteenth century, Darwinian theories of eugenics and evolution deeply affected the scientific community. Jordon Smith argues that it is impossible to separate Darwinian theories from the studies of literature in the nineteenth century since "Darwin's work engaged with almost every aspect of nineteenth century society" (219).

To further highlight the growing intimacy of science and medicine, Munro, as a doctor, incorporates the changing scientific beliefs as fact. Doctors are no longer freelance humanitarians but are part of a larger scientific enterprise. In Munro's examples we see that medicine became engulfed by the larger sciences. While changes in science deeply impacted both medicine and fiction, medicine became directed by the rules of science whereas novels remained independent. We see the deeply embodied science in medicine in Munro, who hints at eugenics. The doctor-humanitarian role of helping the poor and the diseased no longer serves the purpose of evolution. Munro seems to believe disease is necessary, and yet as a doctor he must fight disease. Woodcourt operates in a time before eugenics was popular. He sees the need to eradicate disease to alleviate the suffering of the poor. Munro sees disease, instead, as a means of eliminating the poor since the science of the time was influenced by Social Darwinians. Hints of eugenics occur in Munro's letters when he says,

Our civilisation will endure and grow more complex. Man will live in the air and below the water. Preventive medicine will develop until old age shall become the sole cause of death. Education and a more socialistic scheme of society will do away with crime. The English-speaking races will unite, with their centre in the United States. (Doyle 283)

The purpose of medicine becomes the strengthening of the race. Munro relates the new aim of medicine: to die not by disease, but by age. But this medicine is exclusively for the new society of "English-speaking races." Munro's reflection reveals how medicine became an exclusive branch of science, but he does acknowledge that all this is his "generalisations and dogmatism" (Doyle 284). Munro inadvertently admits that the

growing evolutionary and scientific ideals are part of a dogma that views science as the absolute truth. Dogmas change and replace one another as society oscillates between one idea and another.

Darwin's evolutionary theory shifted the balance of society away from religion. Some novelists, such as Kingsley and Eliot, attempted to use their novels to reel back society and make people aware of the changes so that they could find themselves back at a previous normal. Like doctors, these novelists act as maintainers of homeostasis. In Doyle's epistolary form, he does not attempt to change the medical enterprise, but presents it for the chaos it is, much as Dickens represents society for the evil it has. Dickens uses examples of the extremely poor and of widespread disease to demonstrate that there is no internal maintaining force in society. Perhaps this is why Eliot opted for a fictional Middlemarch: even in her most realistic description of society, there can be no maintenance of the middle.

### **Immunity and the Normal: Competing Narratives**

In each of the four novels we see characters who are strengthened by being morally strong. Lancelot, Esther, and Dorothea all have a strong set of morals and desire for knowledge. Dickens kills off some of his morally weak characters, while Eliot eliminates them from the plot. The balance that Doyle notices in society reflects the balanced ideal within the body. However, instead of maintaining homeostasis, his character Munro

alludes to a new normal. Kingsley and Eliot both seem to idealize an original state: a return to what is known. However, in the new model of the improving normal, disease, immorality, and foreign ideas serve a purpose of bringing out the best. The contrasting narratives of maintaining an internal state versus aiming for a stronger internal state is one that the medical community also contested.

The nineteenth century was notable for its multiple scientific discoveries. Physiological advancements demonstrated the importance of maintaining an internal state which seeped into later novels that aimed to maintain the original complex state. Darwin's evolutionary models suggested that society needs to grow towards a new normal continuously, so experiments that test the limits of the internal state result in a stronger normal. While a push for homeostasis set the basis of experimental medicine and writing, the medical community had a contradicting narrative that aligns with Munro's evolving average. Amidst these two narratives is a push in the century for vaccines.<sup>5</sup> The Victorian glorification of the norm had most novelists struggling to eliminate the abnormal or foreign ideas from their interconnected network. However, by virtue of going through an experiment, the normal changes.

The development of vaccines in the nineteenth century demonstrates one example where deviation from the norm is necessary. The body's new resilience to disease through a vaccine indicated the necessity of introducing the body to foreign particles (first developed in 1798 by Edward Jenner). However, with the concept of homeostasis, some

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<sup>5</sup> Arthur Conan Doyle himself was a strong proponent of compulsory vaccines (Cirillo, 2013)

doctors contest vaccines for the very reason that they disrupt the homeostasis of the body. In 1863, Sir James Paget writes:

In forming an estimate of the persistent changes produced in the blood by this and similar infectious diseases, we must not lose sight of the influence which the tissues themselves altered by the inoculation, exercise upon the blood; they will necessarily react upon it, so as to assist materially in preserving a permanent morbid (though beneficial) condition. (5)

The reactivity of the internal state does not occur in isolation from other tissues. The doctor, incorporating the science of the time, works from a homeostasis model, so his goals are to preserve the permanent condition. Paget writes this for the London Society for the Abolition of Compulsory Vaccination in his notion of preservation. The threat to homeostasis justifies their push against the introduction of a foreign particle into the body. The push against vaccines in the face of the new scientific ideal of homeostasis reveals how deeply medicine followed the sciences.

When limiting the study of homeostasis and vaccines to the scientific realm, we see them as contradictions. However, experiments in the novels demonstrate the underlying functions that relate to the two principles. For example, if we look at *Middlemarch*, Bulstrode functions as a vaccine. He is part of the tainted people that novelists typically expel from the texts for their disruption of balance. However, his marriage to a Middlemarch family and adherence to the public values allows him to stay inside Middlemarch undetected. When his corruption becomes apparent, he is expelled. Homeostasis does not maintain the middle but instead shifts to adjust the middle in

response to changes. The reactivity of the body is not its flaw but its strength. Bulstrode becomes part of the balance of Middlemarch as long as he cooperates with its ideals. However, when society is made aware of his scandal, they react as a collective unit to remove him. The body strives for self-preservation, but only against a perceived threat, not against all foreign entities.

*Middlemarch* becomes a hypothetical experiment to demonstrate that maintaining a middle ground is a false ideal. External forces will leave their impact, and Eliot gestures towards the necessity of building immunity. Scientific metaphors such as homeostasis and immunity create stories to organize the study of the complex human body. Doctors take these ideals and put them into practice on patients, either by experimenting with drugs that will counteract an imbalance in the body or by introducing a substance that will strengthen the internal state. Novelists take these stories and use them as plot devices. Novelists employ characters who contradict the norm either to show their destruction as they move through the societal body or to show how society changes because of these characters. Scientific metaphors enhance the novel reading experience.

### **Conclusion: “Blurring the Boundaries” between Art and Science**

To study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all. –Sir William Osler, *Books and Men* in Boston Medical and Surgical Journal, 1901.

According to Jordan Smith, some literary scholars feel that

[i]n privileging biological explanations as the best ultimate account of literature's existence and content, Literary Darwinism seems to give away too much and to be

insensitive, or at least insufficiently sensitive, to literature's linguistic and cultural richness. (218)

Literary scholars might see a purely scientific analysis of novels as a threat to the culture of novel reading. However, in this thesis, scientific analysis is not used as a way of becoming “the best ultimate account”; instead, it demonstrates that the novel becomes a platform for scientific research. Not only can the history of medicine be traced in novels, but a scientific analysis reveals the profound impact of sciences on literature. For example, Foucault’s criticism of the medical gaze is a significant marker of the change in the culture of medicine, and yet it can be traced and found in novels before his criticism. Using Foucault enhances the cultural richness of novels.

Literature and science both engage in argument and storytelling. Science tells the story of a process and procedure that lead to results and argues why that result is significant.

Literature uses characters to sway the reader’s emotions and argues a particular take on life. Even in her most realist novel, *Middlemarch*, Eliot appeals to emotion because emotions are as accurate as facts. Both facts and emotion require an audience. Just as the scientist must closely look at microscopic images to ascertain how they represent the body, so too the reader of a novel must interpret how accurately the novel represents their own life. Novels make readers into experimenters. Each reader is a test to determine if the novel evokes the sentiments, purposes and messages across different personalities and time frames. The test of the novel becomes whether or not the experience is replicated thousands of times, across multiple readers, and if it is, does the novel become a scientific fact?

Before medicine was aware of its changing gaze and enterprise, the novels produced during the time of medical reform demonstrated the societal impact of medicine becoming a science. In this way, novels were ahead of their time, experimenting with emerging ideas. If science ignores the societal impact of its ideas (much as Lydgate ignored this in *Middlemarch*), science will be pushed aside. The sciences do not use the novel as an experiment. If literature expands its realm with scientific metaphors, science too can use novels as a medium for their changing ideas. Zola's experimental novel does not have to limit itself to realism, as novels can extend the metaphors of science in science-fiction or even fantasy.

Even in extreme metaphors, literature provides science with a platform to extend the stories it uses to explain the body. For example, in 1726 Jonathan Swift wrote *Gulliver's Travels* as a satire on the over-reliance on the empirical method. Gulliver observes the strange people he sees, placing an emphasis on his observations, and yet for the people, he is the experiment and under observation. In Lilliput, Gulliver is turned into an experiment by the people who feed him completely based on conjecture. Gulliver says,

the emperor stipulates to allow me a quantity of meat and drink sufficient for the support of 1724 Lilliputians. Sometime after, asking a friend at court how they came to fix on that determinate number, he told me that his majesty's mathematicians, having taken the height of my body by the help of a quadrant, and finding it to exceed theirs in the proportion of twelve to one, they concluded from the similarity of their bodies, that mine must contain at least 1724 of theirs, and consequently would require as much food as was necessary to support that number of Lilliputians. (Swift 79)



The numbers are chosen seemingly based on reason but are in fact arbitrary and based on conjecture. The Lilliputians take empirical measurements and come up with facts and numbers that do not have any real relevance to their world.

The unemotional and objective observations lack common sense, although they outwardly seem to be logical. Swift's satire appeared in the eighteenth century, but his criticism of observation is later echoed by Foucault when this kind of observation extends to doctors and patients. Like Gulliver, doctors are themselves under observation in their observations of patients. The four novels discussed in this thesis observe the doctor and turn the reader into the experimenter. In this continuous cycle of observation, it is impossible to isolate a discipline as higher than the other. So it follows that the metaphors used in science will extend to novels and humanity.

Science is not in an isolated realm, and there is a great danger in treating it as a separate entity. The scientist may retort that the explanations they use for the body are limited to the body, so concepts such as homeostasis and immunity should not extend themselves onto society. However, it is impossible for the stories that science creates within the body not to affect how we view humanity outside the body. Darwin's evolution could not limit itself to animal species and plant genetics. Instead, his follower Herbert Spencer's term "survival of the fittest" extended to eugenics and racism. Therefore, there cannot exist a hierarchy of arts and science when they are on the same playing field. Only the one with more political power and societal push gains prestige, but in reality, they are two sides of the same coin.

This parallel opens the realm and purpose of literature to experiment with science.

Various narratives within science can be extended to human characters within novels to

determine validity and applicability. For example, can there exist a societal vaccine for political conflicts? What would immunity to changing the status quo look like in character? How would society react to excessive growth in ideology? Is it considered cancerous to society when one political party dominates the social world? As science develops, the role of literature in demonstrating scientific narratives within their works expands. Instead of borrowing metaphors, literature can test the limits of scientific discovery and suggest ways it requires change.

For example, Eliot's *Middlemarch* hints toward the failing narrative of homeostasis and its impacts on general pharmaceutical therapy. Within an interconnected web, a drug cannot have an isolated impact on one organ, just as Lydgate cannot simply reform medicine in Middlemarch. The side effects of Lydgate in society speak to the general side effects of introducing any drug into the body. It cannot target one organ in isolation, with biology establishing that physiological networks work within the body. Science then responds by exploring and relating side effects to other organs in individual pills.

Through showing just how integrated the sciences became in the four novels, this thesis demonstrated the fluidity of the disciplines. This thesis argues that the hierarchy of science over arts was part of the agenda of creating an elite science group and not one that medicine inherently required. Art forms can easily incorporate the methods of science and elevate themselves. However, the assumed elevation requires the stripping away of emotion and humanity. Medicine as an art form dealt with human emotions, not human cases. Furthermore, the critical differences in arts and sciences are only in methods. When novels apply scientific methods, using observation and facts to derive conclusions, they become a science. When science employs metaphors and intuition and

emotion, it becomes an art. The binary between the two is false, created only to gain public trust and support.

In *Against Method*, Paul Feyerabend argues that science creates an illusion of objectivity and isolation of facts. He says,

Stable 'facts' arise and persevere despite the vicissitudes of history. An essential part of the training that makes such facts appear consist in the attempts to inhibit intuitions that might lead to a blurring of boundaries. A person's religion, for example, or his metaphysics or his sense of humor [...] must not have the slightest connection with his scientific activity. His imagination is restrained and even his language ceases to be his own. (11)

Feyerabend acknowledges the impossibility of facts to persist against time and history. Even within the novels the scientific fact of homeostasis works in some ways for Eliot's novels but fails in Dickens'. So, science cannot maintain itself throughout all generations and spaces. Experimental method opens itself to intuition within a realm of science that discourages it because of its "blurring of boundaries." The boundaries are especially put into question in the realm of novels and medicine that deal directly with humans.

This thesis defines science as a method that emphasizes observation and experiment. Feyerabend points out that "all methodologies, even the most obvious ones have their limits. The best way to show this is to demonstrate the limits and even the irrationality of some rules which she, or he, is likely to regard as basic" (23). The limits of the scientific method are tested in novels. While some novels use the scientific method and turn their

novels into experimental platforms, others disregard the method. The ideas that science perpetuates might find a breeding ground in novels; however, as Feyerabend points out,

No idea is ever examined in all its ramifications and no view is ever given all the chances it deserves. Theories are abandoned and superseded by more fashionable accounts long before they have had the opportunity to show their virtues. (35)

One of the reasons this thesis focuses on the medical gaze and homeostasis is that these were ideas that did not get their complete ramifications in Victorian literature. Foucault's analysis came after the Victorian era and so has become more important for changes in medical practice for the twenty-first century. While Bernard's ideas on experimental medicine persisted, his theory on homeostasis was quickly overshadowed by Darwin's evolution. Yet, in the literary analysis of novels the interconnected web of society is rarely associated with Bernard's concept of internal physiological webs and their interior environment.

In her final work, *Impressions of Theophrastus Such* (1879), Eliot offers a satire on the state of science in the nineteenth century that is reminiscent of Swift's *Gulliver Travels*. In the chapter "How We Encourage Research," Eliot writes

Foreseeing that truth as presented by himself would win the recognition of his contemporaries, he excused with much liberality their rather rough treatment of other theorists whose basis was less perfect. (65)

The scientific community encouraged individual discoveries, and thus Merman in Eliot's story dismisses the "rough treatment of other theorists." The dismissal of others for their

own prestige is why science became raised in rank. The arts were dismissed because they accepted the flaws in their human interpretations and could not claim to know the truth as confidently as scientists. Here, Eliot hints at why science gained prestige using subtle coercion. Science needs the arts to point out its limitations and its greater implications on how we think.

This thesis limited its analysis to four novels in the Victorian period; however, testing scientific metaphors with literature of its time is not limited to these novels or to the Victorian era. We are surrounded by scientific narratives that are deeply embedded in our culture's subconscious. In giving light to these narratives, we see where they work, who they serve, and how they function. Huxley's belief that some professions require only scientific knowledge is prevalent even in educational systems today. An integration of the disciplines becomes difficult when institutions create arbitrary lines between them so that some education completely excludes literary knowledge. A literary analysis of scientific metaphors is just as important as a scientific analysis of literary works, but with harsh divides we close ourselves off to the heightened potential of both arts and sciences.

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