The Gothic Scientist in the *Fin de Siècle*: Scientific Curiosity, Exploration and the Limitations of Science in Three Late-Victorian Novels

Dewika Lachman

s0935697

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Leiden University

Dr E.J. van Leeuwen

J.A. Siglé MA

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Introduction

Over the course of the nineteenth century, there were some major scientific and technological advances. The studies of major thinkers like Darwin and Comte, secularisation and discoveries in all branches of science, including physics, chemistry, astronomy, or the earth sciences greatly influenced the society. As these developments had a profound impact on almost every citizen, the role of science furthered in the Victorian period. This period is often distinguished into three phases: the early (1830-1848), mid (1848-1870), and late (1870-1901) periods. As Wyhe notes, some of the notable changes across the Victorian period were:

> the change from "natural philosophy" and "natural history" to "science", the shift from gentlemen and clerical naturalists to, for the first time, professional "scientists," the development and eventual diffusion of belief in natural laws and ongoing progress, secularization, growing interaction between science, government and industry, the formalization of science education, and a growing internationalism of science.
>
> The Victorian age also witnessed some of the most fundamental transformations of beliefs about nature and the place of humans in the universe. (*The Victorian Web*)

The term "natural philosophy," which was the philosophical study of nature and the physical universe changed into "science." The *OED* gives an older definition for the word science: "the state or fact of knowing; knowledge or cognizance of something; knowledge as a personal attribute." This meaning is now archaic and rare. The *OED* also notes that "'science' was chiefly used in Scholastic Theology in later use with reference to knowledge as an attribute of God, and occasionally Philosophy in the sense 'knowledge, as opposed to belief or opinion.'" Chapple notes that "early scientists were usually called 'natural philosophers,' but in 1840 William Whewell wrote in his *Philosophy of the Inductive Sciences*: 'we need very much a name to describe a cultivator of science in general. I should incline to call him a Scientist"' (2). The words "science" and "scientists" were therefore not coined around the

same time. In 1833, the word "scientist" was created by William Whewell and meant "a person who conducts scientific research or investigation; an expert in or student of science, especially one or more of the natural or physical sciences" (*OED*).

The role of science improved in the nineteenth century as science was seen as a part of culture itself. Chapple writes that "science was very much integrated with the culture of its age during the early decades of the nineteenth century" (6). Science expanded in all areas and the scientific method was used to investigate natural phenomena. As Olson notes, "virtually all major technological innovations since the mid nineteenth century can be directly traced to new knowledge in physics, chemistry, biology, or the earth sciences" (4). The exceptional development of science also influenced the literature of the age. The new status of science and scientists appealed to the imagination through a sense of wonder. In the novels, the scientist played a leading role and became an important character, which was different a century ago in, for example, Jonathan Swift's *Gulliver's Travels* (1729), in which the experiments of the scientist in the Kingdom of Laputa are satirized. Even though many Victorians were amazed by the discoveries of the scientists, there was also the presence of fear of science because not everyone believed in the progress of these scientific developments. The dangers of inventions and experiments were emphasised in the various Gothic novels in which anxiety over the question whether science will be the solution to current mysteries was expressed. In these Gothic novels, the mad scientist is often a common character like, for example, Victor Frankenstein in Mary Shelley's *Frankenstein* (1818) who is driven into isolation and madness by his creation and gradually adopts the role of a Gothic villain. Another example of a mad scientist in the tradition of the Gothic novel is Martin Hesselius in Sheridan Le Fanu's "Green Tea" (1871). In this story, Hesselius closely observes Reverend Mr Jennings who "is driven to suicide by either a mental breakdown or an excess of supernatural sight that has enabled him, and him alone, to see a demon in the shape of a monkey that pursues him everywhere" (Joshi

45). In terms of madness, the scientist, Hesselius, obsessively examines Jennings in order to find an explanation for Jennings' behaviour.

This thesis will focus on the literature in the later period of the Victorian age (1870-1901). This period was widely thought to be a period of degeneration. As Hammond contends, "the phrase fin de siècle (literally, "end of the century") was in circulation, signifying decadence and decline. The literature of the fin de siècle was saturated with the idea of decadence, a mood that permeated all the arts throughout the 1890s" (57). Themes such as decadence and decline are present in literature like, for example, the vision of a troubled future in H.G. Wells's *The Time Machine* (1895).

The different roles of the scientists in three late-Victorian novels will be explored. In the novels, the scientific and religious discourses clash**,** and in doing so reveal that despite the tremendous developments in science and technology during the Victorian period, the scientist and his inventions were still often met with scepticism, and at times even rejected by the learned classes within Victorian society. While the novels by Julian Hawthorne, Robert Louis Stevenson and H.G. Wells demonstrate the role of the scientist and the influence of science in the Victorian fin-de-siècle, the scientist turns into a Gothic villain, who challenges the conventions of Victorian ideal of rationalism, which also resulted in the alienation of the scientist.

The work described in the following chapters attempts to answer in what ways the novels depict the developments of science in the fin de siècle, and how these developments are expressed thematically in the novels by the three authors. The first chapter gives an overview of the important scientific discoveries, theories of well-known scientists and the emergence of scientific institutions before and during the nineteenth century. The chapter also focuses on the concept of scientific discourse, which explains the way scientists conduct experiments and reach their confirmations or conclusions with the scientific method. There is

also an explanation about the scientific methods of philosophers of science, like the Baconian Method and Comte's Positivism which is the universal philosophy of human intellectual development. In chapter two, the scientific curiosity of the two scientists in Julian Hawthorne's *Archibald Malmaison* (1879) is explored. The scientists in this story approach the supernatural events in *Malmaison* differently, but their roles in the resolution of these events remain remarkably minor. In the third chapter, the experiment of Dr Jekyll, in Robert Louis Stevenson's *The Strange Case of Dr Jekyll and Mr Hyde* (1886), has disastrous consequences for himself but also for his friend Dr Lanyon who rigidly adheres to conventional wisdom. Finally, chapter four will show that the scientist in H.G. Wells's *The Time Machine* (1895) becomes an explorer who travels through time and discovers a degenerated future; he returns with this warning but it is unheard by the men in the dinner group who represent the learned classes within Victorian society. The sceptical reactions of the Victorian men who listen to the Time Traveller's story indirectly reveal their fear of the end of Victorian society.

Chapter 1: The Advancement of Science Before and During the Victorian Era

In order to understand the importance of science in the Victorian period (1837-1901), this chapter will provide an overview of some important discoveries and advances before and during the Victorian age that furthered the role of natural science or natural philosophy as it was called before the nineteenth century. An important philosopher of science who is notable for developing the specific scientific discourse is Francis Bacon (1561-1626). Bacon believed that he had provided a new method for natural philosophy. His method of inductive reasoning was popular amongst the scientists of the Royal Society (1660). The Royal Society was a national academy of science that promoted research in the sciences. In the late seventeenth century, the established physicist and mathematician, Isaac Newton (1643-1727) played a vital role in the scientific revolution. In the eighteenth century, scientific experiments became a source of entertainment. The scientist Humphry Davy (1778-1829), for example, was known as a chemist who regularly demonstrated to the public his gas experiments to show scientific progress as well as to entertain his audience. In the first half of the nineteenth century, another philosopher of science, Auguste Comte (1798-1857), established the Law of Three Stages through which human knowledge of nature and man passes. The prominent philosophers of science, Bacon and Comte, played an important part in developing what is today known as the scientific method. This method is defined as “a method of observation or procedure based on scientific ideas or methods” (*OED*) and will be further discussed in this chapter. Another notable scientist is the naturalist Charles Darwin (1809-1882). His theory of evolution had far-reaching effects on science and society. This chapter will also introduce some other significant institutions and learned societies that many scientists were part of, such as the Lunar Society in the eighteenth century and the X Club in the late nineteenth century. The main goal of these scientific institutions and societies was to use their discoveries to

improve society. There was also the emergence of The Society for Psychical Research in the late nineteenth century; this was the first society that conducted experiments to examine paranormal events.

1.1 Scientific Language

The scientific method is an important tool for scientists to collect measurable evidence when they conduct experiments. The process shows how scientists are involved in their research and the several steps that they take when they analyse phenomena. These different steps to find new information about a phenomenon are often repeated as this is an ongoing process. As McLelland notes, "the scientific method is a form of critical thinking that will be subjected to review and independent duplication in order to reduce the degree of uncertainty. The scientific method may include some or all of the following 'steps' in one form or another" (2). The body of this method contains techniques for examining phenomena and it shows how to acquire new knowledge by making observations, gathering relevant data, formulating a hypothesis and testing this hypothesis empirically.

The first step of this method is the observation of a phenomenon. In this step, "the discovery of such a phenomenon may occur due to an interest on the observer's part, a suggestion or assignment, or it may be an annoyance that one wishes to resolve" (McLelland 2). The second step involves questions about the observations, and in order to answer a question a hypothesis is formed which is a tentative description of the observed phenomenon. The predictions are based on that hypothesis. The educated guess of the scientist needs to be formulated precisely before they are tested. A requirement of the testability of hypotheses is, as McLelland argues, that "it must exclude supernatural explanations. If the supernatural is defined as events or phenomena that cannot be perceived by natural or empirical senses, then they do not follow any natural rules or regularities and so cannot be scientifically tested" (3).

The next step is the experimentation in which the hypotheses are tested. The information that is found helps to draw conclusions and to decide whether a hypothesis needs to be accepted, rejected or modified.

The research of the scientist involves deductive as well as inductive reasoning. In the process of deduction, it starts with a more general statement to the specific. “First, there is a theory about the topic of interest, which is then narrowed down into more specific hypotheses that can be tested. After that observations are collected to address the hypotheses. In this process of reasoning, a conclusion follows from the stated premises” (Trochim). The opposite of deductive reasoning is the process of induction. This form of reasoning makes broad generalisations from specific observations. In this process, the next steps are the detection of patterns and regularities and the formulation of tentative hypotheses until general conclusions can be developed (Trochim). The different processes of reasoning and the scientific method help to understand the way scientists gather information and answer questions.

1.2 The Baconian Method

The deductive reasoning in the scientific method is contrasted to the method of Francis Bacon who applied the method of experiment “through which one could trace out the patterns in this world of causes and effects” (Wilson). Bacon developed the investigative method called the Baconian method and writes about this experimental method in his book *Novum Organum,* full original title *Novum Organum Scientiarum, or New Instrument* (‘new instrument of science’) that was published in 1620. This book is the second part of the larger work, *Instauratio Magna* (“The Great Instauration”) and believed to be Bacon’s most important contribution to scientific methodology. He considered *Novum Organum* to be a correction of *The Organum* by Aristotle. As Lea notes, “Aristotle discussed logical fallacies that were commonly found in human reasoning, but Bacon looked behind the forms of

reasoning to underlying psychological causes," and in *Novum Organum,* he discusses "the causes of human errors in the pursuit of knowledge [and gives] the directions concerning the interpretation of nature" (Lea). The *Novum Organum* is a treatise on the inductive philosophy of science and influenced the development of the scientific method in science. Bacon argued about the flaws of the systems of beliefs about nature and the "inadequate treatment of the general propositions from which the deductions were made; they were either the result of precipitate generalization from one or two cases or they were uncritically assumed to be self-evident on the basis of their familiarity and general acceptance" (Lea). He wanted to avoid hasty generalisation based on insufficient evidence and suggested a new system of logic, which is based on induction rather than syllogism. In *Novum Organum,* Bacon wrote that

> the syllogism is not applied to the first principles of sciences, and is applied in vain to intermediate axioms, being no match for the subtlety of nature […] the syllogism consists of propositions, propositions consist of words, words are symbols of notions. Therefore, if the notions themselves (which is the root of the matter) are confused and over hastily abstracted from the facts, there can be no firmness in the superstructure. Our only hope therefore lies in a true induction. (Aphorisms XIII and XIV)

Bacon wanted a new standard of precision with his process of reasoning and believed that the gradual process of "true induction" is the best way to build credible knowledge.

Within Bacon's experimental method, findings are generalised stepwise. In short, the observed and recorded facts are first organised in three tables: the tables of presence, of absence, and of degree. The findings in these tables are compared to each other "to see what other properties are always present […] Second, there are tables of absence, which lists cases that are as alike as possible to the cases in the tables of presence except for the property under investigation. Any property that is found in the second case cannot be a sufficient condition of the original property. Finally, in tables of degree proportionate variations of two properties

are compared to see if the proportion is maintained" (Urbach). This method moves from specific observations to some general conclusions and theories. Bacon's method differs from Aristotle's empirical observation and logic which is based on syllogism.

Scientific ideas are tentative and scientists are aware that those ideas can change if new evidence comes to light. As McLelland notes, "this [scientific method] pathway may take different forms; in fact, creative flexibility is essential to scientific thinking, so there is no single method that all scientists use, but each must ultimately have a conclusion that is testable and falsifiable; otherwise, it is not science" (2). The scientific method is not a strict guide to follow but the scientist always has to carefully examine the evidence before a theory can be confirmed (deductive reasoning) or a conclusion can be drawn (inductive reasoning).

Bacon's framework of the procedure of reasoning helps to understand the scientific discourse of scientists. In this thesis, the scientists in the *fin-de-siècle* novels conduct several experiments to investigate phenomena. The knowledge of Bacon's theory makes the process of scientific inquiry of these scientists clear as many scientists in the nineteenth century followed the Baconian method of explaining natural phenomena. Through this process over-generalisations are set aside and the scientist builds an essential base of knowledge purely by means of experiment and observation. The scientists in the novels then often explicitly communicate and debate scientific information that they have gained from their investigations.

1.3 Auguste Comte's Positivism

Another philosopher of science whose scientific theory is relevant to this thesis is Auguste Comte. Comte is known as the founder of sociology and importantly of scientific positivism. He wanted to improve society after what he perceived to be the malaise of the French Revolution (1789–1799). He developed the *Cours de Philosophie Positive*, also known as *Positive Philosophy* which was a series of texts between 1830 and 1842. According

to Olson, “Comte presented himself as a completely objective thinker, producing historically driven philosophy of science that explained why scientific knowledge deserved to be considered authoritative and why the sciences developed in a certain order, culminating in social physics, or sociology, which would provide the basis for social regeneration” (64). In *Positive Philosophy*, Comte developed the Law of Three Stages: the theological stage, the metaphysical stage and the positive stage. He claims that society undergoes these three phases before it reaches its final explanation to a certain phenomenon. Fletcher summarises the Law of Three Stages as follows:

> the human intellectual development had moved from a theological stage, in which the world and human destiny within were explained in terms of gods and spirits; through a transitional metaphysical stage, in which explanations were in terms of essences, final causes, and other abstractions; and finally to the modern positive stage. This last stage was distinguished by an awareness of the limitations of human knowledge. (*Encyclopaedia Britannica*)

In the first stage, the theological stage, “human beings rely on ‘supernatural agencies’ to explain events that cannot be explained otherwise,” whereas in the next step, the metaphysical stage, “they attribute effects to abstract but poorly understood causes” (Landow and Everett). The central idea is that an abstract power determines events in the world. There is “no longer a god that causes and directs each of the various agencies of nature” (Mill). God is not concrete anymore but an abstract being. The final stage of Comte’s law is the scientific, or positive stage. In this stage, there is a rational way of looking at phenomena, and the focus is on scientific explanations based on observations and experiments.

Comte explained that all these stages are significant for human development. He believed that the three stages cannot stand apart as they must be completed in progress. He attempted to show “how each of the sciences, first mathematics, then astronomy, physics,

chemistry and biology, had become positive, that is, based on empirically verifiable laws" (Wright 10-11). Comte did not deny the supernatural interpretation of a phenomenon, but took an agnostic position towards the existence of a god. He argued that assumptions that are based on analogy "did not seem to him a basis to rest a theory on, in a mature state of human intelligence" (Mill). He believed that humanity is destined to outgrow theological explanations. According to Mitchell, "Harrison [a foremost English advocate of positivism] believed that the scientific basis of positivism provided a synthesis for a disintegrating age. This belief culminated for him in the Religion of Humanity, a faith in mankind devoid of belief in the supernatural" (354). The main goal of positivism was objectivity which could be achieved with scientific inquiry and logical empiricism.

Comte's theory of knowledge plays an important role in the *fin-de-siècle* novels as it attempts to analyse moral behaviour of human beings. As Landow and Everett note, "Comte and other early social scientists assumed that human behavior must obey laws just as strict as Newton's laws of motion, and that if we could discover them, we could eliminate moral evils" (*The Victorian Web*). His theory is relevant to this thesis because many scientists in the nineteenth century adopted Comte's positivist outlook.

1.4 The Position of Prominent Scientists in Society

This section focuses on the following influential scientists before and during the Victorian period: Isaac Newton (1643-1727), Humphry Davy (1778-1829) and Charles Darwin (1809-1882). Each of these scientists had a different role in society, but their inventions and discoveries greatly influenced the way the scientific world was perceived. The discoveries of the eminent scientist Newton made him the most influential scholar of the scientific revolution of the seventeenth century. In the seventeenth century, "the first scientific revolution is familiarly associated with the names of Newton, Hooke, Locke and Descartes"

(Holmes xvi). Newton's discoveries dominated the fields of science, astronomy and physics and influenced future generations. He was the first to understand that the spectrum of white light consists of different colours. He also discovered the three laws of motion that laid the foundation for classical mechanics and found a new way to approach mathematics with the infinitesimal calculus. In 1687, he published *Philosophiae Naturalis Principia Mathematica*, which is also shortened to *Principia*. This three-part work was one of the most important works in science and dominated the scientific view of the physical universe.

Another remarkable scientist is Humphry Davy. Davy was an English chemist "who discovered several chemical elements (including sodium and potassium) and compounds, invented the miner's safety lamp, and became one of the greatest exponents of the scientific method" (Gibbs). In 1808, Davy discovered the following five elements: barium, calcium, boron, strontium, and magnesium. He also determined the effects of inhaling nitrous oxide or "laughing gas" and gave public demonstrations to show his latest discoveries. Davy regularly presented his scientific findings at the Royal Society. His experiments became popular and a source of entertainment across England. These public demonstration turned him into a celebrity chemist, and "curious men and women would flock to lecture halls to watch as [the] scientist demonstrated the latest discoveries about the properties of electricity, chemical elements, air, and gases. The demonstrations produced sparks, explosions, and unusual odors, all guaranteed to excite the audience" (Kenyon). Davy discovered that nitrous oxide inhalations gave people a powerful feeling of giddiness. He also let his friends and many others try the "laughing gas" and asked each of his subjects to record their impressions. As Holmes notes, "he [Davy] was now being sought out by members of the scientific community from all over London, and he gave private demonstrations in the basement laboratory of the Institution. Regular parties of philosophers met to inhale the 'joy inspiring gas'" (287). With these scientific discoveries and demonstrations, Davy became an important public figure as a

scientist.

The third scientist of this section that had a great influence on the Victorian society is Charles Darwin. His theory of evolution elicited a diversity of responses and raised many questions about life and its origins. The idea of evolution was already known, but Darwin developed and promoted the theory of evolution and published *The Origin of Species* (1859) and *The Descent of Man* (1871) which caused an instant discussion. Many Victorians were afraid that it would go against their beliefs, and Berry writes that "in England, for example, the Church reacted badly to Darwin's theory, going so far as to say that to believe it was to imperil your soul […] Darwin's theory reached the world at a time when many people were looking for explanations for social, political and racial inequalities, and in many parts of the world were wondering how to improve their lot in the face of Europe's global imperialism" (1173-1174). The naturalistic evolution theory in the late Victorian period triggered a range of opinions until science became an important source of authority.

These scientists influenced the way Victorians thought about the concept of science in Britain. Newton's earlier discoveries had a great impact on the Victorian society as he was seen as a rational scientist. Davy, on the other hand, made science more approachable by showing his scientific progress in public. His demonstrations encouraged the public to engage with science which also furthered the role of science at the time. Darwin's theory did not instantly receive positive responses. He made his idea of evolution acceptable for the public after the necessary research as it was associated with radical scientific views. These different responses of the discoveries of the scientists therefore show the positions that these scientists had in Victorian England. These scientists can be compared to the fictional scientists in the three novels as the outcomes of the experiments of the fictional scientists also elicited a diversity of responses.

1.5 Institutionalisation of Science

Another important change that had a great influence on the role of science in society is the emergence of academies of science and learned societies. The Royal Society of London, for example, encouraged better communication between scientists and the public. As written on the website of the Society, the purpose was to promote and to carry out experiments and "the early years of the Society saw revolutionary advancements in the conduct and communication of science." This institution is a learned society for science, and the founder of the Society was Christopher Wren. The first learned society meeting was on 28 November 1660, and at the meeting the scientists Robert Boyle and Bishop John Wilkins and the courtiers Sir Robert Moray and William, 2nd Viscount Brouncker were present (Hunter). The men who were involved with the Royal Society were keenly interested in science. Enos writes that "early meetings were devoted to the presentations of demonstrations of empirical phenomena for the communal witnessing and validation of events and the sharing of philosophic communications from throughout the world" (646). The public understanding of scientific and technological developments also improved with scientific journals. As Enos notes, "with the establishment of the first scientific journal, *Philosophical Transactions of the Royal Society*, the demonstrations and communications were made available more widely, and genres of scientific papers developed within the public and print forums" (646).

Another informal learned society and dinner club that was notable in the eighteenth century was the Lunar Society of Birmingham, also known as the "Lunar Circle." This group wanted to advance the sciences and the arts and consisted of prominent figures who met regularly between 1765 and 1813. The principal members were Erasmus Darwin, Matthew Boulton, James Watt, Josiah Wedgwood, and Joseph Priestley. According to Uglow, "the importance of this particular lunar society, however, stems from its pioneering work in experimental chemistry, physics, engineering, and medicine, combined with leadership in

manufacturing and commerce and political and social ideals" (*ODNB*). The members were described as "the optimistic, and idealistic, forebears of a new class, the nonconformist industrialists and reformers who would dominate nineteenth-century Britain and America" (Uglow in *ODNB*). The group also did experiments in the private sphere and one of the other important subjects was education. New methods of education were developed like Richard Edgeworth *Practical Education* (1790) and Erasmus Darwin's *A Plan for the Conduct of Female Education in Boarding Schools* (1797). The members of the Lunar Society changed society with their discoveries as they believed that their discoveries would improve the scientific world. They were therefore at the forefront of scientific and societal changes.

In the late nineteenth century, another influential dinner club "the X Club" (1864-1893) was established. This group believed that science was as useful as a classical education and that it led to a true understanding of the natural world (Barton). The nine members of the group were Thomas Henry Huxley, George Busk, Edward Frankland, Thomas Archer Hirst, Joseph Dalton Hooker, John Lubbock, Herbert Spencer, William Spottiswoode, and John Tyndall. The scientific dining club supported the theories of natural selection and rejected the traditions of natural theology and the educational institutions of the church. They wanted the government to support scientific education. As Bibby notes, Thomas Huxley believed that "neither the discipline nor the subject-matter of classical education is of such direct value to the student of physical science as to justify the expenditure of valuable time upon either, and that the purpose of attaining real culture, an exclusively scientific education is at least as effectual as an exclusively literary education" (13). The X Club demanded a place for scientific education and established this in British schools and universities. The members of this club were influential in mid-Victorian science and dominated the Victorian period for the next twenty years.

In 1882, there was the emergence of "The Society for Psychical Research" (SPR).

This Psychical Research Institute claims to "do research into human experiences that challenge contemporary scientific models" (*Society for Psychical Research*). As stated on the website of this institute:

> Psychical research and parapsychology are concerned with the scientific investigation of the ways that organisms communicate and interact with each other and with the environment, that appear to be inexplicable within current scientific models. Stories of the paranormal (apparitions, prophetic dreams and visions, inexplicable awareness of events faraway, divination, miraculous cures, etc.) have been with us since antiquity, but it was only in the 19th century that the subject began to be studied in a systematic and scientific way. (*Society for Psychical Research*)

The institute uses scientific principles to examine allegedly paranormal phenomena. Their aim is to understand events that are commonly described as "psychic" or "paranormal." With the establishment of this Society, science and the supernatural in the fin de siècle come together.

Conclusion

As the scientific language of the scientist plays an active role in the development of scientific ideas, the scientist uses different aspects of scientific inquiry which are the deductive and inductive reasoning. These processes are quite different in their approaches. In the former a confirmation follows from the stated premises, whereas in the latter a conclusion is drawn from particular facts. Bacon's method contrasts the deductive reasoning in the scientific method. His investigative method is a discourse on the inductive philosophy of science. Comte's Positivism pushes science to the forefront in the study of society. Comte even entitled Positivism as "The Religion of Humanity." However, "the philosophy called Positive is not a recent invention of M. Comte, but a simple adherence to the traditions of all the great scientific minds whose discoveries have made the human race what it is" (Mill).

The great scientific thinkers were often part of learned societies. In these societies, the members demanded a place for science in society and wanted to improve the world with the scientific discoveries and advances. They did that by focusing on, for example, the improvement of scientific education at schools. Their main goal was a better communication between scientists and the public. The scientific method and institutions promoted a better understanding of science in society. However, the Society for Psychical Research uses the scientific method in a different way than the other societies and dinner groups. This institute examines paranormal phenomena by using scientific principles. The scientific method is therefore not only used to investigate natural events. The information provided in this chapter helps to understand the importance of scientific developments in the three late-Victorian novels.

Chapter 2: The Limited Influence of the Scientists on the Mysterious Events in *Archibald Malmaison*

As science was seen as a profession in its own right, the role of the scientist became important. The scientist used inductive methods of science to discover facts and performed several experiments to observe and detect patterns and regularities. Their discoveries were imparted to the general public. However, not everyone believed that science could solve all natural events and conditions. Julian Hawthorne's *Archibald Malmaison* (1879), expresses an anxiety about whether science will really solve supernatural events. The two scientists who investigate the events are Dr Henry Rollinson and his son Dr E. Forbes Rollinson. These scientists analyse the strange case of Archibald Malmaison and use several experiments to observe his behaviour. Archibald's peculiarities, the hidden room and the silver rod are all part of the mysteries in *Malmaison*. However, the scientific discourse adopted by the scientists does not really help to clarify the changes in Archibald's mysterious behaviour and the supernatural events that are linked to his behaviour. The scientists provide their explanations towards the supernatural events, but their explanations that are based on observations do not lead to new theories or confirmations. Their experiments can also be seen as a form of power and control as the scientists try to use their scientific methods to reveal the truth. However, the scientists have a minor role in the clarification of the supernatural events throughout the story. The fact that the supernatural phenomena remain unsolved until the end of the story shows the limitations of their scientific investigations.

2.1 Fiction over Facts: The Narrator's Perspective

The narrator in *Archibald Malmaison* begins with an introduction about his preference for fiction. The text foregrounds that the reader should imagine that this narrator is Julian Hawthorne himself, as can be seen in the letter of Dr E. Forbes Rollinson to the narrator in the footnotes section of the story, which was addressed to "my dear H[1]." In this introduction, the narrator gives his view on realistic stories in general. He points out that he does not want to focus on stories that mainly contain factual information. As a child, he "used to hope that [his] fairy-stories were true," and after years of being "discreet," he reached the conclusion that he preferred "acknowledged fiction." Experience has thought him that "the greater the fairy-story the less the truth; and contrariwise, that the greater the truth the less the fairy-story." He comments that a great story does not have to focus on facts in order to prove something, and explains that the focus should be on what the reader really wants to read: "Your hearer's life, and those of his friends, are enough true stories for him; what he wants of you is merciful fiction." This "merciful fiction" without facts is more "graceful and entertaining." The reader's fear is that "destiny [fact] is […] always either vapid, or clumsy, or brutal," and the writer will only "bully [his readers] with facts," which is like "asking him [the reader] to live his life over again." The narrator therefore prefers stories that are based on "our imagination." He believes that his readership is already "bothered" by reality, and giving his readers more facts will only let them face their own reality again.

The thoughts of the narrator in this introduction show that he does not pursue scientific accuracy in his writing. This already informs the reader that the scientific facts of the two scientists in *Archibald Malmaison* will not play a significant role in the clarification of the strange events. The narrator strongly believes that facts will not really help the reader to

[1] The quotations of *Archibald Malmaison* are from the electronic version of the book at Project Gutenberg: http://www.gutenberg.org/cache/epub/7344/pg7344.txt

completely understand Archibald's situation and the supernatural events. Furthermore, the narrator writes: "With truth scientific, moral, religious, I am at present in nowise concerned. Only, I have no respect for the weakness that will outrage a promising bit of narrative for the sake of keeping to the facts." He writes that a good story should be one that is not true: "Non vero ma ben trovato" ("If it is not true, it is a good story").

The narrator explains about the effect of truth in stories. His view on the effects of truth in discourses can be linked with the more scholarly theory concerning the production of truth and power in society as developed by Michel Foucault. As Gordon notes, Foucault believes that:

> each society has its regime of truth, its 'general politics' of truth: that is, the types of discourse, which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true. (131)

Gordon continues to contend that Foucault says that there is "the demand for truth, as much for economic production as for political power," (131) and that this "truth is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements" (133). He argues that truth is linked to power and "centred on the form of scientific discourse and the institutions which produce it" (Gordon 131). The scientists in *Archibald Malmaison* generate facts with their scientific experiments. The scientific experiments show the scientists' power and control on the situation as they strongly believe that their facts will lead to the truth. The narrator is opposed to this idea and expresses this in his introduction. Truth is therefore not outside power as this is "linked with systems of power which produce and sustain it" (Gordon 133).

In the second part of the introduction, the narrator suddenly writes that he has to "reconcile this profession of faith with the incongruous fact that the following story is a true one. True it is, in whole and in part." However, he also adds that even though the following story is true, it is "nevertheless strange and interesting to an unusual degree." He writes that he has the permission of his friend, Forbes Rollinson, to tell the tale. Forbes told the speaker that the following story really happened. As the narrator notes, according to Forbes "the main significance of the narrative [is] of a scientific or pathological kind, it would be hostile to scientific interests to depart from historical accuracy in its presentation." The doctor believes that science has an important role in the narrative, and he does not want to see the narrative depart from historical accuracy. Despite the fact that the narrator "endeavoured to throw over the whole [story] as 'fictitious,'" he respects the doctor's wishes and "the professional dictum of man like Dr Forbes Rollinson" who is "the lawful proprietor of it." As Stanley notes, according to Drees, "the natural world is the whole of reality that we know of and interact with; no supernatural or spiritual realm distinct from the natural world shows up within our natural world, not even in the mental life of humans" (537-538). Forbes shares this point of view of Drees and uses the validity of science to explain the strange incidents, but the speaker does not agree whether science will really solve the natural mysteries in Malmaison. He writes: "I do not agree with Dr. Rollinson's theory of the phenomena [...] With, all respect for the validity of science within its proper sphere, I do not conceive that its judgments are entitled to paramount consideration when they attempt to settle the problems of psychology. There are mysteries which no process of inductive reasoning can reach." The speaker then tells the reader of the tale that the reader does not have to be "decoyed blindfold into accepting as final either the Doctor's view or mine [the narrator's view]." The reader is free to draw his own conclusions "after possessing himself of the facts."

The narrator, supposedly Julian Hawthorne, writes this introduction in the same tradition as his father Nathaniel Hawthorne did in his romances. In his preface to *The House of the Seven Gables* (1851), Nathaniel Hawthorne writes about the difference between a romance and a traditional novel. He believes that the novel "is presumed to aim at a very minute fidelity, not merely possible, but to the probable and ordinary course of man's experience," whereas a romance "as work of art […] may swerve aside from the truth of the human heart—has fairly a right to present that truth under circumstances, to a great extent, of the writer's own choosing or creation" (1). Nathaniel claims that the romance novel gives the writer freedom to present that truth with his own creation that is greater than reality. Julian also takes this perspective and writes about this idea in his introduction. Nathaniel concludes his preface with that "the personages of the Tale—though they give themselves out to be of ancient stability and considerable prominence—are really of the Author's own making, or, at all events, of his own mixing" (3). He wants the reader to understand the story as a work of fiction. Julian does the same at the end of his introduction and writes that "Dr Rollinson holds that they [the names, dates, and localities of the story] had better be given at full length," but that "at other times […] he [Julian] endeavoured to throw over the whole [story] as 'fictitious.'" He follows the same perspective of Nathaniel and the structure of the preface of *The House of the Seven Gables.* In terms of the representation of science as a truth-telling discourse, the reader, who is familiar with Nathaniel Hawthorne's brand of romance, can expect that the supernatural events will be greater than scientific facts in *Archibald Malmaison*.

2.2 The Clash between Supernatural and Scientific Explanations

The main supernatural event in *Archibald Malmaison* is Archibald's sudden change in behaviour. This remarkable change encouraged the first scientist, Henry, to use scientific discourse to investigate this behaviour change. His explanations are based on his observations that he makes during the experiments. However, the other characters who also witness Archibald's strange behaviour seem to base their explanations on the paranormal that are beyond the scope of normal scientific understanding. As Luckhurst notes, "because the advances in science were so rapid, the natural and the supernatural often became blurred in popular thinking, at least for a time. And no area of the literary culture of the Victorians was left untouched by this interplay of science and magic." The other characters come up with supernatural explanations because they believe that the events cannot be explained solely by naturalistic means. With their explanations, they indirectly show that some complexities resolve to be supernatural. Henry, on the contrary, sees Archibald as an interesting subject on which to experiment. While he observes him closely, he tries to clarify this mystery behind his disappearance and reappearance.

As a child, Archibald was already an unusual character and is described as "a dull and stolid baby, neither crying nor crowing much: he would sit all day over a single toy, not playing with it, but holding it idly in his hands or between his knees." The only things he could do well were eating and sleeping even though he never "appeared to be thoroughly awake, nor was his appetite ever entirely satisfied." These peculiarities did not go unnoticed and attracted the attention of several other people living nearby: "The old wives of the village maintained that he [Archibald] was the sort that could see elves, and that, if one but knew how, he might be induced to reveal valuable secrets, and to confer magic favors." They think that Archibald is a person with supernatural powers. According to Bown, "the supernatural was an important aspect of the Victorians' intellectual, spiritual, emotional and imaginative

worlds, and took its place in the domestic centre of their daily lives" (2). Many Victorians were prone to supernatural explanations that were beyond the range of normal experience or scientific explanation.

Another supernatural phenomenon within the novel that stirs up supernatural and scientific explanations is the way young Archibald copes with the loss of his cat. He is immediately aware of the death of his cat without actually knowing that the cat is dead. The striking part is when he does not show any emotions and falls asleep for the next thirty-six hours. When Archibald wakes up he is not able to say anything and even forgot everyone and the things he used to know. The narrator writes that the "wise folk who stood around his crib hazarded various predictions as to the issue of his unnatural slumber." Some of these "wise folk" explain that Archibald lost "what little wit he had," or that he would become "an acknowledged wizard." Archibald's aunt Jane even thinks that he must be bewitched. These people come up with their own explanations that are not based on facts but on their imagination.

Henry also witnesses this strange event and observes the "scene with something more than ordinary wonder or amusement; it had puzzled, but also interested him extremely," but he is "less of a conservative than many of his profession; he kept his mind open, and was not disinclined to examine into odd theories, and even, perhaps, to originate a few such himself upon occasion." The scientist wonders what is wrong with Archibald, and he is not satisfied with the answer that the boy "had become wholly, idiotic." He decides to study the symptoms and "weigh the evidence before committing himself one way or the other." The first result of his observation is that Archibald is not idiotic and that he has a "vacancy of ignorance rather than of foolishness" in his expression. The characters who live nearby assume that Archibald was a changeling (which meant, according to the *OED* "one given to change; a fickle or inconstant person; a waverer, turncoat, regenade"), but the doctor, who is

"a man of sense" does not agree with this argument and continues his observations. He also observes that "his [Archibald's] own thoughts and wants were expressed by inarticulate sounds and by gestures; but the mystery of speech evidently interested him [Henry], and he studied the movements of the lips of those who spoke to him with a keen, grave scrutiny to them highly amusing." With these observations, Henry tries to avoid hasty generalisation and uses inductive reasoning to explore this unnatural situation.

The dogmatic view of Henry which is based on his scientific beliefs is contrasted to the "supernaturalist" view of the other characters in the novel. An example of the "supernaturalist" view of the other characters is when Archibald's aunt Jane comments that the child "had the knowingest look of any child she ever saw" and that "he somehow come into possession of a fund of native intelligence to which he had heretofore been a stranger." Another example of this view is the explanation of an old sage woman who "asserted confidently that he [Archibald] was [a changeling], and that, however much he pretended to ignorance, he really knew vastly more than any plain human child did or ought to know." The fact that they strongly believe that Archibald possesses secret knowledge shows that they try to approach the situation with their religious faith. As Brantlinger and Thesing note, according to Kucich "new scientific models brought rational knowledge into direct conflict with religion" (120). The different views of Henry and the other characters therefore represent the religious and scientific strands of the century.

The supernatural events are perceived differently by the characters in the story. The supernatural and scientific explanations occur after every phenomenon and contrast each other. However, these several perspectives to the events make the story more believable. The different perspectives on characters and events is also a common feature in Gothic fiction. In, for example, Le Fanu's "Green Tea," the story of Mr Jennings is told through the letters of Dr Hesselius, but there is also a prologue by an anonymous doctor who works with Hesselius.

With the various perspectives, the strange events are not only seen in one way which adds to the mystery and makes the reader question the supernatural events.

2.3 The Different Scientific Approaches of the Two Scientists

The two scientists, Henry and his son and successor Forbes give their different views on the natural mysteries that are based on their scientific theories. Forbes continues to observe the mystery after his father has passed away, but the theory that he adopts is somewhat different. Archibald enters and leaves the secret room in "a somnambulistic state." After his return, his mind changed into a seven-year-old boy again, and he also forgot "everything connected with the secret chamber, and the silver rod was completely erased from his mind; and though he had been found with the rod in his hand, he could not tell what it was or where he got it." Henry's opinion about Archibald's relapse is that "stupidity was the boy's normal condition and that his seven years of brilliance had been something essentially abnormal and temporary, and important only from a pathological point of view." The doctor does not seem to be too critical about Archibald's relapse. He approaches the situation from a pathological point of view and focuses on the boy's mental health. Forbes, on the contrary, takes a different scientific approach. The narrator writes that this new doctor returned to "his native land with the highest diplomas that continental schools could give him," and that "his theory upon the matter, in so far as he had formed one, did not on all points coincide with his father's; he belonged to a somewhat more recent school—more critical and less dogmatic." Forbes believes that Archibald's peculiarities are "rhythmic" and will reoccur again every seven years. With his critical experiment, he tries to detect patterns and regularities and wants to "see whether the lapse of another seven years would bring about another change." Eventually, the result of this experiment does not really differ from his father's opinion.

The scientists fail to provide clear answers with their experiments. The narrator

comments on their discoveries and shows his scepticism towards these discoveries which are only based on facts. His opinion reflects the rejection of scientific discoveries by Victorians who did not believe that science could be the solution. During the Victorian period, the scientist and his discoveries were often met with scepticism. According to Mazzeno, "Victorian society was fascinated by and fearful of scientific discovery in equal measure" (10). These discoveries influenced them, but not everyone believed in whether science could give clear answers to all natural events. Even though the speaker respects the scientific experiments of the scientists, he is not convinced that science can solve the natural mysteries in Malmaison. He, for example, notes that "[Henry's] usual remedies availed little, and when he arrived, four hours afterward, it was already evident that even he could be of no use." The narrator shows in this scene that he is not against the doctor's remedies because they "availed little," but he knows that the effects of his remedies are only temporary. The introduction of the second scientist, Forbes, is remarkable as it creates expectations. The narrator mentions his "highest diplomas," which indicates that he has learned new scientific models and that he may solve the supernatural events with these models. However, in the same paragraph he adds that "it would be hazardous to assert that young Dr. [Forbes] Rollinson knew exactly what was the matter with Archibald—especially as he has seen reason to modify his first impressions more than once during the last fifty years." Even though the scientist has learned a new and improved theory, the narrator still does not believe that this theory can resolve the supernatural events.

The roles of the scientists in the clarification of the supernatural events are minor. The supernatural phenomena continue throughout the story, but the reader is still left puzzled after the results of the scientific experiments have been published. The explanations of Henry are more dogmatic, but his son tries to approach the situation more critically. The narrator even introduces him as a promising scientist. However, one of the problems that Forbes faces

is that the result of his long experiment does not really make a difference; his discovery does not give new information about the phenomena. The narrator comments on Forbes's finding with: "to have discovered the orbit, so to speak, of a malady, is not, indeed, to have explained it; but it is always something." At the end of the story, after the climax, the narrator confesses that he "does not care to pursue this narrative any farther" even though "the real scientific interest begins." The narrator does not wish to focus on this scientific interest. As the story ends, the scientists do not receive another chance to find out more about the supernatural events.

Conclusion

The critical opinion of the narrator on facts in the introduction introduces the limited influence of the scientists in the explanations of the supernatural events. His critical comments towards scientific facts in stories reflect the rejection of science by certain strands within Victorian society. The scientific views of the scientists that are based on their observations are contrasted to the "supernaturalist" view of the other characters in the story. The clash between the scientific and "supernaturalist" view reflects the tension between scientific and religious discourses of the century. Science is used to discover the truth about human life but the story shows that it is more complicated. The scientific discourse of the scientists cannot answer all the questions related to the supernatural events. The experiments of the scientists also indirectly demonstrate the power that they have on the situation. However, even though they attempt to generate the truth with their investigation, they are not able to really control the outcomes of the situation. Henry was not able to solve the events before his death, and his son did not resolve it either. They therefore fail to discover the reason for Archibald's relapse and the supernatural phenomena that are linked to his peculiarities.

Chapter 3: The Dangerous Consequences of Scientific Curiosity in *Dr Jekyll and Mr Hyde*

During the end of the Victorian period, the influence of science on Victorian society grew and the dogmatic beliefs of religion diminished as "cultural authority shifted from traditional authority of religion to explanation through the scientific exposition of natural laws" (Luckhurst). However, in a response to the waning of traditional religious beliefs, the concept of the paranormal also arose in the second half of the nineteenth century, reaching a peak with the establishment of the Society for Psychical Research in 1882. Unsurprisingly, the relationship between scientific discourse and Victorian supernatural discourse is greatly emphasised in Robert Louis Stevenson's novella *The Strange Case of Dr Jekyll and Mr Hyde* (1886). In this novella, there is a fine line between science and the supposedly supernatural events. In fact, one of the central themes in the story is the contrast between rationalism and supernaturalism as a worldview. In the course of the nineteenth century, more and more scientists adopted Comte's positivist outlook – as described in chapter one – and followed the Baconian method of explaining natural phenomena purely by means of experiment and observation. In *Jekyll and Hyde*, there is a clash between Jekyll's and Lanyon's scientific interests. The "rational" scientist Dr Lanyon is dismissive of the supposedly supernatural events. His friend, Dr Jekyll, by contrast, chooses to explore the metaphysical side of human nature which is the soul. As a respected scientist, Jekyll challenges the Victorian scientific ideal of rationalism and by gradually becoming Hyde who is regarded as "physically detestable," Jekyll turns into a Gothic villain. According to Marshall, "[in] the Gothic novel, villains are clearly marked [...] Evil as physically manifested becomes central to our understanding of the villain, who is always in some way marked [...] by some sort of physical deformity" (161). Jekyll does not succeed in creating two opposite beings; in fact, his

experimental method of researching morality fails. He believes that he can use scientific experiments to solve a moral problem but his failure eventually drives him into isolation. In the story, there is a clear movement from scientific curiosity to seemingly supernatural events and finally towards the exposition of the potential madness of unbridled science.

3.1 The Description of the Strange Events through Different Narratives

Jekyll and Hyde begins with a third-person narration of Mr Utterson. The story focuses on his point of view; he is internally focalised which means that the narrative reflects the perception of him. Utterson is an important lawyer in London and appears reserved throughout the story. In the beginning of the story, he is described as "a man of a rugged countenance, that was never lighted by a smile; cold, scanty and embarrassed in discourse; backward in sentiment; lean, long, dusty, dreary and yet somehow loveable" (1645). Even though he acts quite distant, he is somehow "lovable." As a rational character, he provides his reasonable explanations to the strange events. An example of Utterson's rational response to the events can be found in the scene in which he goes to Jekyll and finds him "looking deadly ill" (1658). Jekyll tells Utterson that his relationship with Hyde has ended and that he will "never set eyes on him again" (1658). He also gives the letter to Utterson that he received from Hyde. The way Utterson deals with this situation reveals his ideological position in the novella, which is the position of a typical Victorian gentleman. He listens carefully and does not report Jekyll after he suspects him of covering up for a murder. He appears to be an objective narrator from the outside who represents a moral person, however, he hides his drinking habit which indicates that he also suffers from the duality of human nature.

There are also the points of view of the other characters, like for example, the story of the door by Mr Enfield, Dr Lanyon's narrative and Dr Henry Jekyll's full statement of the case. These narratives show the strange events through different perspectives and heighten the

suspense and mystery of the story, but the case is not solved until the last narrative of Jekyll. In the beginning of the story, Enfield gives his perspective of the events. He is a good friend of Utterson and they often have long strolls together. As they walk together at the beginning of the story, Enfield and Utterson discover a door of a neglected building. Enfield seems to know "the door, which was equipped with neither bell nor knocker, was blistered and distained" (1646) and shares his story about what he witnessed "after coming home from some place at the end of the world, about three o'clock of a black morning" (1646). Even though Enfield appears to a reserved character like Utterson, he offers his objective perspective on his "hellish" experience. He explains that he saw "a man [who] trampled calmly over [a] child's body and left her screaming on the ground" and that this man "wasn't like a man." After that he says that the look of this man "brought out the sweat on [him] like running" (1646). As he gives his first impressions of the man, he is not really able to describe him. He tells Utterson that there is "something wrong with his [Hyde's] appearance, something displeasing, something downright detestable" (1648). In his narrative, Enfield does not provide many details about the appearance of Hyde. He mainly describes how shocked he was and that he does not wish to "refer to this again" (1648). His vague description of Hyde heightens the suspense and mystery of the story.

The characters in *Jekyll and Hyde* struggle to stay on the right track morally. As Searle notes, "the 'moral reformers' of mid-Victorian Britain set out to suppress or discourage a number of 'immoral' practices: most notably, cruelty to animals, sexual vice, betting and gaming, Sabbath-breaking, and the various abuses associated with the trade in alcoholic beverages" (219). In the beginning of the novella, the third-person narrator reveals that Utterson has a fondness for wine, which he would like to enjoy in public "at friendly meetings." However, the remarkable part is that instead of enjoying wine he "was austere with himself; drank gin when he was alone, to mortify a taste for vintages, and though he

enjoyed the theatre, had not crossed the doors of one for twenty years" (1645). Even though he is a respectable lawyer in the Victorian society, Utterson seems to struggle to contain his desire for enjoyment because he feels that it may harm his reputation. This beginning of the story foreshadows Jekyll's experiment in which Jekyll tries to separate this darker, immoral side from the moral and upright side as he believes that he will be prone to temptations. Jekyll is therefore not alone with this struggle as Utterson who is a rational and respected character also has difficulty with staying a Victorian gentleman. The two men are closer to being each other's doubles than opposites, which highlights the Gothic nature of the story.

The last two narratives of the doctors, Lanyon's and Jekyll's respectively, play an important role in the story. These narratives offer two different perspectives on the main event given by two different scientists. Each has a different purpose in the text. Lanyon's letter provides some answers to the strange case but his description of the events does not clarify the case. The doctor writes that he received puzzling instructions of his friend Jekyll, and in Jekyll's place Lanyon finds a "record of a series of experiments that had led (like too many of Jekyll's investigations) to no end of practical usefulness" (1672). The record of a series of experiments contains notations such as "double" or "total failure!!!" (1672). These notes offer hints to what Jekyll's experiments involved. However, the case remains unsolved. At the end of the letter, Lanyon finally reveals the interchange between Hyde and Jekyll, but he then ends the letter with the fact that he is not able to "bring my [his] mind to set on paper […] without a start of horror" (1675). The letter does not offer a clear explanation of what Lanyon witnessed and the reader is left with questions concerning the strange events that took place. In the full statement of the case, Jekyll finally confesses and reveals everything about Mr Hyde, and as confessing is a religious discourse, science and religion also come together in this last narrative.

The different perspectives on the strange events of the two scientists are striking as

they show their personal reactions to the case. In his letter, Lanyon feels responsible for helping his friend and follows his friend's vague instructions. His curiosity to find out more makes him feel "bound to do as he [Jekyll] requested" (1672), and his letter includes many details about his findings in Jekyll's place. The record of a series of experiments and notations of the failed experiments are all described in his account. However, after witnessing Hyde's transformation, Lanyon does not want to receive an explanation of the world that Jekyll has entered. As Buzwell notes, "when Dr Jekyll's medical colleague, Dr Lanyon, witnesses Hyde transform back into Jekyll, the knowledge that the ugly, murderous beast exists within the respectable Victorian scientist sends him first to his sick-bed, and then to an early grave." Lanyon is shocked and horrified and describes this situation as a terror that haunts him constantly. Lanyon gradually loses control of his own life like Mr Jennings in Le Fanu's "Green Tea" who suffers from persistent visions of a demonic monkey. Science is therefore used to create terror in the story and indirectly becomes the Gothic monster that terrifies the scientist.

As a reputable doctor, Lanyon's scientific questions contrast Jekyll because he is more a "traditional" scientist who focuses on rationalism and materialism, whereas Jekyll embraces the metaphysical side of human nature. His scientific scepticism towards Jekyll's interest into the darker aspects of science emphasises the opposition between Victorian rationalism and the presence of the supernatural. Lanyon's view on science links with the progressive, positivist view of Comte. As Comte, Lanyon believes that knowledge can be achieved with empirical science. He does not agree with explanations that are not based on reason and objectivity. Both scientists have "differed at times on scientific questions" (1671), but their relationship was close, and they used to have a "bond of common interest" (1649). However, their scientific interests changed and "it is more than ten years since Henry Jekyll became too fanciful for me [Dr Lanyon]" (1649). As Baldick notes, "Jekyll harbours what Lanyon calls

'scientific heresies,' and in the isolated world of the study, his concentrated energies convert these into those dangerous 'scientific passions' which Utterson cannot comprehend" (144). Lanyon explains that Jekyll "began to go wrong, wrong in mind" (1649) when they had a disagreement over scientific endeavours ten years ago. He still continues to "take an interest in him for old sake's sake," but he does not agree with Jekyll's experiments which he calls "unscientific balderdash" (1650).

In both narratives, there is a contrast between a scientist who wants to explore the strange events rationally and a scientist who would rather investigate the metaphysical side of human beings. This paradoxical fusion of science and the supernatural in the late Victorian period was encapsulated by the Psychical Research Institute. Members of this institute wanted to prove scientifically that there is such a thing as a spirit world and consequently the soul. This metaphysical side links with the second stage of Comte's Law of Three Stages in which, as Olson notes, "humans replace anthropomorphized supernatural beings with abstract forces that are still presumed to have some real existence independent of the effects that they produce" (67). Jekyll is fascinated by the internal struggle of the soul and desires to end the struggle of man by using science to prove that there is a "thorough and primitive duality of man" (1676).

3.2 The Destructive Consequences of the "Failed" Experiment

The horror in *Jekyll and Hyde* results from the fact that Jekyll employs an experimental method to research morality. The problem is that Jekyll thinks that he can use a scientific experiment to solve a moral problem, while morality is a traditional religious discourse in the nineteenth century. He strongly believes that within each human being there exist forces of good and evil, and with his scientific principles he wants to separate these two sides. In the last chapter, Jekyll notes that "life would be relieved of all that was unbearable

[…] and the just could walk steadfastly and securely on his upward path, doing the good things in which he found his pleasure, and no longer exposed to disgrace and penitence by the hands of this extraneous evil" (1676). From the outset, Jekyll was aware of the risks, but the "temptation of a discovery so singular and profound" convinced him to continue his experiment (1677). As Macduffie notes, "Jekyll can indulge himself in Hyde, but Hyde must also be able to become Jekyll in order to realize the dream of the full 'separation of these elements.' The plan seems to work at first, and Jekyll describes his initial mastery of the change" (173). Jekyll notices the "sensations" after he "came to myself [himself] as if out of a great sickness" and that he instantly felt "younger, lighter, happier in body" (1677). He first experiences a "grinding in the bones and deadly nausea" but then these "agonies began swiftly to subside" (1677). His first impressions of the metamorphosis are therefore positive.

Like in religious discourses, the evil and good forces play an important role in the text as Jekyll creates an evil side that can be compared to Satan. Even though Jekyll is able to succeed in separating his darker side, he is not really able to liberate himself from his darker side because his former self did not change and stayed mixed as before. After the first experiment, he sees the appearance of Hyde for the first time. He writes that this evil side of his nature was "less robust and less developed than the good which I [he] had just deposed." Hyde was also "so much smaller, slighter and younger than Henry Jekyll," but "even as good shone upon the countenance of the one, evil was written broadly and plainly on the face of the other," and that this evilness had left "an imprint of deformity and decay" (1677). As Satan, Hyde comes to represent the embodiment of pure evil that lurks inside human beings.

Due to the disastrous consequences of his experiment, Jekyll slowly loses his life as a respectable Victorian scientist. As the novel progresses, Hyde commits a number of crimes and appears whenever he wants. Jekyll is not able to control this metamorphosis process anymore and writes in his letter that "all things therefore seemed to point to this: that I [he]

was slowly losing hold of my [his] original and better self, and becoming slowly incorporated with my [his] second and worse" (1680). He fails to turn into his original state whenever he wants to and gradually "loses" himself. Macduffie contends that, "Jekyll cannot endlessly return himself to his original state, not simply because transformation by nature degrades energy and irreversibly homogenizes differentials, but because after so many iterations, and so much moral confusion, he begins to lose a sense of what that original state *was*" (183). As Hyde begins to dominate Jekyll, Jekyll gradually turns into a victim of his own experiment.

Hyde's criminal characteristics can also be linked to Cesare Lombroso's theory of atavism. Lombroso tried to find out the relationship between criminal psychopathology and physical defects. *Jekyll and Hyde* is influenced by this theory and the characteristics of Hyde that create terror are typical atavistic traits. Hyde's dwarfish, pale appearance that gave "an impression of deformity without any nameable malformation" fit Lombroso's image (see Appendix) of the atavistic criminal with his small skull, asymmetry of the face, low forehead, and ears of unusual size (1652). Stevenson links Hyde's evil appearance with his criminal activities. The maid in the Carew murder case chapter explains that Hyde trampled and killed his victim with his "ape-like fury" (1655). Hyde's "impulsiveness and savagery, his violent temper, and his appearance all mark Hyde as lower class and atavistic" (Arata 35). Stevenson used Hyde's physical and psychological abnormalities to emphasise Hyde's evil character, and these attributes clearly connect with Lombroso's description of criminals.

However, in the story the description of Hyde's appearance through the other characters is notable. Stevenson does not give a completely detailed description of Hyde's appearance. Everyone who encounters Hyde is left with a "disgusted" feeling. As Gibson and Rafter note, in the first edition of *Criminal Man,* Lombroso wrote that "criminals, compared to 'healthy' individuals, have smaller and more deformed skulls, greater height and weight, and lighter beards. They are more likely to have crooked noses, sloping foreheads, large ears,

protruding jaws, and dark skin, eyes, and hair. They also tend to be physically weak and insensitive to pain" (9). Hyde is indeed insensitive to pain because he commits crimes without feeling guilty. However, he is not physically weak as he gradually commits bigger crimes than before that demand physical strength, like the murder of Sir Danvers Carew. It is remarkable that all the characters who confront Hyde often focus on his "great flame of anger," "ape-like fury," or the way they feel when they see him. Utterson regularly asks people what Hyde looks like. For example, he asks his friend Enfield "what sort of man he is to see" and Enfield responds with that Hyde gave him "a strong feeling of deformity" (1648).

Hyde is a version of the Victorian stereotype of the degenerate, just like the Vampire in Bram Stoker's *Dracula* (1897). As Dager notes, "both the novel and the Count himself, is clearly inspired by contemporary theories of atavism and Criminal Anthropology. Count Dracula represents one of the greatest fears of Victorian Britain—the atavistic criminal who is also the foreign other, and substantiates the threat of reverse colonization" (2). Hyde represents the Victorian fear of indulging in one's darker side. The story as a whole critically explores Lombrosian moral ideology by showing a criminal that does not share all the characteristics of Lombroso's physical characterisation of a criminal.

3.3 The Gothic Villain and the Madness of Science

Jekyll is "blinded" by his expectations of the experiment and gradually "loses" himself in the process. He decides to experiment with a new chemical and wants to explore his "darker self." He believes that his experiment succeeded because he no longer has to hide his other self with "an almost morbid sense of shame" (1675). However, he does not describe the chemical solution to solve his problem in detail. In the beginning of his narrative, he notes that he prepared the "tincture" and "purchased at once, from a firm of wholesale chemists, a large quantity of a particular salt which I knew, from my experiments, to be the last ingredient

required […] and when the ebullition had subsided, with a strong glow of courage, drank off the potion" (1677). The potion that he created is not described in detail. He only mentions vaguely how he made this potion and focuses on how he is able to do good things "in which he finds pleasure," and that he is no longer "exposed to disgrace and penitence by the hands of this extraneous evil" (1676). As Hurley notes, Jekyll "does not describe the chemical makeup of the compound nor the means by which it wrought his transformation into Hyde, only mentioning that the impurity of a certain 'salt' was what 'lent efficacy to the draught'" (17). When he drinks the potion, Jekyll welcomes his other self, but he does not really pay attention to this "chemical makeup of the compound." This vague way of conducting experiments also foreshadows his end as a rational scientist.

As a respectable Victorian scientist, Jekyll gradually adopts the role of a Gothic villain as Hyde becomes him. He is driven into isolation and madness by his creation and suffers the same fate as Frankenstein who flees away from the monster that he created. As Baldick notes, "both Victor Frankenstein and Jekyll begin with good intentions, but their projects are internally contradictory: Frankenstein tries to become the benefactor of his race by turning his back on it, while Jekyll wishes to rid himself of shameful secrecy by secret means" (145). With his experiment, Jekyll challenges the conventions of Victorian ideal of rationalism. His friend, Lanyon, who becomes the embodiment of rationalism, rejects Jekyll's research initially. He does not want to be part of his "mad" experiment and is shocked when Jekyll's scientific interests lead to metaphysical studies. He ends their friendship and Jekyll loses an important friendship but he remains persistent in his studies. When Hyde commits bigger crimes than before, Jekyll does not know how to respond to this new situation and starts to alienate himself from society. According to Baldick, "*Dr Jekyll and Mr Hyde* is set in a noticeably male world of isolation and guilty privacy, thus highlighting and condensing the theme of irresponsible secrecy which runs through the nineteenth-century tradition of

Romantic transgression" (144). Hyde becomes a threat to both his creator and the public in general.

The study of the human mind and intellect was an important subject at the end of the nineteenth century. With his experiment, Jekyll focuses on the science of mind. As de Maupassant notes:

> the existence of the unconscious mind that spoke when the will was relaxed suggested the potential for struggle between different parts of human consciousness. In *The Strange Case of Dr Jekyll and Mr Hyde,* Robert Louis Stevenson offered the public a fictional case study, a thought experiment in which the hypothetical split in consciousness becomes destructively literal. So powerful is Stevenson's depiction of Jekyll—who as a scientist thinks actively about the issues of his experience raises—that it is easy to accept him as an actual 'case.' (330)

Before Jekyll explains why he conducted the experiment, he talks about his position in the Victorian society in the beginning of his full statement of the case. He writes that he was born to a "large fortune, endowed besides with excellent parts, inclined by nature to industry, fond of the respect of the wise and good among my fellow-men, and thus, as might have been supposed, with every guarantee of an honourable and distinguished future" (1675). Jekyll wants to ensure this "honourable" future but without having to conceal his "pleasures" (1675). He writes that after years of reflection, he began to "look round and take stock of my [his] progress and position in the world" (1675). He decides to research the mind of his evil side because he does not want to commit sins anymore and desires to stick to the values of the Victorian society. His experiment links with the early studies of the human mind and intellect in the nineteenth century. As Wee notes, "psychological analysis focused largely on the intellect as a separate function of the self, and theorists viewed the mind and the body as two disparate, unrelated mechanisms." Jekyll believes that his other self that possesses the evil

mind does not belong in the body of a Victorian scientist who was respected by “the wise and good among my [his] fellow-men” (1675). He therefore uses his scientific knowledge to investigate the duality of the human mind.

There is a clear movement from scientific curiosity into supposedly supernatural events towards the exposition of the potential madness of science. Jekyll is unsuccessful in the separation of one entirely evil side and another entirely good side. His better half is still mixed with “good” and “evil” sides, and he gradually loses his own identity when his degenerative side takes control of the metamorphosis process. As a scientist who has turned “mad,” Jekyll gradually changes into a Gothic villain but he also becomes a victim of his own experiment at the same time. His creation “mock them [him] by appearing in the shape of the conditions in which they were [he was] brought forth, rather than the ends for which [he was] conceived” (Baldick 145). His friend, Lanyon, who is the rational and logical scientist, pays the price as high as Jekyll. Both scientists are persistent and stay within their own fields of interest, but they are driven to madness and eventually destroyed by their beliefs.

Conclusion

The different narratives in the story play an important role in the novella as they show the events through different perspectives. The strange events are described by several characters, and the effect of the various narrative perspectives is that the case becomes more complex. All the characters who encounter Hyde give their own description of him based on what they have experienced. As a rational and objective lawyer, Utterson’s investigation of the case is convincing. However, he also seems to struggle with the duality of men as can be seen in the beginning of the story. Lanyon provides his experience in his narrative, but he mainly focuses on how he felt and the shock that he suffered when he witnessed the transformation of Hyde into Jekyll. His abrupt ending of the letter makes his narrative

credible. In Hyde's narrative, it is not clear whether Hyde really abhors his other self. When his experiment goes out of hand, Jekyll alienates himself from everyone close to him. He already broke his friendship with Lanyon but continues to break his relationships with everyone else. He is not able to destroy Hyde anymore and protects himself by protecting Hyde. Jekyll notes how "the powers of Hyde seemed to have grown with the sickliness of Jekyll. And certainly the hate that now divided them was equal on each side" (1684). The story is not only about science run amok, but also about the dangerous consequences of scientific curiosity. As Lanyon dies from the shock he suffered when he witnessed the transformation of Hyde into Jekyll, Jekyll brings "the life of that unhappy Henry Jekyll to an end" (1685).

Chapter 4: The Scientist as a Prophet of Doom in *The Time Machine*

H.G. Wells's *Time Machine* (1895) takes place in the Victorian fin-de-siècle and focuses on the concepts of time, space and progress. Other issues such as evolution and class division also play an important role in the text. As Parrinder notes,

> within this small compass Wells evokes the vast perspectives appropriate to a vision of time, evolution, and human ecology—what the nineteenth century grandly referred to as 'a man's place in nature'. To achieve this concentration of action and thought, each 'scientific romance' had to begin, as the Time Traveller begins, by controverting 'one or two ideas that are almost universally accepted. (xiii-xiv)

The scientist travels through time with his machine to the year 802,701 and even further ahead to roughly 30 million years from his own time. He confronts a group of learned men within the Victorian society with the idea of time travelling and is not afraid to tell them about his discovery of the future. In the future, he notices a decline of the Victorian society and the destruction of the world at the end of his journey. He returns with this message but the men of his dinner group are not convinced as they refuse to believe in the decline of the Victorian period. As an explorer, the scientist becomes a prophet of doom who discovers a degenerated future while he travels through time.

4.1 The Rejection of the Time Traveller's Discovery in the Frame Story

The novel contains a story within a story, as there are two narrators. As described in chapter one, dinner groups wanted to improve the role of science in society by using scientific discoveries. The setting of the frame story also consists of a dinner group with whom the scientist discusses topics like the fourth dimension. However, in this club the Time Traveller's discovery is criticised by the other men. The first narrator who is also present at this gathering is unnamed, but he provides his point of view on the concept of time in the opening and closing sections of the book. The second narrator is the Time Traveller who is also the protagonist of the story. After the scientist agrees to continue with his story, he takes over the narration. According to Bergonzi, "the opening chapters of the novel show us the inventor entertaining his friends, a group of professional men, in the solid comfort of his home in Richmond […] these chapters are essential to Wells's purpose, since they prevent the central narrative from seeing a piece of pure fantasy, or a fairy story, and no more" (43-44). This frame narrative is important for the credibility of the story.

In the beginning, the scientist provides an introduction to his theory of the fourth dimension and explains "that there are really four dimensions, three which we call the three planes of Space, and a fourth, Time" (4). The unnamed narrator describes the conversation between the scientist and the members of the dinner group. As the Time Traveller lectures on the fourth dimension, many of the men in the group are sceptical. When the Time Traveller begins, an argumentative person called Filby already interrupts him with a question.
The Medical Man then confronts the scientist with questions like why Time has always been regarded as something different, and why we cannot move "freely in Time as in the other dimensions of Space" (5). As Haynes notes, "here the strongly realistic, even mundane outer envelope acts as a partial guarantee of the veracity of the inner story" (227). The scientist responds to all the questions and continues, however, the tone of the discussion is judgmental

as almost all members of the group comments on everything that the scientist says. This creates a realistic scene and makes the upcoming story of the Time Traveller more believable.

The reactions of the guests show that they probably saw the idea of time travel as a decline of the Victorian period. Haynes writes, “as if to emphasise the essential similarity between time and the three spatial dimensions, the Time-Traveller has constructed his machine not merely to travel in time, but to ‘travel indifferently in any direction of Space and Time as the driver determines’” (56). This new idea of taking control of Time as well as Space challenges the conventions of Victorian ideal of rationalism. The guests question the scientist’s idea and the criticism towards his discovery reflects the fear of change at the end of the Victorian period. The group is hesitant to adapt to this different vision of the future, and their responses towards the new theory reveal their negative attitude towards scientific discoveries that confront them with reality.

The frame story offers multiple perspectives to the story as there are different people present in the dinner group who provide their personal opinions. These guests all represent different groups of Victorian society. In the first gathering, there is the unnamed narrator, the Psychologist, the Provincial Mayor, the Medical Man, the Very Young Man and the Doctor in the second gathering, the narrator notes that “the Psychologist was the only person besides the Doctor and myself [himself] who were present; this time there were two new men, the Editor, a journalist, and “another—a quiet, shy man with a beard—whom I [he] didn’t know, and who […] never opened his mouth all the evening” (13). These guests have important and influential positions in the Victorian society. They are all professional men and represent, to an extent, the middle classes in Victorian England.

Most of the men in the gatherings do not have names but they are named after their professions. This is also present in Joseph Conrad’s *Heart of Darkness* (1899) which was published after *The Time Machine*. The teller of the tale, Marlow, warns against “dark”

developments in Victorian culture. Like in *The Time Machine*, his narrative is framed by another narrative, and in the other narrative one of the listeners tells the tale that Marlow is telling them. The men aboard the Nellie are the audience and are named after their professions; there is the Director of Companies, the Lawyer, the Accountant and the unnamed narrator.

The British Empire was at its peak when the stories were written. The men in *Heart of Darkness* think about glorious voyages when they hear about explorers and are ignorant of the world beyond England. They are like the men of the dinner group in *The Time Machine* as they are also unaware of the future. The Time Traveller and Marlow gained some new insight from their experiences as explorers, and their warnings about the "dark" developments in Victorian society are not easily accepted by the men who listen to their tales. As McLean notes, "in *The Time Machine*, however, he [Wells] warns that blind faith in the assured evolutionary progression of humanity will lead only to 'the extinction of man'" (23). The Time Traveller and Marlow have the same function to warn society against the "dark" consequences in Victorian society.

Despite the evidence presented in the second gathering, the guests still refuse to accept the new idea. This time, the scientist shows them a smaller prototype of the time machine and when he takes the finger of the Psychologist and presses the lever, the model Time Machine "was sent forth on its interminable voyage" (9). As Parrinder notes, "the setting for his demonstration of a time machine is carefully staged, and no hypnotist or spiritualist could do more to establish his ascendancy and dull the critical faculties of his hearers" (xxi). Before the scientist's demonstration, the guests are curious about his "experimental verification" (8). They ask him to show this experiment, and the Psychologist even asks the scientist to demonstrate his experiment but quickly adds "though it's all humbug, you know" (8).
The Editor who did not witness the disappearance of the miniature time machine tells the scientist in the second gathering that "these chaps here say you have been travelling into the

middle of next week!! Tell us all about little Rosebery, will you?" (16) This indicates that the Editor hopes for a racing tip and shows that he clearly does not believe in the possibility of time travel. However, the guests are still curious about the results of this experiment. Ruddick writes,

> for Wells reserves the full measure of his scorn for those of the dinner guests who, like the Editor, have no scientific imagination, and who consequently cannot understand that the Time Traveller has visited a future in which our descendants could not be less concerned with horse racing or election results, and have no access to, nor indeed knowledge of, clothes-brushes. (341)

Even though the guests are living in a time of discovery and new inventions, their rejection of the Time Traveller's invention indicates that they are not ready for an entirely new idea.

The Time Traveller does not hide his invention and shows his experiment in public to convince and probably to entertain his audience before he continues with his story. When he wants to perform his experiment he tells his audience that "they have to take a good look at the thing" (9). He wants them to "satisfy [themselves] there is no trickery" (9). He is different from the scientist in Wells's *The Island of Dr Moreau* (1896) in which the scientist, Doctor Moreau, is the problem himself. Moreau is the opposite of the Time Traveller as he has the role of a villain who has evil intentions. As Parrinder notes, "Dr Moreau and his assistant are in exile from the wider scientific community symbolized by the modern university. Moreau had to move his laboratory from England to an uninhabited Pacific island when his experiments on live animals were exposed by a journalist" (xxvi). The Time Traveller, on the contrary, is confident enough of his success to show his experiment to a critical audience. He presents his scientific findings in a similar open manner to the way in which the scientist Humphry Davy, earlier in the century, demonstrated to the public his experiments at the Royal Society. Davy's public lecturers were both a show of scientific progress as well as a

source of entertainment.

The disappearance of the machine amazes the audience and opens up the idea that time travel might be possible. The first reaction of the group is that “every one was silent for a minute” (10). The Psychologist even has to recover from his stupor and looks under the table to check if it was not some kind of trick. However, as Parrinder notes, “the Time Traveller’s friends know him as an inventor and illusionist who is not above playing jokes on them” (xxi). The group is surprised but they remain sceptical and discuss whether the machine went into the past or the future. After the scientist shows the real Time Machine itself, the Medical Man asks him if he is “perfectly serious” or if this is another trick (12). His scientific experiment is seen as a conjuring-trick and becomes a source of entertainment. However, when the guests do not believe him and wonder if he tries to fool them, the scientist still tries to convince them by showing the real machine.

The narrator describes that “at that time none of us quit believed in the Time Machine,” and that the reason for this was because the scientist was someone “you never felt that you saw all round him; you always suspected some subtle reserve, some ingenuity in ambush, behind his lucid frankness” (12). Even though the scientist demonstrates his experiment in public, the guests are not convinced. As McLean notes, “the opening scenes of *The Time Machine* reveal the protagonist to be a liberal-minded man whose thought is well ahead of his era. He begins his account of time travel by challenging the principles his guests had learned at school and is indeed described by the narrator as ‘one of those men who are too clever to be believed’” (McLean 32). The guests speculate at “the dinner table about the Time Traveller’s absence” (13). The narrator gives an impression of the scientist when he finally comes in and notices that he first “hesitated in the doorway, as if he had been dazzled by the light” (14). He eventually arrives “in an amazing plight” and the narrator sees that “his coat was dusty and dirty and smeared with green down the sleeves; his hair disordered […] his face was ghastly

pale, and his chin had a brown cut on it" (14). As he catches the attention of all the guests in the dinner group, the dishevelled and haggard reappearance in which the scientist comes to dinner opens up the idea of time travel.

4.2 Year 802,701 AD: The Eloi and the Morlocks and Wells's Socialist Political Views

In the main narrative, the Time Traveller discusses the evolutionary trends that he observes when he travels through time, but he noticed that evolution does not necessarily lead to human perfection. His narrative thus undermines the positivist idea of progress. Wells was inspired by his teacher, T.H. Huxley, who was a champion of Darwin's evolutionary theory. Parrinder writes that, "*The Time Machine* reveals the intensity of his [Wells's] imaginative response to the Darwinian theory, which he encountered as a student of T.H. Huxley's in 1884 […] Wells went much further than Darwin or Huxley in questioning the grounds of human superiority and self-satisfaction" (xvii). Wells inverts Herbert Spencer's developmental hypothesis in *The Time Machine*. According to Young, "underlying Spencer's belief that evolution was inherently progressive was the theory of inheritance of acquired characteristics. This meant, quite literally, that life, humanity and society learned from their mistakes and the inheritance of 'functionally produced modifications' was for the best" (185). Wells disagrees with Spencer's claim that "life becomes manifestly more heterogeneous as time advances" (McLean 21). McLean contends:

> that Wells disagrees with Spencer's assumption that evolution is inevitably characterised by increased complexity is further accentuated in the unquestionably homogeneous social structure of 802,701. The time traveller notes that 'the differentiation of occupations' (38) has disappeared in the future – thus indicating how Wells inverts Spencer's developmental hypothesis as applied to social organisation by portraying a movement from the minute heterogeneity of profession evident in the

> novel's opening chapter to the homogeneity of 802,701. (19)

The theme of the evolution of man into two species is used in *The Time Machine.* The scientist discovers the Eloi and Morlocks, but he realises soon that his first positive impression of the Eloi was an illusion and that the progression eventually leads to degeneration. The idea of the Morlocks taking over "would have had a chilling resonance for the confident late-Victorian reader" as these creatures represent "the dark, mysterious, 'savage' races" (McLean 19). Wells therefore incorporates Spencer's developmental hypothesis into his own philosophy to construct a particular vision of the future.

The Time Traveller's view on the world of the Eloi and Morlocks reflects Wells's socialist political views. In the year 802,701, there are the Eloi, who struck the scientist as "very beautiful and graceful creatures, but indescribably frail" (23), and there are the Morlocks who are living underground and come from a decadent civilization. In the beginning, the Time Traveller is first "charmed with the Eloi and the relaxed communism of their way of life" (Bergonzi 47). Later in the text, the scientist makes comments about how the Eloi society functions and seems to attack communism. As Bergonzi notes, "in the world that the Traveller surveys, aesthetic motives have evidently long been dominant as humanity has settled down to its decline" (49). The scientist explains that "this has ever been the fate of energy in security; it takes to art and to eroticism, and then come languor and decay" (33). He believes that too much progress can lead to decline. The Eloi may "adorn themselves with flowers, to dance, to sing in the sunlight" (33) but their frailty and lack of intelligence are striking. The Time Traveller first believed that Eloi were the rulers, but he finds out that his first theory about the Eloi was wrong after he discovers the Morlocks who live underground. He explains that,

> The great triumph of Humanity I had dreamed of took a different shape in my mind. It had been no such triumph of moral education and general co-operation as I had

> imagined. Instead, I saw a real aristocracy, armed with a perfected science and working to a logical conclusion the industrial system of to-day. Its triumph had not been simply a triumph over Nature, but a triumph over Nature and the fellow-man. This, I must warn you, was my theory at the time […] from what I had seen of the Morlocks—that, by the by, was the name by which these creatures were called—I could imagine that the modification of the human type was even far more profound than among the "Eloi," the beautiful race that I already knew. (50-51)

The Morlocks were the labourers of the Eloi, but the roles reversed, and now the Eloi are the cattle of the Morlocks as they cultivate the Eloi and then eat them. The scientist comes up with a new theory of how their world operates. He notices a tension between the Eloi and the Morlocks as a result of the operations of capitalism. There is a class division of society in this world which does not necessarily advance the species. The Time Traveller argues that capitalism is one of the great ills of society that led to a division of labour. As a socialist, Wells shows the consequences of capitalism for human evolution with these two distinct species.

4.3 The Victorian Explorer and the Cassandra Complex

Throughout the main narrative, the Time Traveller plays the role of an explorer who travels through time in which he discovers a degeneration of the future. However, his investigation of the future does not go without any risks. Haynes writes,

> in the earliest fictional example, *The Time Machine*, the Time Traveller, in so far as he is characterised within the story, is essentially a sympathetic figure–the dedicated scientist steadfastly seeking knowledge at whatever personal risk, and despite the ridicule and lack of understanding of his friends. Moreover, he is not merely a cloistered, theoretical scientist, isolating himself in obscure research. (70-71)

The scientist is not afraid to take a risk every time he uses the machine. His dedication to this project can already be seen in the beginning of the story. He tells his guests that the small time machine "took [him] two years to make" and then he makes his hard work disappear in less than a second. He wants to persuade his guests and tells them that he is "never more serious in [his] life" (12). Despite the criticism, he travels through time and shares his scientific findings. He becomes a daring explorer who does not stop himself to seek more knowledge at the risk of his own life. As an explorer, the Time Traveller is like the empire building Victorian explorer David Livingstone. Dr Livingstone was an important missionary-explorer in Victorian England. He caught the public's imagination with his 1840s expedition into Africa. However, he disappeared in 1864 when he returned to Africa. In 1869, the explorer and reporter Henry Stanley was sent to Africa to search for Livingstone and often used his now famous line, "Doctor Livingstone, I presume?" (Otfinoski). Even though the Time Traveller and Livingstone are both Victorian explorers, the Time Traveller was not very much an empire builder like Livingstone. He explores the future but when he returns he is not welcomed as a national hero like Livingstone.

His message about the degenerated future which marks the end of the Victorian society is not received very well by the Victorian men in the dinner group. Due to overconfidence of the learned men in the frame narrative, they refuse to see a decline of the Victorian society. This "improbable invention becomes the basis of a controlled thought-experiment, estranging us from the familiar world and revealing it from a new angle" (Parrinder xiv). The scientist challenges the guests' conventions of Victorian ideal of rationalism, and the reactions of the guests indirectly reveal their fear of change. The scientist does not refrain himself from exploring the future and sharing the harsh facts with the Victorian society. Aside from the unnamed narrator, these men remain unconvinced at the end and claim that the scientist's story was created by his imagination. The scientist thus suffers

the same “curse” as the mythical Cassandra, who was one of the princesses of Troy and had the gift of prophecy that was granted by Apollo. Her curse was that no one believed her and that her warnings were unheeded. As a fin-de-siècle Cassandra, the Time Traveller suffers the same fate, and his warnings about the decline of the Victorian society are disregarded.

At the end of the story the scientist “loses” himself in the experiment. He is totally immersed in his project and tells the narrator that he “only want[s] half an hour” to travel again through time, but he never returns and the narrator writes at the end of the story: “I am beginning now to fear that I must wait a lifetime. The Time Traveller vanished three years ago. And, as everybody knows now, he has never returned” (90). The unnamed narrator is the only one who wonders when the scientist will return, while everyone else who listened to the story does not seem to be bothered by the scientist’s absence because they do not believe him. The dinner guests do not take the warning of the Time Traveller seriously as this shatters their dreams of wealth and opportunities in Victorian society.

Conclusion

In this thesis, the different representations and roles of scientists in the three fin-de-siècle novels have been analysed and discussed. Each chapter critically explored the ways in which these novels depict the clash of different discourses concerning mysterious events that are under investigation by different types of scientists. In each text, the scientists are eager to find out more about certain phenomena and are driven by their scientific curiosity. They use different methods to achieve their results, but their methods do not always lead to desired results. In fact, they prove to have detrimental effects.

In *Archibald Malmaison*, the supernatural is still present and an important theme. In *Jekyll and Hyde,* Jekyll analyses the "mystical" side of humanity by scientifically investigating the soul. The fact that Jekyll can change into Hyde is supernatural to some extent. However, there is an ambiguity throughout the text whether the case is a supernatural or material phenomenon. In Wells's *The Time Machine*, the machine "operate[s] on the basis of natural rather than supernatural laws" (Slusser 35). The supernatural therefore does not play a significant role anymore.

In the three novels, the several responses of the characters to the discoveries of the scientists reflect contemporary fears of the Victorian age. In *Archibald Malmaison*, Dr Henry Rollinson and his son Dr Forbes Rollinson try to solve the strange behaviour of Archibald. Even though the two scientists try to use their scientific methods to solve the supernatural events, they are not able to provide a satisfying answer to the mystery. The story shows that the objective observations and the techniques that the scientists use do not necessarily lead to clarification, and that not everyone believed in whether science could give clear answers to all phenomena.

These Victorian anxieties and social fears are clearly reflected in *Jekyll and Hyde*. Stevenson's scientist, Dr Jekyll, is a respectable member of Victorian society who suffers

from the “duality of men.” He can be seen as a *fin-de-siècle* mad scientist, but his investigation into morality and the disastrous consequences also turn him into a victim of his own experiment. He therefore splits himself into a Gothic villain and a victim of his own circumstances while putting other people at risk, like his friend Dr Lanyon who mirrors him in his scientific interest to some extent.

H.G. Wells’s Time Traveller is a different scientist as he takes the role of a Victorian explorer. However, he differs from a typical Victorian empire builder as he does not return with a positive message. He warns the Victorian of the decline of their society in the future. The men who are present in the dinner club do not believe him and refuse to accept this revelation of the future. Wells therefore uses his frame story to confront Victorian society with the degeneration of the future.

Even though the scientists try to convince the public with their discoveries they are not really able to do this. Their experiments and discoveries become a threat to Victorian society and cause the scientists to withdraw or even to prove themselves in society. However, the great influence of the scientific breakthroughs during the nineteenth century was inevitable as science expanded in all areas and “was very much integrated with the culture of its age” (Chapple 6).

Appendix

A picture of figures illustrating types of criminals in Lombroso's *L'homme Criminel* (1876)

1. P. R., voleur napolitain. — 2. O... , voleur napolitain. — 3. G. Marini, femme de brigand.
4. B. S., faussaire piémontais. — 5. Cartouche. — 6. Denvan, empoisonneur.

TYPES DE CRIMINELS.

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