

Science and *The Lost World*:

Sir Arthur Conan Doyle's Reworking of the Vernian Adventure Novel

It is only when a man goes out into the world with the thought that there are heroisms all round him, and with the desire all alive in his heart to follow any which may come within sight of him, that he breaks away as I did from the life he knows, and ventures forth into the wonderful mystic twilight land where lie the great adventures and the great rewards.

—Sir Arthur Conan Doyle, *The Lost World*

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INTRODUCTION

The Emergence of the Scientist Hero

Breathless pursuit by dinosaurs on a lonely South American plateau, looking out onto a dying world through a single window in England, being trapped hundreds of feet below the earth's surface in an inactive volcano—these are some of the adventures that the readers of Jules Verne and Sir Arthur Conan Doyle have enjoyed for generations. However, rarely have these works been considered serious fiction fit to be studied academically by today's critics and readers of the English-speaking world. They place the novels of Verne and Doyle into the category of science fiction where they are summarily dismissed from our literary consciousness. Many critics view these novels as scientifically inaccurate and juvenile, most notably the novels of Jules Verne. Why should the fiction of Verne, especially that which contemporaries such as Sir Arthur Conan Doyle himself classified as “boys' books”¹—books that are seen as having little or no academic merit—be taken seriously?

At the same time, the novels of Verne and Doyle play an important role in our culture. Critics often describe Verne as “the father of science fiction” and Doyle's creation, Sherlock Holmes, is a household name. But critics and students do not question the familiar categories into which these authors and their works have been placed. In order to study these novels comprehensively, one must

¹ Daniel Stashower. *Teller of Tales: The Life of Arthur Conan Doyle* (New York: Henry Holt, 1999), 274.

consider possible inaccuracies in translation, the influence of the scientific community, and the elements of the novels themselves. In the following chapters, I will investigate the authors' attitudes towards science portrayed in these novels, specifically looking at the role of the scientist protagonist. Once the label "science fiction" is jettisoned, one can explore the other elements that these novels contain including, strangely enough, the actual science.

If one were to correctly define these novels using terms that would have been applied contemporary to when Verne and Doyle were writing, one would classify them as scientific romance. The categorization of these novels as science fiction is anachronistic. Critics, especially American critics, often apply this genre, first conceptualized in the late 1920s, to novels that were written in the late nineteenth and turn of the twentieth century. *Amazing Stories*, an American magazine, coined the term science fiction to describe the pulp fiction published for it.²

In *Scientific Romance in Britain*, Brian Stableford states that not only does the genre of scientific romance more accurately define these novels, but that the way in which these novels incorporate evolutionary theory might also lead to this distinction. He argues:

American writers after the turn of the century were much less disposed to adopt premises from evolutionary theory, and early American speculative fiction was mostly content to

² Brian Stableford, *Scientific Romance in Britain 1890-1950*, (New York: St. Martin's Press, 1985), 149.

steer clear of this particular war of ideas. This is one of the main distinguishing features separating American science fiction from British scientific romance [...]³

However, Stableford goes on to group H.G. Wells into the same category as Jules Verne, Sir Arthur Conan Doyle and other authors whose works seem very different from each other. There seems to be something wanting in this broad generalization. Although Stableford argues that Doyle includes elements of scientific romance in his detective novels,⁴ he does not mention that Doyle also includes elements of detection in his scientific romances. One could certainly make a comparison between Wells' alien invasion in *The War of the Worlds* and Doyle's invasion of poisonous ether in *The Poison Belt*, but there are obvious differences in the themes and characters of the novels. In the present essay, I will not attempt to define what constitutes this genre of scientific romance, but will instead focus on the novels of Verne and Doyle themselves and offer a new approach to viewing them.

One can see in Sir Arthur Conan Doyle's novels extensions of themes found in Verne's. Looking particularly at *The Lost World*, *The Poison Belt* from the Professor Challenger series and *Journey to the Center of the Earth*, *The Begum's Millions*, and *Robur the Conqueror* (also known as *The Clipper of the Clouds*) from Jules Verne's *Voyages Extraordinaires*, I will explore both how these novels relate to each other and also the roles of science within them. Doyle and Verne both incorporated scientific ideas into their novels and Doyle, in his *Poison*

³Stableford, 6.

⁴Stableford, 86.

Belt, even speculated on an alternative history of England. It is true that science and scientific advancement are discussed, but—to take an illustration from one of Verne’s novels, *The Begum’s Millions*, in which workers continue to improve the cannon without attempting to invent new weapons—these authors do not particularly invent new science. The common perception that they are attempting to invent new technologies instead of portraying new ways of thinking about already existing technologies leads to misinterpretations of their works. Instead of looking at the inaccuracies of the fictional science, I will look at the inspiration for the imaginative science found in these works and the role that it plays both within the novels and in the lives of the authors.

Sir Arthur Conan Doyle, an aspiring medical man and graduate of the University of Edinburgh, started out in the field of science before he found he could be more profitable as a full-time writer. His popularity increased with the publication of his Sherlock Holmes stories but in Daniel Stashower’s biography, *Teller of Tales: The Life of Arthur Conan Doyle*, he talks about Doyle’s interest in creating something akin to the “boys’ books” of Defoe and Verne. This resulted in *The Lost World*—the beginning of the Professor Challenger series—which Stashower attests is influential in the history of science fiction.⁵

On the other side of the Channel, with a reputation for being mistranslated, inaccurate, and only suitable for children, Jules Verne has not been regarded highly in the literary tradition of English speakers. However, his novels have

⁵ Stashower, 275.

infiltrated the international consciousness nonetheless. Characters such as Captain Nemo and Phileas Fogg⁶ are almost as widely known as Doyle's Sherlock Holmes. When one thinks of Jules Verne, one naturally thinks of science fiction and adventure. However, if one were to look with more attention to his novels, one would find that many of them are not, in actuality, science fiction at all and that his title as the "father of science fiction" does not accurately describe the majority of his fiction.

Like the adventure-plot writing style that Sir Arthur Conan Doyle attempts to imitate in his Professor Challenger series,⁷ Verne's books are considered by the English-speaking world as "boys' books". There is no shortage of information on Doyle's Sherlock Holmes series—mainly written by Holmes enthusiasts—yet there are few studies on what should be regarded as Doyle's equally significant work, *The Lost World*. Perhaps the incongruity lies in the misconceptions surrounding these authors—misconceptions that can be reversed by looking at the works of each author. Although Doyle is known primarily for his detective novels, he has also published historical novels such as *Micah Clarke* (1888) and *The White Company* (1891), along with his Professor Challenger series. Doyle even writes a novel which features yet another professor, published much later in *The Maracot Deep* (1929). And Jules Verne's work contains a wealth of novels

⁶ From *20000 Leagues Under the Sea* and *Around the World in Eighty Days*, respectively.

⁷ Doyle's Professor Challenger series consists of *The Lost World* (1912), *The Poison Belt* (1913), *The Land of Mist* (1926), "When the World Screamed" (1928), and "The Disintegration Machine" (1929).

which feature only adventure plots: *Michael Strogoff* (1876), *Captain Grant's Children* (1867), and *The Adventures of Captain Hatteras* (1866) to name a few.

Verne's novels contain fantastical plots as well as adventure ones, but the science in novels such as *The Begum's Millions* and *Journey to the Centre of the Earth* is not especially current. Though Jules Verne is often categorized by modern readers as a science fiction writer, does any one of his works firmly fit into this category? Most of his novels do not even resemble scientific romance but rather, the adventure fiction of Robert Louis Stevenson. Some of his novels well-known to English audiences deal with scientific concepts but aside from his posthumously published novels (which are now believed to be either co-written or entirely re-written by his son)⁸ there are no futuristic predictions. And while Verne incorporated scientific ideas and technologies in his romantic adventure plots, Doyle structured his plots around the scientific ideas of his time. Jules Verne, an author of imaginative scientific and, more often than not, adventure romances, can be read as discussing science of an older nature.

In the case of Jules Verne, characters such as Captain Nemo from *Twenty-thousand Leagues under the Sea* or Phineas Fogg from *Around the World in Eighty Days* might come to mind. Some of his most well-known works are not science fiction; however, biographers and today's critics readily give him the title of science fiction novelist. The very categorization as science fiction has long seemed to me somewhat dismissive, since these novels contain the echoes of

⁸ William Butcher, *Jules Verne: The Definitive Biography* (New York: Thunder's Mouth Press, 2006), 250.

many other genres—detective, adventure, realism. Today’s readers often think of science fiction as futuristic, containing spaceships, aliens, new and strange technology. However, neither Verne nor Doyle’s novels contain these elements. Perhaps H.G. Wells with his time machines and alien invasions would have been better suited to the title of “father of science fiction.”

Verne’s novels indicate that he was interested more in the technological advances in science and those, notably, of a contemporary origin. William Butcher, a biographer of Jules Verne, describes the inspiration for one of his novels, *Robur the Conqueror*, stating that Verne took a personal interest in the “lighter-than-air”/“heavier-than-air” debate popular at that time. He “had believed powered aircraft would win out, since only they could be steered, while adopting balloons as tried and trusted technology in three of his works.”⁹

While Doyle started his writing career later in life, Butcher states that Verne’s interest in writing started at an early age, and was influenced more by the romantic style of the former generation. He was also influenced by Edgar Allen Poe’s detective figure and read Charles Dickens avidly.¹⁰ His journeys to different countries including England, Scotland, and Scandinavia¹¹ were reflected in the enthusiasm he shows for geography in his novels. In his works we see a much more diverse range of settings and characters than in Doyle’s novels, where the protagonists are mainly English and the plots, aside from that of *The Lost*

⁹Butcher, 267.

¹⁰ Butcher, 207-208.

¹¹ Butcher, 138.

World in which they travel to South America, do not usually contain much travel adventure.

Realism in the Nineteenth Century

A consideration of these novels would not be complete without a look at the literary trends in the Victorian era. The detective novel, a sub-genre of realism, evolved from the sensation novels of the 1860s. This signals a move from the horror/fantasy of gothic fiction into realism where mysteries are always solved in a methodical way with minimal supernatural elements. Started in England by Wilkie Collins' novel *The Moonstone*, and in America with Edgar Allen Poe's detective, Dupin, detective fiction features a protagonist who may or may not have the actual title of detective. In *The Moonstone*, the real detective hero is not Sergeant Cuff but Franklin Blake, the primary narrator who compiles the evidence of the case. An important, but not essential distinction of detective fiction was also the presence of first-person narration. It was usually the narrator whose job it was to compile the evidence or present the case. This is seen both in the narrators of the works that I intend to analyze in my second chapter as well as in the Sherlock Holmes series.

When Sir Arthur Conan Doyle began to publish his Sherlock Holmes stories in the *Strand*, the detective novel began to take on a new aspect. Doyle portrays Holmes as following a more scientific approach to solving crime. His methods are systematic and published in fictional scholarly journals. While

Verne, in France, created protagonists who were not necessarily scientists, Doyle's novels featured scientist protagonists—with the exception of his historical novels. In Nicholas Daly's article, "Railway Novels," he states that "the Victorian novel of suspense is the first genre in which a Bradshaw's railway schedule and a watch become necessary to the principal characters."¹⁴ The setting was no longer in faraway places, either in time or location, but close to home, with characters that lived and worked in England in the nineteenth century. Now that fiction took place in a contemporary setting, it was only natural that authors incorporated contemporary references, including scientific ones.

I therefore propose in the following chapters to look at Doyle's Professor Challenger novels as extensions of Verne's novels, and even containing the next generation of the scientist hero. In my first chapter, I will present the typical structure of a Vernian adventure novel, pointing out how science is used and incorporated within the plot. I will look at two of Verne's novels—*The Begum's Millions* and *Robur the Conqueror*—discussing particularly the role of the scientist and the attitude towards science within them. While the hero protagonists resemble those in Verne's purely adventure novels, the villain or anti-hero illustrates how the scientist protagonist was beginning to emerge and his role evolve within fiction. In Pierre Nordon's biography entitled, *Conan Doyle*, he states, "They [Professor Challenger novels] are stories based on scientific

¹⁴ Nicholas Daly, "Railway Novels: Sensation Fiction and the Modernization of the Senses" *ELH*, Vol. 66, No. 2 (summer 1999):473, Johns Hopkins University Press, JSTOR, <http://www.jstor.org/stable/30032080>.

imagination, and spring from the same source of inspiration as the detective-stories, which also exploit the wonders of science, as we have seen.”¹⁵ Nordon also cites Doyle as a novelist in the beginnings of “science fiction,” as he says, calling him “one of Jules Verne’s most talented disciples.”¹⁶

In the novels of Verne and Doyle, there exists not only scientific imagination,¹⁷ which inspired both real invention and fictional narrative, but also scientific investigation. Both published scientific thinkers of the time, such as Sir Charles Darwin and Sir Charles Lyell, and the nineteenth century literary trend towards realism influenced the narrative of these works. In chapter two, I will discuss the influences of scientific non-fiction on scientific fiction, but some attention must now be given to the influences of other, contemporary literary genres.

While publishers promoted fiction in newspapers and the serial novel became popular, the “newspaper novel,” a subgenre of realism, arose. One can find traces of influence in the form of the narratives of Doyle’s works. Most commonly, this is seen in his Sherlock Holmes series, where contemporary readers peruse detective fiction alongside actual crimes. Matthew Rubery, in his *Novelty of Newspapers*, states that “the narrative conventions inherited from Victorian journalism have become [...] standard features of realism to this day”¹⁸ In the narrative of many of these novels, the protagonist implies that he will

¹⁵ Pierre Nordon, *Conan Doyle* (London: John Murray, Butler & Tanner, 1966), 328.

¹⁶ *Ibid.*

¹⁷ Stableford, 3.

¹⁸ Matthew Rubery, *The Novelty of Newspapers* (Oxford: Oxford University Press, 2009), 11.

publish his adventures at the end, sometimes mentioning under which title it will be published—always the title of the novel. Interestingly, one of the only novels in which Verne does adopt this style of narrative is in *Journey to the Center of the Earth*, the novel which most resembles *The Lost World*.

With the rise in prominence of the contemporary setting, authors often looked to the growing popularity of newspapers for inspiration. In *The Maniac in the Cellar*, Winifred Hughes describes the newspaper novel as portraying similar plots and characters to real events in newspapers at the time.¹⁹ This newspaper culture that arose after the Stamp tax reform of 1855 coupled with the Education Act of 1870, led to an increased readership and a wider audience now that people of the lower and middle classes were also reading the newspaper. This opened up a new possibility for increased readership of novels as well and it became the norm for popular fiction to be serialized in newspapers. Newspapers, in turn, influenced the style of these novels. In *The Novelty of Newspapers*, Matthew Rubery argues that:

The English novel during the era of the commercial press drew on news as a rival practice of realistic representation and as an authoritative form of public knowledge [...] Wilkie Collins [...] and many other novelists all used narrative conventions borrowed from the press in their fictions [...] The conventions singled out by this book illustrate how the novel's own formal devices in many instances have been shaped in response to competing media.²⁰

This preference for realism in fiction, coupled with the emergence of the industrial and scientific revolutions, provided the perfect conditions in which the

¹⁹ Winifred Hughes, *The Maniac in the Cellar: Sensation Novels of the 1860s* (Princeton: Princeton University Press, 1980), 18.

²⁰ Rubery, 4.

realism and excitement of sensation fiction combined with scientific ideas and new technologies to form novels in which science is both popularized and portrayed imaginatively. Doyle's Professor Challenger novels dealt with contemporary scientific theories and subjects, following a realistic trend that made them seem like actual non-fictional accounts.

During the newspaper culture of the late nineteenth century, there was a fine line between fiction and reality. Since *The Lost World* was received well and garnered good reviews, Doyle published a sequel, *The Poison Belt*, one year later. Stashower writes, "Conan Doyle was by no means the first novelist to bring the world to an end, but he may well have been the first to play it for laughs."²¹ However, it is no laughing matter to an anonymous, contemporary reviewer in the *Times Literary Supplement*, who judges the ending—with evident relief—to be entirely appropriate and even predictable.²² The uneasy tone of the review indicates that the plots of the Challenger series did, in fact, seem possible. Novelists would be ambiguous as to the reality of events in their novels and articles in newspapers would be as descriptive and sensational as fictional stories. Fictional newspaper articles, as well as characters' reactions to them, would also be included within the novel, often setting the stage for the plot. The reaction of the general public in the novel mirrors how Victorian readers would discuss, debate, sensationalize, and fictionalize real newspaper stories.

²¹ Stashower, 277.

²² *Times Literary Supplement*, August 21, 1913.

In the second chapter, I will also compare Verne's *Journey to the Centre of the Earth* to Doyle's *The Lost World*. Looking at the famous and contemporary hoax of the Piltdown skull, and A.G. Werner's work on the classification of minerals as well as other scientific ideas of the time, I will show the differences in the authors' attitudes towards science. *The Lost World* includes the generally accepted ideas of evolution at that time. Instead of taking up Darwin's idea of natural selection, out of which new species are created, both scientists and the general public were fond of the idea of progression and evolution. Progression is the idea that under a natural or divine power, the species progresses until it reaches its pinnacle, which, in the Victorian ideology, is man or, more specifically, British man. In the public debates held at the beginning of *The Lost World*, the professors are agreed as to this single-minded progression of the species. The question of whether or not the interim species, or links, on the chain still might exist is a point which Professor Challenger emphatically argues for, introducing the reader to Doyle's imaginative plot.

The Piltdown skull hoax—consisting of the domed cranium of a modern man fused with the jawbone of an orangutan²⁸—would have provided inspiration for Doyle's *Lost World*. Doyle was one of the people supposed to have participated in its discovery, arguably one of the most infamous hoaxes in geological history. Though it was more likely that Doyle was only another

²⁸ William L. Straus, "The Great Piltdown Hoax" (*Science*, New Series, Vol. 119, No. 3087, Feb. 26, 1954, American Association for the Advancement of Science) JSTOR online. <http://www.jstor.org/stable/1681349>.

innocent believer in the hoax, he was probably involved in its excavation, since he lived in Sussex where it was first “discovered” in a Piltdown quarry by an employee of the British Museum, Charles Dawson. Though the skull was not formally presented to the Geological Society of London until December of 1912, after *The Lost World* had already been published, Dawson and his fellows first began to excavate the skull in the spring of 1912. He most likely would have started the rumor as early as 1911, when he claimed to have first found it.²⁹ It follows that *The Lost World*, which describes a sort of “missing link” that the Piltdown skull attempted to present, was directly influenced by this famous hoax. Through Doyle’s novel, a today’s reader can see how science has influenced fiction and vice versa.

In the Challenger novels, we also see the importance of the scientist protagonist. Even though his plots might seem as fantastic as Jules Verne’s to today’s reader, there is more realism found in Doyle’s series. This is seen through the urban detective fiction of Doyle, featuring Sherlock Holmes. The elements of detective fiction are also found in scientific romances of the time. Scientists, as described by John Kimball, became the new romantic heroes.³⁴ In the public image, they are no longer solemn and ancient philosophers but young, vibrant individuals who work in an exciting and dynamic field which is also more accessible to the public. Professor Challenger, a character featured in the novels that I intend to discuss in the following chapters, fits more obviously into the role

²⁹ Straus, 265.

³⁴ John Kimball, *The Romance of Evolution* (Boston: American Unitarian Association, 1913), 10.

of scientist hero. His very name sets the scene for imagined scientific possibility and adventure.

Stashower argues that the character of Challenger was inspired by Doyle's professor, William Rutherford at the University of Edinburgh.³⁵ The name "Challenger," as well as illustrating the character's nature and actions, was also said to have been inspired by the name of a ship used by the explorer, Sir Charles Wyville Thomson.³⁶ In addition to Professor Challenger being based on a real figure, the rest of the party of explorers also had their counterparts in the real world. Stashower argues that Professor Summerlee was based on Sir Robert Christison, also a professor at the University.³⁸ The character of Lord John Roxton bears a resemblance to Roger Casement, a British-consul who took an active role in trying to stop the atrocities that were taking place in the Belgium Congo. Later, he would be stationed in Peru to look into conditions of slave labor similar to the back story of Lord John.³⁹ Edward Malone's character might have been based on an Irish reporter named Edmund Dene Morel, who worked with Casement to publicize a movement against torture in the Congo entitled "the Congo Reform Association." Doyle was one of the famous authors that they contacted to help their cause.⁴⁰

Sir Arthur Conan Doyle was even fond of impersonating his creation, Professor Challenger, especially around his relatives, and used faked photographs

³⁵ Stashower, 276.

³⁶ *Ibid.*

³⁸ Stashower, 276.

³⁹ Shashower, 321.

⁴⁰ Shashower, 320.

to serve as illustrations for the serialized version of *The Lost World*. In fact, in his “Foreword” he gives the reader indications that his characters are real:

Mr. E. D. Malone desires to state that both the injunction for restraint and the libel action have been withdrawn unreservedly by Professor G. E. Challenger, who, being satisfied that no criticism or comment in this book is meant in an offensive spirit, has guaranteed that he will place no impediment to its publication and circulation.⁴⁵

The reference to “this book” indicates that Challenger and Malone exist independently of it. The fact that this foreword is written as an author’s note signifies that Doyle intended that readers assume the author is Malone. Professor Challenger is also portrayed as allowing this narrative to be published by the newspaper reporter, who he depicts during the novel as the recorder of their adventures, just as Dr. Watson is the recorder of the Sherlock Holmes stories. In addition, the fact that this novel was first serialized in a newspaper, along with most of the other novels of this period, gives reason for readers, upon seeing fiction alongside their daily news stories, to easily suspend their disbelief and read it as non-fiction. The novel also takes place in the same setting as its contemporary readers, further presenting the novel as a work of pseudo-non-fiction.

The Victorian era, including the turn of the century, was a time when scientific inquiry was not limited to academics and scientists. One would probably attend a public lecture or debate as much as go to the theatre to see a melodrama. The industrial revolution was also in full force at this time with many new advances in technology being invented each year. Newspapers now

⁴⁵ Sir Arthur Conan Doyle. “Foreword” in *The Lost World* (New York: Hodder & Stoughton, George H. Doran, 1912).

circulated these ideas and theories to a wider audience than ever before. The imaginations of authors such as Verne and Doyle were sparked, particularly by the open-endedness of scientific theories such as evolution and the mapping of geological chronology.

In my final chapter, I will show how their works illustrate the emerging figure of the scientist hero in their plots of science and adventure. In treatises and texts by the scientists of the day, the writing style of scientists was less dry and scholarly and more appealing to a wider audience. Because these theories were often open-ended, there were more opportunities for the readers' and fiction authors' imagination to fill in the blanks for theories such as evolution. Novels such as Conan Doyle's might even have popularized these ideas or at least illustrated their popularity. The public was enthralled with this idea of the "wonderful mystic twilight land"⁴⁷ where science was foreign and exotic and offered a limitless possibility of adventure both out in the field and in the lecture halls.

⁴⁷ Doyle, *The Lost World*, 10.

CHAPTER ONE

“Our Eyes have seen Great Conquests”⁴⁸: The Scientists of Jules Verne

“Why did that man with such powerful faculties set himself up as our enemy? [...] What a terrible waste of aptitude, which would have been so valuable if only he could have joined it to ours in a common goal!”

—Jules Verne, *The Begum’s Millions*

Technology and the Imagination

Although Jules Verne was a nineteenth century novelist, his influences came from the earlier, eighteenth century. He started out as a playwright and from around the 1850s to the early 1860s, wrote plays after finding his other works of fiction not as successful.⁴⁹ His plays were in the style of those popular in France at the time—more domestic drama than the elaborate melodramas that the English enjoyed in the 1860s. In many of his works, especially *The Begum’s Millions* which I will look at later in the chapter, the domestic drama within the novel is evident. With perhaps the exception of *Robur the Conqueror*, these novels end in a domestic tableau. This is a far cry from the protagonist’s unrequited love in Doyle’s *The Lost World*.

Unlike Sir Arthur Conan Doyle, who was a doctor first and novelist only after his practice failed, Verne was completely immersed in the bohemian arts culture. He frequented French salons, conversed with other novelists and artists, and generally considered himself a member of the arts community.⁵⁰ However, at

⁴⁸ All quotations in the chapter headings are taken from *The Lost World* chapter titles.

⁴⁹ Peter Costello, *Jules Verne: Inventor of Science Fiction* (New York: Scribner, 1978), 45.

⁵⁰ Costello, 39.

the same time, he thought of himself as slightly above this community, in a class of his own. In his biography, Peter Costello discusses how Verne expressed a dislike of the Romantic Movement: “His father, having asked which of the current literary schools he would attach himself to, was put out by his son’s disrespectful remarks about both the Classical and the Romantic groups. Jules felt that the only school he could belong to would be his own.”⁵¹ Though he claimed to not follow the Romantic Movement, its influence is apparent in his novels. Costello argues that “it was [Victor] Hugo and the Romantics who were to be the greatest influence on Verne.”⁵² Victor Hugo, another French author, wrote adventure novels that are also internationally known. Though many of Verne’s novels were published and written near the end of the nineteenth century, he was very much writing in the mindset of an earlier time, as I mentioned earlier. As one can see in *The Begum’s Millions*, there is a clear a romantic hero whose bravery and cleverness wins him his love interest and conquers his enemies in the end.

After writing some moderately successful plays, Verne shifted his interest to science. The industrial revolution had moved to France and advances in technology were becoming more prominent.⁵³ However, the science in which he was interested was based on geography, exploration, and technology. Costello states that Verne studiously memorized scientific facts and trivia and the science used by Verne in his books stemmed from current scientific facts that he had been

⁵¹ Costello, 48.

⁵² Costello, 40.

⁵³ Costello, 42-43.

studying and gathering. His argument shows that Verne's science, far from prophesying future inventions, reflected the advancements of his own time. The parallels that many people make between Verne's "predictions" and actual events that happened many decades later is not any particular feat of Verne himself but merely the imagination that he brought to scientific ideas. As Costello argues, "Far from being original in his ideas, he is more often than not brilliantly adapting to fictional purposes someone else's notions."⁵⁴ He did not invent the science in his novels; he merely modified contemporary scientific thought, especially geographic facts, to create his imaginative plots. In his biography, William Butcher even states that the genre that Verne and his publisher categorized his works as was the "geographical novel."⁵⁵ His most widely known feat of geography is *Around the World in Eighty Days*, one of his more famous adventure novels, which presents the reader with grand images of different countries.

The means of travel, namely air travel, intrigued Jules Verne as well. One such example was the lighter-than-air and heavier-than-air debate that inspired *Robur the Conqueror*. This debate that was popular in France, the center of aeronautical development, focused on the possibility of creating either bigger and better balloons, or heavier-than-air craft—eventually culminating in the modern airplane. This focus on the science rather than on the romantic plot is seen much more in *Robur* than in any other work, having been written later in his career. Verne's fascination with air travel was as enthusiastic as it was amateurish.

⁵⁴ Costello, 61.

⁵⁵ Butcher, 224.

Costello states that Verne became a member of the “Society for Aerial Locomotion.”⁵⁶ Verne’s friend Nadar, a famous photographer and the founder of the society, also known as the “Heavier-than-Air Society,” had proposed the idea of building “Le Géant,” a giant balloon.⁵⁷ Verne even mentions “Le Géant” at the beginning of *Robur*—a reference that perhaps readers would have been familiar with at the time. Not surprisingly, the debates which Verne must have witnessed through this society would probably have echoed the club politics and debates in the fictional society found in *Robur the Conqueror*. In an earlier work, *The Begum’s Millions*, the reader also sees Verne’s interest in the aeronautical,⁵⁸ though most of the novel deals with the giant steel factory town built by one of the inheritors of the millions.

In Verne’s novels, in particular *The Begum’s Millions* and *Robur the Conqueror*, we can see a progression of his integration of science into his plots. In *The Begum’s Millions* it is the villain—an engineer—who is a scientist, not the hero. He invents weapons that can only be used for harm. In the end, the villain scientist’s invention destroys him. In *Robur the Conqueror*, science itself is the focus, and the scientist is now the anti-hero. He has potential for good, but lies outside of the society, much like a protagonist in a detective novel. At the end of the novel, he also fails and his invention is destroyed. The emphasis in both these novels is the adventure, not scientific progress. Verne’s scientists act more like

⁵⁶ Costello, 69.

⁵⁷ Butcher, 151.

⁵⁸ In the novel, the villain builds a canon that has the capacity to send a projectile several miles.

characters in an adventure novel, more concerned with their own personal gain than with discovering and inventing for the sake of science alone.

The Vernian Villian

At the time *The Begum's Millions* was first published in 1879, Verne had essentially established himself as a nationally known author. He had only recently published *Around the World in Eighty Days* in 1873 and *Journey to the Centre of the Earth* at the beginning of his popularity in 1864. However, to modern critics such as Peter Schulman, *The Begum's Millions* is regarded as a problem. It is quite unlike Verne's previous novels, he argues, and in "*The Begum's Millions*, Verne's traditionally upbeat image as a lover of progress and technology must be questioned."⁵⁹ It seems that Schulman focuses on both the destruction of the City of Steel and the attempted destruction of France-Ville, the two cities presented in the novel. Certainly, the novel shows a veering from Verne's usual optimism of progress and technology. Or does it? I would argue that the "anti-progress" elements of the novel illustrate an important question seen throughout Verne's works: How far can we progress before our technology succumbs to the forces of nature and our own pride?

The Begum's Millions, in this respect, is not so different from Verne's other novels. The question of progress versus nature is answered in the numerous failings of his heroes or anti-heroes in his works of scientific romance. In

⁵⁹ Peter Schulman, "Introduction" to *The Begum's Millions* by Jules Verne (Middletown, CT: Wesleyan University Press, 2005), xiii.

Journey to the Center of the Earth, the protagonists attempt to unblock a subterranean passage using dynamite and are violently thrown out of a volcano. In *Robur the Conqueror*, the flying machine, almost destroyed by a hurricane, is finally blown up by its prisoners. And in *The Begum's Millions*, the City of Steel is abandoned with the disappearance of Herr Schultze, its head, becoming more and more decayed until the heroes discover him killed in an accident by the very poison intended to destroy their city.

The Begum's Millions follows the fates of two very distant relatives, Dr. Sarrasin, a renowned French doctor, and Herr Schultze, a German engineer. The story begins when an English lawyer, Mr. Sharp, tracks down Dr. Sarrasin to make him the beneficiary of a great fortune left to him through marriage by a Begum from India. When the announcement is made in the newspapers, Schultze, in Germany, sees this article and pays a visit to the lawyer to contest this inheritance. The lawyer agrees that there is a just claim for the money and decides to split the Begum's fortune into two parts.

With his part of the fortune, Dr. Sarrasin builds his ideal France-Ville, French town, in America, while Schultze, also in America, builds Stahlstadt, the City of Steel. Schultze, who is both greedy and nationalistic, hates Dr. Sarrasin and France-Ville, perhaps only for the reason that he is French:

His aim was to show Mr. Sharp, an Englishman, the necessity of how the German race predominated over all others. His pursuit of the idea to reclaim his succession was especially to snatch it from French hands, since they could probably only put it to some inept use! [...] Had he [Sarrasin] been a German, he would not insist by any means, etc.,

etc. But that a self-proclaimed scientist, a Frenchman, should use that enormous capital for the benefit of French ideas...!⁶⁰

This superiority comes across quite clearly as the main motive in the novel for Schultze's bitterness. Instead of Schultze inheriting the entire fortune, he only inherits half of it, leaving the other half to a distant relative who, in his opinion, wastes it in the building of his experimental city. A commonality often found in Verne's novels is the often humorous clash between characters of different nationalities. From the beginning of the novel, the reader clearly sees that Dr. Sarrasin and his son's friend, Marcel, fulfill the role as good characters and the proud Herr Schultze, the villain.

Although the main protagonists of this novel are French—Dr. Sarrasin, his son Octave, and their friend Marcel—the setting takes place in America, near Oregon. Though Verne was French, we do not see any of his novels set in France. Butcher also remarks on how Verne never set any part of his novels in his native country.⁶¹ This is very different from Doyle's novels, which are always set in England even if much of the action, as in *The Lost World*, takes place outside of it. Verne's main characters, also, are usually of a different nationality and it is rare that *The Begum's Millions* contains mainly French protagonists.

The hero of the story, Marcel, shows bravery and cleverness in masquerading as a German in order to gain access to Schultze's City of Steel. He is a man of many resources and is able to depend on himself for success in his endeavors. To readers familiar with Verne's work, the hero of *The Begum's*

⁶⁰ Jules Verne, *The Begum's Millions*, 39.

⁶¹ Butcher, 224.

Millions might sound very similar to the equally resourceful hero of *Michael Strogoff*, published only a few years earlier in 1876. Octave, Marcel's school friend and the brother of his love interest, travels with him to visit the City of Steel after Marcel's escape and the foiling of Schultze's destructive plan. Their goal is to take revenge on Schultze and his City of Steel, but when they arrive, they find that the city has already been destroyed. What was once the center of production for the most advanced cannons becomes, essentially, a ghost town.

It is Schultze's arrogance that eventually leads to his downfall. Marcel gives voice to this pride when he flatters him in an attempt to get information about his plans for France-Ville: "He [Schultze] alone in the world could bring about these kinds of industrial dreams! These dreams only had value through him and by him!"⁶² This egoism and eccentricity is seen also in the character of Robur in Verne's *Robur the Conqueror*.

The reason for Schulman's hesitation to group *The Begum's Millions* with Verne's previous work is perhaps what he argues later in his "Introduction"—namely, that this novel was actually a rewritten form of *The Langevol Inheritance*. This was intended for publication by Paschal Grousset, an author who was exiled from France because of political reasons.⁶³ In an arrangement by Hetzel, Verne's publisher, Verne reworked the novel and published it under his own name to increase sales.⁶⁴ Although Schulman tells us that Verne was at first very

⁶² Verne, *Begum's Millions*, 91.

⁶³ Schulman, xvi.

⁶⁴ Schulman, xvii.

antagonistic in his views of the original, especially regarding the overall inaccuracy of the science, he eventually agrees to keep some of the scenes that Hetzel particularly liked. Despite the fact that the idea for this novel was not originally Verne's own, he seamlessly integrates *The Begum's Millions* into the world of his future work, even referencing it at the beginning of *Robur the Conqueror*.

Aside from the surprisingly anachronistic description of Dr. Sarrasin's France-Ville, the City of Steel is the real technological interest within the novel. It mars the idealized picture of the wild, untamed America that was popular in Europe. The first description that Verne gives of Stahlstadt is one of disruption:

If a tourist should stop in this wilderness and lend an ear to nature's sounds, he would not hear [...] the harmonious murmur of life mixed with the grand silence of the mountains. Rather, he would perceive in the distance the dull blows of the pile driver, and under his feet the muffled detonations of gunpowder.⁶⁵

This depicts the ugliness of the industrial age invading a bucolic picture of nature. In this scene, technology is directly opposed to nature and wilderness. The destructive nature of the City of Steel seems in direct opposition to Sarrasin's idealized Victorian city—free from germs, full of good health and prosperity, and a population with high morale.

In the following passage, the specific vocabulary that Verne uses serves to heighten the sense of ugliness and dirtiness of Stahlstadt:

Black macadamized roads, surfaced with cinders and coke, wind along the mountains' flanks. Under clumps of yellowish vegetation, one can see little piles of slag, dappled with all the colors of the prism, gleaming like the eyes of a basilisk. Here and there, an

⁶⁵ Verne, *Begum's Millions*, 49.

abandoned mine shaft, worn by the rains, overrun by briars, opens its gaping mouth, a bottomless abyss, like some crater of an extinct volcano.⁶⁶

Although the image of “cinders and coke,” “clumps of yellowish vegetation,” “piles of slag” conjure up pictures of degeneration, other imagery that Verne uses are almost poetic. He mentions the “gleaming eyes of a basilisk,” and “the colors of the prism,” two images which are indicative of a more imaginative and less scientific mindset.

The novel, then, presents us with an illustration of how technology and science can be used for both good and evil. In Sarrasin’s France-Ville, Verne shows us that the inhabitants have more longevity, better health, and higher morale than the inhabitants of Stahlstadt, who eventually become bankrupt and destitute. The character of Herr Schultze, though never seen in Verne’s other novels, lives on and is even improved in the character of the mysterious Robur.

Schultze, an egotistical and eccentric engineer, is set in his ways and does not invent unlike Robur who is a more innovative and brilliant scientist. Schultze eats sauerkraut and sausages every day, exaggerating his German heritage and subtly implying, in a tongue-in-cheek way, that the Germans do not change or innovate. He only builds bigger and better cannons instead of inventing new weapons, and even his second set of plans for the destruction of France-Ville, once foiled, appear only to be more elaborations on the same strategy. When Marcel is shown Schultze’s special cannon—the one he plans to use against France-Ville—he remarks: “It is truly an astounding and prodigious piece of

⁶⁶ Verne, *Begum’s Millions*, 49.

artillery, but which, despite all its merits, absolutely justifies my thesis: perfecting, imitating, not inventing.”⁶⁷ As soon as Marcel utters these words, Schultze reveals his secret weapon, cylinders filled with a tightly compressed poisonous gas to be fired out of the most powerful cannon in the world. In his plan, as soon as the projectile reaches France-Ville, the cylinder will detonate, covering the entire city and surrounding area with a lethal gas. However, Schultze’s invention can only be used for evil. One can see in this plan a similarity to Doyle’s novel, *The Poison Belt*, published much later, which will be discussed further in chapter three.

Like all evil and eccentric geniuses in Verne’s novels, his invention does not survive him. After his accidental demise, the City of Steel crumbles without Schultze’s leadership. In more famous works such as the *Mysterious Island*, Captain Nemo is buried inside his fantastical submarine and, in *Master of the World*, a sequel to *Robur the Conqueror*, Robur and his flying machine are ultimately destroyed together. These inventions never interact with or benefit the greater scientific community.

The public is mentioned in the novel and spectators hear of the exploits of both the City of Steel and France-Ville through newspaper reports; however they are very much on the margins of the action. The reader really follows Marcel and his infiltration of the city of steel in order to better protect France-Ville, which has been created by the father of his lover and also of his friend, Octave. Marcel

⁶⁷ Verne, *Begum’s Millions*, 96.

plays the role of spy while also bonding with the steel workers living in the city and rising in the ranks, eventually to assistant engineer to Schultze himself. It is made clear at the end of the novel that the inhabitants of the city are not antagonists at all but further victims of Schultze's greed for power and status. This shows that Schultze is indeed outside of society, as is Robur.

The Vernian Anti-hero

Robur the Conqueror, also known as *The Clipper of the Clouds*, was published in 1886, much later than *The Begum's Millions*. The plot revolves around an incident that takes place at the fictional Weldon Institute in Pennsylvania. While the protagonists are American, the antagonist Robur, has an ambiguity surrounding his nationality, similar to the mysteriousness of Captain Nemo's national identity in *Twenty-Thousand Leagues Under the Sea*. It is this ambiguity coupled with his invention—the *Albatross*—that presents Robur as a threat to the other characters of the novel. Just as Schultze would have, supposedly, freely shared his fortune with a fellow heir of the same nationality, the institute would have likely welcomed this invention if it had been created by one of their own. However, Robur persists in being an outsider. Instead of publishing his findings, or developing his invention publically, he creates it secretly on a remote island and mysteriously appears at a balloon club making seemingly outrageous claims. Perhaps if he was more of a public figure and his nationality was clear to the other characters of the novel, he would not be as villanized. As he is portrayed in the novel, his character is more of an anti-hero

than a villain. He is clearly the protagonist, yet on the outside of society and even morality.

The plotline of *Robur* echoes a theme that Verne has often used before—that of a journey around the world. Instead of traveling around the world at a snail’s pace using the most advanced terrestrial technology in eighty days, however, “The Albatross, by using the whole force of her screws, could make the tour of the globe in two hundred hours, or less than eight days.”⁶⁸ This is an improvement on the idea behind *Around the World in Eighty Days*. Verne shows his head for scientific and especially geographic facts and figures as he adds commentary in the narration about different countries and topographical features. Although the narrator claims that there are still unexplored places on the map, Robur does not visit those places. He and his crew travel to exotic lands that the normal citizen would not have been able to access on their own; however they are more often greeted with modern technology. On their trip around the world, although the narrator refers to the people of China and Africa as barbaric, these people shoot at them with very modern rifles, except for the people of Dahomey who regard the flying machine as something god-like and divine until they are attacked by it.

The most prominent scientific element in the novel is the information about balloons and heavier-than-air flying machines. Verne’s own experience in his balloon institute in France would have provided a good model for the Weldon

⁶⁸ Jules Verne, *Robur the Conqueror* (New York: Ace Books, 1951), 49.

Institute in *Robur the Conqueror*. The society's politics is somewhat unconventional—the tie-breaker for president entails finding out who can determine the closest point to the center of a line—and all of the American citizens carry around bowie knives, which prove useful in the course of the novel. In *Robur the Conqueror*, one notices a very different tone from that of *The Begum's Millions*. With more of a scientific atmosphere, Verne's novel shows an evolution towards an increased incorporation of science in fiction. At the outset of *Robur*, in addition to his enthusiastic portrayal of technological progress—that to which Schulman was referring—the main characters in *Robur* are scientists, academics, and balloon enthusiasts.

Although the public does not figure prominently in *Robur*, as in *The Begum's Millions*, the novel begins with an international stir, summarized in a fictional newspaper article, surrounding a mysterious object that appears in the air at different times around the world. Strange lights are mentioned, as well as a trumpet call. However, most mysterious is the fact that, in order to appear at the particular times observed, it would have to be traveling faster than any known terrestrial speed. With this, Verne describes a technology more innovative than that of Schultze's cannons. He presents the reader with his ideal model of a heavier-than-air craft, based on his knowledge gained from the French institute of "Aerial Locomotion." Characters from the earlier *Begum's Millions* are also mentioned in a fictional newspaper account:

There will be in the recollection of most people the rivalry which existed a few years ago between the two heirs of the Begum of Ragginahra, the French doctor Sarrasin, in the city

of Franceville, and the German engineer Schultze, in the city of Stahlstadt, both in the south of Oregon in the United States.

It will not have been forgotten that, with the object of destroying Franceville, Herr Schultze launched a formidable engine, intended to beat down the town and annihilate it at a single blow.

Still less will it be forgotten that this engine [...] has flown off at a speed exceeding by sixteen times that of ordinary projectiles [...] and that it passed into an aerolitic stage, so as to circle forever around our globe.⁶⁹

Verne cleverly incorporates his previous novel into the overall world of his fiction. This also is similar to the fictional realism created by the incorporation of the news article form in Doyle's novels. The mentioning of specific places and dates that really existed would have made contemporary readers suspend their belief in the fictionality of the narrative.

After this mystery of a strange aircraft has been internationally discussed, a man named Robur, who claims to be an engineer, starts a heated debate about heavier-than-air and lighter-than-air machines. His claims are too much for the institute, who chase him away and almost gun him down. After the meeting is out, the president of the Weldon Institute, Uncle Prudent, his valet, Frycollin, and the secretary, Phil Evans, are walking home when they are forcibly kidnapped and thrown aboard Robur's heavier-than-air machine, the *Albatross*. The name of the machine implies that it is a bird of the sea and a lot of nautical terminology is used to describe it. Robur's *Albatross* is described as having several cabins, a cook's galley, a deck, and a helm. The screws or propellers act as the sails and prove useful in avoiding storms at sea. From the description of the *Albatross*, the reader could almost imagine it to be a ship. This further illustrates how his

⁶⁹ Jules Verne. *Robur the Conqueror*, 10-11.

“futuristic” technology was not as foreign to contemporary readers as might be thought.

After the three prisoners discover that they are free to move about the “ship,” the narration deviates into an itemized description of the *Albatross*, and a detailed explanation of how it might work. Robur helpfully answers questions about its construction and despite Frycollin’s desperate pleas to be “put back on the ground,” Uncle Prudent and Phil Evans remain relatively sanguine during most of the trip. Though the evidence is right in front of their eyes, they are disinclined to believe that anything as fantastical as Robur proposes would actually work. They are stubborn almost to the point of comedy, and this stubbornness is what irritates Robur. Aboard the heavier-than-air flying machine, he asks them:

“Well, gentlemen, do you believe in the possibility of aerial locomotion by machines heavier than air?”

It would have been difficult not to succumb to the evidence. But Uncle Prudent and Phil Evans did not reply.⁷⁰

Uncle Prudent and Phil Evans do not believe even in the working model of Robur’s machine, they are so offended by his character. The president and secretary of the aeronautical institution believe in progress, but only in progress created by them. Robur proves to them over the course of the novel that there are many benefits to the *Albatross* as well as the dangers of power that Evans and Prudent perceive:

Certainly there was some good in this aeronef, which could thus help those who were lost at sea! What balloon, perfect as it might be, would be able to perform such a service?

⁷⁰ Verne, *Robur*, 46.

And between themselves Uncle Prudent and Phil Evans could not but admire it, although they were quite disposed to deny the evidence of their senses.⁷¹

Although the beginning of the novel can almost be seen as a parable—two stubborn disbelievers of heavier-than-air craft get taken aboard a working model and are shown demonstrations of this model’s capacities—the conflict really begins when the two prisoners decide to obtain their freedom through the destruction of the *Albatross*:

“I think there can be no mistake as to this scoundrel’s intention with regard to us.”
 “None,” said Phil Evans. “He will only give us our liberty when it suits him, and perhaps not at all.”
 “In that case we must do all we can to get away from the *Albatross*.”
 “A splendid craft, she is, I must admit.”
 “Perhaps so,” said Uncle Prudent; “but she belongs to a scoundrel who detains us on board in defiance of all right. For us and ours she is a constant danger. If we do not destroy her—“⁷²

Uncle Prudent implies that it would be better to destroy the ship than to sacrifice their freedom in the name of science. There are two aspects of this quote which seem to deviate from the overall tone of the narration. The first is the mention of the danger the *Albatross* poses to “us and ours.” The others to whom Uncle Prudent is referring are not entirely clear. He could be referring to the other members of the Weldon Institute, or he could even be referring to members of the human race. However, since Robur has not proved himself a threat to the world—just perhaps a helpful nuisance—my argument would be that Uncle Prudent is referring to those people involved in the lighter-than-air/heavier-than-air debate.

⁷¹ Verne, *Robur*, 106.

⁷² Verne, *Robur*, 75.

The other incongruity is the fact that since the *Albatross* belongs to Robur, a person for whom Uncle Prudent and Phil Evans have a personal dislike, it is regarded by them as something permissible to be destroyed. In order to protect their institute and others like it, they are willing to obliterate a very advanced form of technology and one of the greatest inventors of their world who could ultimately benefit their scientific quest. This is another example of how Verne's scientists value personal gain over that of the pursuit of science. Does this indicate a more cynical attitude towards science than has previously been attributed to Jules Verne? So much has been written about his love of science but his novels which do contain science consistently show hesitation with regards to progress and advancement. The institute thinks of Robur as a danger to the world, and indeed Robur's plan does have a sinister aspect to it. However, he is simply trying to progress technologically. With the proposed destruction of Robur and his machine, they are destroying progress within their world. The prophecy is disregarded. This is seen also in *The Begum's Millions*, when Marcel and Octave go back to Stahlstadt in order to demolish it.

One of the major themes in this novel is the fall of pride, especially scientific pride and arrogance. Robur creates a working and near perfect model of a heavier-than-air craft, however, the fact that he goes to extreme measures of secrecy and demonstration to prove to the world that his view and invention is the right one sets him up for failure, in the Vernian tradition. There are an overwhelming amount of allusions to the myth of the fall of Icarus—in which his

wings melt when he tries to fly too close to the sun. The comparison of Robur with Icarus is used even by Robur himself. The allusion is a fitting one, since Robur is over-confident in the strength of his machine. His “aeronef”—as the Americans refer to the *Albatross*—is sound, but his plan in how to use the power that comes with his machine is as malicious as Herr Schultze in *The Begum’s Millions*. Perhaps this similarity is what Verne wished us to see in referring to this novel at the beginning of *Robur*:

And with her [the *Albatross*],’ said Robur to his guests—guests in spite of themselves—‘I am master of the seventh part of the world, larger than Africa, Oceania, Asia, America, and Europe, this aerial Icarian sea, which millions of Icarians will one day people.’⁷³

This foreshadows *The Master of the World*, in which Robur is eventually conquered, just as Herr Schultze is killed by his own infernal machine. In fact, almost all Verne’s scientific romance novels contain these over-zealous, yet brilliant villains and good, yet clueless heroes, such as Uncle Prudent and Phil Evans. As well as illustrating character, Verne foreshadows the ending for us. The readers wonder if Robur’s *Albatross* will survive his evil pride and hubris.

The complexity of Robur’s character is brought up even though he is portrayed throughout the novel as an evil character. His many acts of service that he performs throughout his voyage around the world, such as helping shipwrecked sailors near Antarctica and also helping victims of sacrifice in a west African country, make the characters wonder if he is really as evil as the protagonists think. However, he is unpleasant to his captives and tries to desert them at his home, Island X, so that they do not divulge the secrets of the

⁷³ Jules Verne, *Robur*, 45.

Albatross. His plans also to become master of the world aided by his advanced technology portray him as a villain. It seems that most of the very powerful and inventive science comes from the evil characters in Verne's novels. These novels contain a black-and-white distinction between good and evil which is not seen in the novels written later by Sir Arthur Conan Doyle. In Doyle's novels, the protagonists do not go up against an enemy other than nature in the struggle to prove their hypothesis. Nature does not destroy their science but is the science. The three kidnapped characters appear to be almost satirically foolish, if resourceful, and are connected with scientific institutions, but they are behind the times in comparison with Robur. The *Albatross*, ironically enough, is made only of strengthened paper and though it proves to be more than a match for a continuous journey around the world to most of the continents, it is almost thrown to earth in the throes of a hurricane.

The narrator's feelings with regards to the *Albatross*, however, are those of admiration. Verne describes the machine as a pillar of technology:

If a geographer had only such an apparatus at his command, with what facility could he map the country, note the elevations, fix the courses of the rivers and their affluents, and determine the positions of the towns and villages! There would then be no huge blanks on the map of Africa, no dotted lines, no vague designations which are the despair of the cartographers.⁷⁴

This also echoes the sentiments of the adventurers from *The Lost World*. In the turn of the century when Doyle was writing, the blank spaces of the maps had been filled in—the despair of explorers—Verne, only decades earlier, laments the lack of this cartographic knowledge. The narrative style also puts the reader more

⁷⁴ Verne, *Robur*, 91.

in mind of a classroom lecture than a novel. In the middle of a narration full of kidnapping, an evil genius, a mysterious crew, and a voyage around the world, Verne gives us a history of balloons and aircraft—something which was non-fictional and contributed to the scientific authenticity of the novel. He provides us with a straightforward timeline of aeronautical history and advancement from the first balloons to the documented attempts of balloonists trying new machines.⁷⁵ It is as though the novel has temporarily turned into an entry in an encyclopedia.

These facts and figures are cumbersome at times and added almost as an afterthought or as if Verne got carried away with the details. Verne's lesson in aeronautics and the great debate between heavier-than-air and lighter-than-air, even mentioning the real society that he is a part of, gives a didactic tone to the narrative:

Nothing, in fact, is better established, by experiment and calculation, than that the air is highly resistant. A circumference of only a yard in diameter in the shape of a parachute can not only impede descent in the air, but can render it isochronous. That is a fact.⁷⁶

We can see in Verne's novel how he memorizes scientific facts and incorporates these into his narratives. For example, he describes a phenomenon of a "sea of fire"⁷⁷ then explains that this was caused by the phosphorescent fish and organisms living in the sea. Doyle, in his *Lost World*, would not have explained these phenomena unless it is part of the main plotline, as is exemplified the *Poison Belt*.⁷⁸

⁷⁵ Verne, *Robur*, 36.

⁷⁶ Verne, *Robur*, 40.

⁷⁷ Verne, *Robur*, 97.

⁷⁸ Discussed further in chapter three.

Strangely enough, instead of Robur's prisoners defying him by revealing knowledge of his secret flying machine to the world, the only acknowledgement of their journey, upon their return to Philadelphia, is to decide one detail on the *Go-Ahead*, the giant balloon that they are building. Uncle Prudent directs a propeller to be put in the front as well as at the back of the giant heavier than air machine:

‘At our last meeting, gentlemen, the discussion was somewhat animated—(hear, hear)—between the partisans of the screw before and those of the screw behind for our balloon the Go-ahead. (Marks of surprise.) We have found a way to bring the beforists and the behindists in agreement. That way is as follows: we are going to use two screws, one at each end of the car!’ (Silence and complete stupefaction.)⁷⁹

When the “Go Ahead” is launched and Uncle Prudent and Phil Evans go up with the machine, it is met in the sky by Robur, who proves again that his machine is superior. In a battle of flying machines, the “Go Ahead” is destroyed and Robur saves them, again putting them back in his power. However, instead of attempting again to desert them on Island X, along with his other prisoners, he lets them go, disgusted at their stubbornness and stupidity in terms of advancement of technology. Despite Robur's secrets, the world will continue to develop at its usual slow speed.

In the next chapter, I intend to look at how Doyle continues to improve upon the scientific adventure narrative that had only started to emerge in Jules Verne's “geographical novels.” Looking at both Verne's *Journey to the Center of the Earth* in comparison with Doyle's *The Lost World*, there is a more public conflict instead of the private, personal conflict between Robur and his prisoners.

⁷⁹ Verne, *Robur*, 132.

The conflict is that of attempting to support a hypothesis and claim rather than to simply defeat a villain. In Doyle's plots, there is a greater use and incorporation of the scientific method that, I argue, results in the success of the protagonist.

CHAPTER TWO

“Question!”: Verne and Doyle’s Attitudes towards Science

‘All the scientific theories demonstrate that such an undertaking is impossible!’

‘All the theories say that?’ replied the professor, putting on a good-natured appearance. ‘Oh the nasty theories. They’re going to get terribly in our way, the poor theories!’⁸⁰

—Jules Verne, *Journey to the Centre of the Earth*

If one were to use a scientific metaphor to describe the relation of Doyle’s *The Lost World* to Verne’s *Journey to the Centre of the Earth*, it would be to talk about the former as an evolved species of the latter. *The Lost World*, published in 1912, with its obvious parallels to as well as improvements on the content of *Journey*, published in 1864, provides readers with an insight into the way that science has been used and approached differently in fiction. As I have already explained in my previous chapter, Verne’s writing still very much reflected the ideas of the romantic adventure novel. His desire to incorporate science into fiction is seen through his novels of industry and technology, such as *Begum’s Millions* and *Robur the Conqueror*, and he incorporates the idea of scientific discovery and detection even more effectively in his *Journey to the Centre of the Earth*. Doyle, however, had the advantage of writing from a scientist’s perspective and science is incorporated more adeptly in his narrative.

Scientific concepts inspired both authors, yet Doyle’s Challenger series was another step on the evolutionary ladder of this genre of scientific adventure.

⁸⁰ Jules Verne, *Journey to the Centre of the Earth* (Oxford: Oxford University Press, 1992), 30.

While technology is featured more in Verne's novel *Robur the Conqueror*, biology and geology is incorporated more effectively in Doyle's novels. In this chapter, I argue that Doyle's *The Lost World* illustrates an advancement or development in genre from Verne's adventure novel format.

In the beginning of both novels, an eccentric scientist comes up with a theory that sends a group of explorers off on an adventure in order to bring back evidence. We see the scientific method in action. The protagonist poses a hypothesis or claim, albeit far-fetched, collects evidence with a group of other people, and afterwards presents this evidence to an audience of either readers or viewers. The methods used to form this expedition party are tellingly different in the novels. Professor Challenger publically solicits volunteers from a lecture hall—an English explorer, a fellow colleague, and an Irish reporter—while Professor Lidenbrock's small party consists only of his nephew and a native, Icelandic guide.

Unlike earlier adventure novelists whose essential plots could be set in any time period, both Doyle and Verne set *Lost World* and *Journey* firmly in the nineteenth century, indicating this to the reader either directly or indirectly. Although *Journey to the Centre of the Earth* has a certain timelessness about it, as evidenced through a number of screen adaptations which take place in the present day, the date is firmly fixed for the reader at the very beginning of the novel. There is no ambiguity in date or place as the first sentence reads: "On 24 May 1863, a Sunday, my uncle, Professor Lidenbrock, came rushing back towards his

little house at No. 19 Königstrasse, one of the oldest streets in the historic part of Hamburg.”⁸¹ Since the novel was published in 1864 and most likely written during 1863, there is no doubt that Verne meant to set his novel contemporarily. From the first sentence he sets the stage for scientific adventure built on facts and specific places. However, the plot and characters could be placed in almost any time period without losing the essence of the novel. Could we similarly place Professor Challenger and his expedition in the twenty-first century?

Although Doyle does not explicitly state the exact year and date of *The Lost World* to the reader in the first sentence, the *timeliness* of the novel is clearly apparent. When Mr. McArdle, the editor of the fictional newspaper, the *Telegraph*, states that “The big blank spaces in the map are all being filled in, and there’s no room for romance anywhere”⁸² one can contrast this mindset from that of Verne’s lament of the lack of geographical knowledge in *Robur the Conqueror*. It is the process of discovery that lends itself to the romance to which McArdle refers and by 1912, much of that romance had vanished. In the first paragraph, there is not even an element of romantic love even though the first chapter centers on the rather tenuous relationship between Gladys and Edward Malone, the narrator:

Mr. Hungerton, her father, really was the most tactless person upon earth—a fluffy, feathery, untidy cockatoo of a man, perfectly good-natured, but absolutely centered upon his own silly self. If anything could have driven me from Gladys, it would have been the thought of such a father-in-law. I am convinced that he really believed in his heart that I came round to the Chestnuts three days a week for the pleasure of his company, and very

⁸¹ Verne, *Journey*, 3.

⁸² Sir Arthur Conan Doyle, *The Lost World*, 13.

especially to hear his views upon bimetallism—a subject upon which he was by way of being an authority.⁸³

The subject of bimetallism, a current economic concept and debate, would have also indicated to Doyle's contemporary readers when the novel was supposed to have taken place, as effectively as specifying the date in Verne's novel.⁸⁴ The fact that Malone spends the very first sentences of the novel complaining about Gladys' father instead of extolling the virtues of Gladys herself indicates to the reader already that the focus of the novel will not be domestic romance. In this passage, we see a disgruntled "romantic" hero, who dreads fulfilling expected roles such as husband and son-in-law. This contrasts with the narrator of *Journey to the Centre of the Earth*, who eagerly anticipates his marriage and is reluctant to go on the journey because of it.

If there is any doubt left in the reader's mind as to the similarity of the two works, it is made even clearer through the affections of the two narrators. Both are inspired to go on their quest by a woman at home. Axel is secretly engaged to Graüben, who, to Axel's surprise, convinces him to go on his uncle's wild adventure. Malone is in love with Gladys at the beginning of *The Lost World*. Though she does not return his affection, she still inspires him to embark on his journey, saying that "There are heroisms all round us waiting to be done. It's for men to do them, and for women to reserve their love as a reward for such men."⁸⁵

⁸³ Doyle, *Lost World*, 3.

⁸⁴ "Bimetallism." *The Oxford English Dictionary*. 2nd Ed. 1989. *OED Online*. Oxford University Press. Accessed 26 April 2010, <http://dictionary.oed.com/>. This refers to the ratio of two metals to each other found in economic currency.

⁸⁵ Doyle, *Lost World*, 8.

Both Axel and Malone name important landmarks they discover after them, as well. In *Journey to the Centre of the Earth*, Axel names a shore on the underground lake “Port Graüben,” and in *The Lost World*, Malone rather bashfully names the lake on the plateau “Lake Gladys.” While both female characters, Graüben and Gladys, urge the narrators to embark on their adventure, only Axel realizes his goal of marriage at the end of the novel. In *The Lost World*, Malone never marries Gladys and when he returns to England, discovers that she has married a very practical accountant instead of the hero she dreamed about. It presents a less romantic view than in Verne’s novel and Malone later ends up marrying Challenger’s daughter in *The Land of Mist* only because of the affection grown in the course of their professional partnership.

Although *Journey to the Centre of the Earth*’s beginning is not quite as public as the rowdy debate seen at the beginning of Doyle’s novel, it is not less involved an undertaking. The professor protagonist in this novel is Professor Lidenbrock who, though he is Professor Challenger’s opposite in terms of physical appearance, is certainly his equal in eccentricity. He attempts to persuade his nephew, Axel, to go with him on his journey to an Icelandic volcano based on evidence from a cryptogram—created by Arne Saknussemm, an Icelandic explorer—which Axel solves in the beginning of the novel. Though Axel remains more doubtful than Malone for the duration of the expedition, he eventually agrees to go. However, they never reach the center of the earth. This is impossible due to an obstruction in their otherwise seamless path. It is a

somewhat unsatisfying ending in that they never discover the answer to whether one can reach the center or not. In *The Lost World*, Professor Challenger and his party succeed in finding the evidence they are looking for, even bringing a live pterodactyl back to London.

This is not to say that *Journey to the Centre of the Earth* is of a lower quality than Doyle's novel. In *Journey*, Verne offers an engaging and sensational adventure plot and uses different forms in the narrative to suit his purposes. While Professor Lidenbrock and his party attempt to sail across the underground lake, Axel turns his narrative into a series of diary entries—not unlike a ship's logbook, reminiscent of the narrative style found in *Robison Crusoe*. And, in a particularly engaging passage when Axel is separated from the rest of the expedition, Verne uses ellipses to indicate the amount of time passed in between the dialogue. When Axel discovers a way he can communicate with his uncle by means of a "peculiar acoustic effect" he says:

I then waited for a reply with the greatest possible anxiety. Sound does not travel very quickly. Besides, the density of the layers of air did not add to its speed; only to the volume. Several seconds, several ages, elapsed, and finally these words reached my ears:
 'Axel, Axel! Is it you?'

 'Yes, yes!'

 'Where are you, my boy?'

 'Lost, in the most complete darkness!'⁸⁶

⁸⁶ Verne, *Journey*, 130.

This passage illustrates how, even in *Journey to the Centre of the Earth*, Verne lives up to his reputation as an excellent story teller, even experimenting with different narrative styles.

In adding scientific facts and figures, however, the narrative begins to sound like the fantasy of a textbook—in some parts more similar to a textbook than a novel. Near the beginning of the novel, Professor Lidenbrock explains to Axel the calculations he uses to ascertain whether or not his experiment is feasible:

It is well known that the temperature increases by approximately one degree centigrade for every 70 feet you go below the surface of the globe. Now, assuming that this ratio remains constant, and given that the radius of the Earth is about 4,000 miles, the temperature at the centre will be well over 20,000°. The substances at the Earth's core exist therefore as white-hot gases, for even metals like gold or platinum, even the hardest rocks, cannot resist such a temperature. My question whether it is possible to travel in such an environment is consequently a reasonable one!⁸⁷

It is only in the last sentence of this passage that we see Lidenbrock expressing the “what-if” question in the scientific romance novel, also seen in Doyle’s *Lost World*. It is a question asked with the answer and experiment already in mind. The question that the scientist hero asks is the point at which the narrative deviates from the purely scientific and enters into the adventure. One of the reasons that *Journey*’s ending does not seem complete is that the protagonists never answer their original question as Professor Challenger succeeds in doing in *The Lost World*. If the question had been “What lies underneath the earth?” instead of “Can we reach the center of the earth?” the novel would have more resembled Doyle’s later novel.

⁸⁷ Verne, *Journey*, 30.

At the beginning of Doyle's *Lost World*, by way of comparison, Challenger also asks a question. However, his question is answered in the course of the novel. In a public lecture hall, he claims that dinosaurs are still in existence:

One smallest new fact obtained in the laboratory, one brick built into the temple of science, far outweighs any second-hand exposition which passes an idle hour, but can leave no useful result behind it [...] What is the particular point upon which I, as an original investigator, have challenged our lecturer's accuracy? [...] I do not speak upon this subject as an amateur, nor, I may add, as a popular lecturer, but I speak as one whose scientific conscience compels him to adhere closely to facts, when I say that Mr. Waldron is very wrong in supposing that because he has never himself seen a so-called prehistoric animal, therefore these creatures no longer exist.⁸⁸

In this passage, not only do Challenger and his colleague, Professor Waldron, debate their opposing theories, the audience of students and other colleagues also are shown expressing their opinions. Scientific discussion is much more public than in Verne's novel. The reader can also observe in the narration the presence of a more integrated scientific imagination. Challenger refers to himself as "an original investigator" and of having a "scientific conscience," establishing himself as the scientist hero.⁸⁹

Although the plot of *The Lost World* resembles that of a Vernian adventure novel, there are key differences. The characters travel to South America comfortably in a commercial, trans-Atlantic steamer that rules out a Romantic storm at sea which would typify a Vernian novel. *The Lost World's* basic plot echoes that of a typical Sherlock Holmes story. The goal of the characters is to find the previously discovered plateau, gather evidence, and

⁸⁸ Doyle, *Lost World*, 67-68.

⁸⁹ This character will be discussed further in the following chapter.

present the case to the dubious public back in London. They follow the clues to methodically discover the solution to a scientific mystery; one that has been wrongfully represented in the academic circles of the novel. Though evil apemen pursue them, wishing to wipe-out the *Homo sapiens*, there is no single adversary who wishes their failure and demise as is seen in many of the adventure novels of Verne. Their main adversaries are other professors and the eager public waiting at home. They must be able to convince the British that what they had seen and experienced was, in fact, real.

In *The Lost World*, Edward Malone, an Irish journalist, attempts to interview the infamously eccentric Professor Challenger and finds himself drawn to the idea of prehistoric life still existing on the plateaus of South America. Their expedition consists of Professor Summerlee, an old and stubborn colleague, Lord John Roxton, an English adventurer, Edward Malone, an Irish reporter, and Challenger himself. However, they find themselves discovering more than dinosaurs, and taking back evidence, in the form of a live pterodactyl, that cannot be refuted even by the most stalwart of disbelievers.

Jules Verne's *Journey to the Centre of the Earth*, describes the voyage of a professor, his nephew, and their faithful Icelandic guide deep into the earth through an inactive volcano. They see wonders and phenomena that, as in Doyle's novel, have already been seen and discovered before but by someone who has passed on clues posthumously. Although Verne's characters do not stay for long on the shores of the mysterious underwater sea, they do briefly encounter

living prehistoric dinosaurs and strange plants and even catch a glimpse of a mysteriously large prehistoric man. The science in *The Lost World* is certainly more believable, especially considering the time period; however, it is not devoid of the romantic spirit that pervades Verne's work.

Professor Lindenbrock and his nephew, Axel, seem like a German version of Professor Challenger and his reporter friend, Edward Malone. In the two professors, the reader sees similar levels of eccentricity. While Professor Challenger is arguably more violent tempered than Verne's character, Professor Lidenbrock is his equal in recklessness and enthusiasm. In William Butcher's introduction to his translation, he describes Professor Lidenbrock as "an obsessive, [...] driven man, so much in a hurry that he crams double helpings into his mouth and pulls at plants and pushes at trains to make them go faster."⁹⁰ These impetuous characteristics also accurately describe Professor Challenger, a character created only about forty years later.

Axel, the narrator, likens his uncle to a volcano in the beginning of the novel—an ironic fact given that volcanoes have a prominent role within the plot. He states that "he [Lidenbrock] has a volcanic imagination and he would risk his life to do what no geologist has ever done before."⁹¹ Axel also worries that his uncle is so obsessed with cracking the 16th century Icelandic code that "it was to be feared that it [his energy] might simply explode at any moment now."⁹² While

⁹⁰ William Butcher, "Introduction" to *Journey to the Center of the Earth*. xxiii.

⁹¹ Verne, *Journey*, 22.

⁹² *Ibid.*

Professor Challenger sometimes explodes with violence—knocking reporters downstairs, grappling with ape-men, and forcibly removing unwanted visitors from his house—Professor Lidenbrock explodes with energy. When he cannot figure out the code at the beginning, he vows that he will not eat or sleep until he does find the solution and forces everyone else in the house to do the same. He invariably carries out his threats. However, the reader gets the sense that Professor Lidenbrock punishes his household unintentionally out of an over-enthusiasm for his subject. Professor Challenger just has a general dislike of people who get in the way of his experiments.

Verne and Doyle convey their different opinions and approaches to science in *Journey* and *Lost World* through the characteristics of their professor protagonists. Professor Lidenbrock is more modest than his Sir Arthur Conan Doyle counterpart. Challenger's drive for discovery is fueled by his own inflated ego, and the belief that his theories are correct and must be investigated in the name of science. He expects praise for what he does and he goes out of his way to be pugilistic and unconventional. Axel describes Professor Lidenbrock, despite his passion and extensive knowledge about science and especially geology, as a man who does not need praise: "He was modest in his glory, and it did his reputation a great deal of good."⁹³ Although "modest in his glory," Lidenbrock is also described as "a selfish scholar, a well of science whose handle groaned

⁹³ Verne, *Journey*, 215.

whenever someone wanted to draw something out of it: in a word, a miser.”⁹⁴

Professor Challenger, in contrast, shares his theories with everyone regardless of whether they are willing to hear them.

Professor Lidenbrock seems to be more of a crackpot scientist than a brilliant researcher. The fact that the characters never reach their goal at the end of the novel only serves to heighten this image. It would be as if Professor Challenger traveled to the South American plateau only to find that there were no dinosaurs there. We have more confidence in Professor Challenger partly due to the fact that he is always proven right and partly due to the fact that he is a more publically known figure and encourages outside skeptics to come on his expeditions and engage in argument. There is something undeniably intellectually stagnant in Professor Lidenbrock and his nephew’s expedition. The current of new scientific thoughts or understanding outside of the family unit does not occur, even though the uncle and his nephew disagree about what lies at the center of the earth.

Professor Lidenbrock is not a public figure before they set out on their journey. He is little known except as a lecturer who stumbles over big, scientific words and has trouble speaking in front of crowds. Lidenbrock’s barrier to conveying scientific ideas is significant in that it reveals more about the author’s attitude towards science. Verne includes geologic theories and world history in *Journey*, yet these concepts are somehow set apart in the narrative. A reader can

⁹⁴ Verne, *Journey*, 4.

clearly see where the science ends and the adventure begins. In Doyle's novel, the science is, effectively, the adventure.

The Missing Link

Though Professor Lidenbrock and his expedition never fulfill their goal, what they find underground at "Port Graüben" is an intriguing part of the narrative. The most important comparison between the two novels is discovered through the course of these extraordinary journeys. Dinosaurs are the least of the Challenger party's concern as is reaching the center of the earth for Professor Lidenbrock and his nephew. The prehistoric man is the real discovery that they make. In Doyle's novel, this man, or rather tribe of ape-men, serves as the "missing link." The ape-men that they discover appear to be only slightly humanoid in appearance with the overwhelming suggestion of primate characteristics, however they hold the inhabitants of the plateau in terror due to their superior strength if not superior weapons.

In Verne's novel, while they are on the shores of the underground sea, they not only find fossils and preserved humans, but living creatures. On their journey they encounter a plesiosaurus, an ichthyosaurus, eyeless fish, a whole heard of mastodons and, intriguingly, a twelve foot tall man. They also discover a naturally mummified "Quaternary man"⁹⁵ which proves the existence of humans dating back further than was previously thought. The expedition has only a brief

⁹⁵ Verne, *Journey*, 180.

sighting of a living prehistoric man, having all the characteristics of a modern European except for his gigantic proportions. The twelve-foot man they only glimpse at but do not attempt to interact with. He is seen herding dinosaurs with a giant branch: “leaning against the trunk of an enormous kauri tree, was a human being, a Proteus of these underground realms, a new son of Neptune, shepherding that uncountable drove of mastodons!”⁹⁶ The readers never have a chance to discover whether he can speak English, or in this case, German, since the expedition party avoids him.

An evident fear of this prehistoric man or “missing link” is a commonality for these two novels. Lidenbrock’s expedition is cautious around the prehistoric giant as they see he is holding a weapon—a petrified tree branch. They make sure to not be seen by him, as they are unsure of whether he would be friendly to interlopers:

This was no longer the fossil creature whose body we had propped up amongst the bones: this was a giant, able to command these monsters. He was more than twelve feet tall. His head, as big as a buffalo’s, was half-hidden in the brush of his wild locks—a real mane, like that of the elephants of the first ages. He swung in his hand an enormous bough, an appropriately primeval crook for this shepherd from before the Flood. We remained motionless, in a daze. But we might be spotted. We had to retreat.⁹⁷

One wonders at the willingness of the Professor, at least, to run away from this giant man since only moments before he was so eager to go forward to meet it. Although his nephew points out the potential danger, he has not previously listened to his nephew’s opinions. An expedition that seemed to be science for science’s sake is actually based on personal motives. Thus far in the expedition,

⁹⁶ Verne, *Journey*, 186.

⁹⁷ *Ibid*, 186-187.

Lidenbrock has been eager to face any challenge, but when faced with a giant man, he runs away. If they had attempted to interact with him, the novel's ending might not have seemed as abrupt as it invariably does. This is the point at which Verne's imagination turns from the science and focuses on the adventure, possibly because he is working within the limits of the "geographical novel."⁹⁸

Butcher, in his notes, argues that the presence of such a man even suggests another scientific theory. He states that "Verne is here also hinting at a parallel evolutionary tree."⁹⁹ This differs from Doyle's idea of a halt in the evolutionary process and a plateau that is frozen in time. This man is not a "missing link" as much as part of a separate evolutionary track—perhaps a species that has always lived underground. Although he looks more like the modern human than Doyle's ape-men, Axel describes him in animalistic terms saying that he has a "head, as big as a buffalo's" and "wild locks—a real mane."¹⁰⁰ Yet he is also described as a shepherd.

When looking at the outside influences Doyle must have encountered, one can readily argue that his *Lost World* corresponds with the scientific exploration and discovery of his day. However, Doyle's novel, while also encompassing elements of adventure found in Verne's, takes an altogether different approach to science. While the idea of going down to the center of the earth on the authority of an ancient Icelandic cryptogram is simply fantastical, the concept that

⁹⁸ Butcher, *Jules Verne*, 224. Hetzel invented the genre of the "geographical novel" as a marketing strategy.

⁹⁹ Butcher, 229.

¹⁰⁰ Verne, *Journey*, 186.

dinosaurs still exist on a South American plateau in the early twentieth century could have been a possibility in the minds of Doyle's contemporary readers. As discussed in my Introduction, the events and characters in *The Lost World* had a basis in real events and people. Even the possibility of strange life on the plateau was not far from the realm of reality. In an account of an expedition to climb Mount Roraima, located in the Amazon Basin and often suspected of being the inspiration for the Plateau in *The Lost World*, Everard Im Thurn states:

We saw surely as strange a sight, regarded simply as a product of nature, as may be seen in this world; nay, it would probably not be rash to assert that very few sights even as strange can be seen.¹⁰¹

In reading about this “strange sight” that included new, unknown species of plants and mysterious rock formations, it would be easy for Doyle's audience to believe in a discovery of unknown species of animals as well, even living dinosaurs.

In *The Lost World*, Challenger's group and even the indigenous people living on the plateau attempt to wipe out the population after Challenger and Professor Summerlee, his colleague, are taken prisoner. These ape-men would seem, in the novel, to fulfill the role of the missing link that Darwin argued for in his “Origin of Species” which was published in 1859, a few decades before *The Lost World* was written.

The motivation of Professor Challenger's journey and the interest of the press in the outcome, lies in his opposition to the idea of degeneration, a theory proposed by August Weismann, a Darwinian scientist who tested this theory in

¹⁰¹Everard Im Thurn, “The Ascent of Mount Roraima,” *Proceedings of the Royal Geographical Society and Monthly Record of Geography*. Vol. 7 (London: Edward Stanford, 1885), 517.

the development of amphibian larvae.¹⁰² When one degenerates, they revert back to an earlier, or “inferior,” stage of evolution. It is this contemporary, scientific idea that Professor Challenger challenges, living up to his name. As Frasier goes on to argue, even though Challenger attempts to disprove degeneration, explaining it as simply a continuation of a species due to an environmental accident such as an isolated plateau, there are numerous examples of degeneration, or vestiges of atavism, in the novel.

The reader can draw a parallel between Hans, the Icelandic guide in Verne’s novel, to Zambo, the native South American guide in Doyle’s novel. They both act as faithful guides and are native to the countries in which the adventure takes place. Hans, from the cold, Icelandic climate, is more stoic than the German professor and his nephew and barely talks throughout the entire novel. Axel describes him as a “serious, phlegmatic, silent type [...] whose manner contrasted singularly with my uncle’s.”¹⁰³ Zambo, on the other hand, is affable and talkative, who acts as more like a guard-dog than a guide. When the travelers become trapped on the plateau after one of the natives, bearing a grudge against Lord Roxton, destroys their bridge, Zambo is portrayed as being intensely loyal and faithful. He is also very superstitious, which would imply to the Europeans of the party that he is more “natural” as well and only little better than the tribe of natives that they meet upon the plateau. Both characters are portrayed

¹⁰² Robert Fraser, *Victorian Quest Romance: Stevenson, Haggard, Kipling, and Conan Doyle*, (Plymouth: Northcote House, 1998), 69.

¹⁰³ Verne, *Journey*, 56.

as being of an inferior race; however the atavistic characteristics that they exhibit offer advantages to navigating in their native land and protecting the protagonists.

The “natural” character of Hans, Lidenbrock and Axel’s guide, could be traced back to an idea of the geologist, Sir Charles Lyell, who wrote his famous *Geological Evidences of the Antiquity of Man* published in 1863. Similar to Darwin’s *Origin of the Species*, Lyell looks at evidence which strongly suggests evolution of the human species. He describes the finding of the Neanderthal skull in a cave in France. The skull that he discovers is depicted as a new type of human skull that is “small and round, [with] prominent ridges over the orbits of the eyes, showing that the ancient race was of small stature, with round heads and overhanging eyebrows—in short, they bore a considerable resemblance to the modern Laplanders.”¹⁰⁴ Though this is almost the opposite of Hans’ description, he is, nonetheless, portrayed as a simpler species. He has super-human powers and instincts that prove invaluable in the course of the novel. Although they see Mastodons, giant mushrooms, and the prehistoric man, Hans is shown to have atavistic tendencies. He is “seen preternaturally as an ‘antediluvian man.’”¹⁰⁵ He saves the Professor and Axel countless times underground and can undergo physical trials in an almost super-human capacity. When they see the prehistoric man, the reader is undeniably reminded of Hans who is a more-evolved image of

¹⁰⁴ Sir Charles Lyell, *The Geological Evidence of the Antiquity of Man* (London: J.M. Dent., 1914), 12-13.

¹⁰⁵ Allen Debus, “Reframing the Science in Jules Verne’s *Journey to the Center of the Earth*” (*Science Fiction Studies*, Vol. 33, No. 3. Nov. 2006): 405, *SF-TH Inc.* JSTOR online. <http://www.jstor.org/stable/42414461>, 411.

him. More of a “savage” than the Europeans who hire him, he displays characteristics similar to the species of human that they discover.

It is Professor Challenger, the European, however, not Zambo, who most closely resembles the prehistoric ape-men in *The Lost World*. This might have been based on the fact that Doyle had more knowledge of Charles Darwin than did Jules Verne. *Journey to the Center of the Earth* was, after all, written in 1864 while Darwin published his *Origin of Species* only a few years before in 1859. I do not know if it was as widely recognized outside of England when it was newly published or even if it had been translated into French by the time Jules Verne was writing his novel. Based on the description of the prehistoric man, he either did not know about this theory of evolution from an earlier, non-human species or disregarded it. The twelve-foot-tall man looks undoubtedly more European than primate and seems to act more like a gentle shepherd than a barbaric savage.

The description of the ape-men and the narrator’s attitude towards them in *Lost World* portray the ideas of social Darwinism and of reverting back to a primitive stage. The danger of the ape-men is foreshadowed by the “primitive” instincts of Malone when he feels as though someone is watching them as they make their way through the plateau. Challenger also ascribes atavistic tendencies to Malone as he observes the instinct that the journalist possesses of being able to sense danger. Challenger says, “He [Malone] is also the one among us who is endowed with that Celtic temperament which would make him sensitive to such

impressions.”¹⁰⁶ Malone’s first encounter with an ape-man, when he climbs a tree to map out the Plateau, illustrates this comparison. The description Malone gives of the ape-man is the following:

It [the face] was long, whitish, and blotched with pimples, the nose flattened, and the lower jaw projecting, with a bristle of coarse whiskers round the chin. The eyes, which were under thick and heavy brows, were bestial and ferocious, and as it opened its mouth to snarl what sounded like a curse at me I observed that it had curved, sharp canine teeth.¹⁰⁷

It is ironic that the Irishman, who is considered of an inferior race to the Anglo-Saxons, is the first one to come face to face with the ape-man, another “inferior” race. The ape-man is also described as having a reddish coloring, similar to that often ascribed to the “Celtic races.”

Similarly, Professor Challenger’s face-to-face encounter with the ape-men illustrates a sort of European atavism. He is almost the mirror image of them, except that he is more evolved, even with his atavistic tendencies. As Robert Fraser argues in his book, Challenger also exhibits degenerative tendencies. His striking similarity to the king of the ape-men is one such example. Lord John is the first one to make this comparison and Malone writes back to his newspaper about it:

In all things he [the Ape-king] was [...] the very image of our professor, save that his coloring was red instead of black. The same short, broad figure, the same heavy shoulders, the same forward hang of the arms, the same bristling beard merging itself in the hairy chest.¹⁰⁸

¹⁰⁶ Doyle, *Lost World*, 193.

¹⁰⁷ *Ibid*, 190.

¹⁰⁸ Doyle, *Lost World*, 232.

The only aspect in which Challenger shows himself the more evolved of the two species is in his European intelligence which is shown through the domed cranium of the modern man.

The other group of peoples living on the plateau is less of a threat to Challenger's party in that they share the characteristic of being human, although they would also be qualified as "less developed" in the minds of the Europeans. Challenger describes them as "natural" which closely relates to the idea of the "noble savage" that was popular during the Romantic Movement.¹⁰⁹ Though earlier in the novel, when they were in danger of the ape-men, the European expedition regards them as fellow human beings, different from these ape-men. Once the ape-men are conquered, however, the South American tribe reverts back to the "other" in the eyes of the Europeans:

The whole tribe lay down upon the ground before us in homage. Personally, I felt shy and uncomfortable at this obsequious adoration, and I read the same feeling in the faces of Lord John and Summerlee, but Challenger expanded like a flower in the sun.

'They may be underdeveloped types,' said he, stroking his beard and looking round at them, 'but their deportment in the presence of their superiors might be a lesson to some of our more advanced Europeans. Strange how correct are the instincts of the natural man!'¹¹⁰

It may be strange to today's reader to reconcile this passage with a previous one in which the Professor, bristling at the implication that he bears a resemblance to the ape-men, defends their intelligence to Malone:

'Lord John's observations are frequently exceedingly fanciful, and he is capable of attributing the most absurd reasons to the respect which is always shown by the most undeveloped races to dignity and character [...] The king of the ape-men was really a

¹⁰⁹ It is interesting to note that while Lyell believes that other races with "less developed" skulls have, therefore, less brain capacity, the idea of the "noble savage"—the belief that the "less developed" races possess nobler characteristics than "developed" races—was born of the Romantic period. This term was coined by the poet Dryden.

¹¹⁰ Doyle, *Lost World*, 249.

creature of great distinction—a most remarkably handsome and intelligent personality. Did it not strike you?’¹¹¹

Aside from the humorous tone of this passage, it shows the overall attitude in the novel towards the idea of the “missing link.” The scientists are so awed by this manifestation of the lost link on the chain of evolution that Challenger even goes as far as to describe the king of these creatures as a “handsome and intelligent personality,” momentarily forgetting the fact that the ape-men are their enemies on the plateau.

Along with character portrayals hinting at degeneration, there also exists a continual influence of civilization, order, and modern conveniences, even in the middle of a South American plateau. The role of the scientist as the explorer is one explanation for this. Professor Challenger and Summerlee both spend a majority of their time on the plateau, when not being held prisoner by the ape-men, collecting specimens and recording data which will serve to convince their colleagues back in London. Also, the beginning descriptions of the journey prominently feature the adherence to punctuality, another product of civilization. Near the town of Manaos, the three explorers await the time when they are allowed to open the envelope of instructions:

‘Instructions to Lord John Roxton and party. To be opened at Manaos upon July 15th, at 12 o’clock precisely.’
 Lord John had placed his watch upon the table beside him.
 ‘We have seven more minutes,’ said he. “The old dear is very precise.’¹¹²

¹¹¹ Doyle, *Lost World*, 238.

¹¹² Doyle, *Lost World*, 96.

The modern ideas of time and orderliness follow them even to the wild plateau—similar to Robinson Crusoe’s re-creation of European society on his deserted island.

In his book, *Victorian Quest Romance*, Robert Fraser argues that “historically, it [*The Lost World*] is interesting because it marks the point at which quest romance merges with two related forms: detective and science fiction”¹¹³ He goes on to describe *The Lost World* as more of a “scientific detective story.”¹¹⁴ This refers to the search, first for evidence of the dinosaurs, then for the Darwinian missing link. It reminds the reader of the Sherlock Holmes-type stories. The reader sees the enigmatic mystery solved with a scientific method of detection and a simple explanation.

Not only is the mystery solved, it is also published within the narrative. The Holmesian plot coupled with the fictional newspaper format gives the novel the pseudo-realism that we see in the newspaper novel. Though it is not discussed within Axel’s narrative whether he wants others to see his accounts, he mentions later that he publishes them in a book entitled *Journey to the Centre of the Earth*. This realism, shown through the first-person narration, is seen also in the Professor Challenger novels where, at the beginning of the book, there is a note concerning the characters, which is discussed in the introduction of the present essay. Axel states that his account “created a sensation in the whole world. It was translated and published in every language: the most important newspapers

¹¹³ Fraser, 67.

¹¹⁴ Fraser, 71.

competed for the main episodes.”¹¹⁵ Even though the novel deals with scientific romance at its most romantic, there is still an element of a scientific community and a discussion of different theories. Malone, too, acts as the author of *The Lost World*, as it is told through his perspective. His goal as a journalist is to publish his findings and the sensational story that he has experienced so that readers might also know of what Challenger’s party has done.

The Novels’ Relations to Science

Today’s reader may wonder why the scientific claims in Verne’s novel seem so ridiculous and old-fashioned while Doyle’s novels seem much more believable. The answer lies in the authors’ different relationships to science. Seen through the respective plots of these novels, it appears that Doyle, a medical man, thought of romantic plots to go along with scientific theories, while Verne used scientific theories to enhance his plot. Again, we see Verne’s name dropping¹¹⁶ and his penchant for including lists of instruments and scientific facts. Professor Lidenbrock and his nephew are constantly discussing temperature and pressure calculations and theories that they do or do not ascribe to.

In *Journey to the Centre of the Earth*, the beginning of the novel focuses around a puzzling cryptogram, the solution of which inspires the professor to embark on what is more like a glorified scavenger hunt than a scientific

¹¹⁵ Verne, *Journey*, 216.

¹¹⁶ Although Doyle also mentions the theory of a real scientist—Weissmann—at the beginning of *The Lost World*, Verne mentions Sir Humphry Davy, the mathematician Jean Baptiste Joseph, and the fictional Arne Saknussemm throughout the novel.

expedition. He ascribes to Sir Humphry Davy's "theory" that one can pass through the center of the earth, or at least visit it. Professor Lidenbrock tells Axel that he even personally conversed with Davy: "Amongst other things, we had a long discussion about the hypothesis that the innermost core of the Earth was liquid. We both agreed that a molton state could not exist, for a reason to which science has never found a response."¹¹⁷ His faith in the claims of the mysterious Arne Saknussemm is unwavering, though his more romantically minded nephew, who daydreams and quotes Virgil, has his doubts even at the end of the novel as to their veracity.

In the passage where Malone first comes face to face with the "missing link," the ape-man does not exhibit any particularly humanoid characteristics. Its only human characteristic is that it is anthropoid. I suspect that the introductory description was designed more to engage the reader than to accurately describe a "missing link." Also, the fact that the ape-man comes face to face with Malone suggests that it is more human-looking. An illustration from one of the original publications shows Malone looking at a creature at once quite unlike a monkey or a human, yet suggesting that he is looking in a mirror at a less evolved self.

The inspiration for this imagination of a "missing link" would probably be the Piltdown man, a geological hoax that was not uncovered until the 1950s and was believed to be the likeliest "missing link" at the time. This hoax was suspected to have been created by Charles Dawson, working at the British

¹¹⁷ Verne, *Journey*, 31.

museum. The skull was a combination of the jaw of an orangutan and the domed cranium of a modern man.¹¹⁸ This famous hoax was discovered in the Sussex Downs around the time that Doyle was writing his work and he was one of the few people mentioned that could have been connected with its discovery. In fact, he was living in Sussex at the time.¹¹⁹ In his article, “The Great Piltdown Hoax”, William Straus states that the Piltdown man was discovered on December 18, 1912. Discussed at such places as the Geological Society of London, it must also have been widely publicized. Contemporary readers might have guessed at the reference or at least thought of the newly discovered Piltdown skull when the apemen in the novel are introduced.

The scientific debate in the public lecture portrayed at the beginning of the novel would probably be an accurate representation of what might have been discussed at a typical lecture in the 19th century. Even though Darwin’s focus was on natural selection in regards to evolution, many scientists instead focused on the idea of progression or change of a species. The modern human, they thought, may or may not be the pinnacle or ending point of that progress. Most contemporary scientists of the period did not necessarily think of natural selection when they were looking at human evolution.¹²⁰ It was seen as a progression to

¹¹⁸ William L. Straus, “The Great Piltdown Hoax” (*Science*, New Series, Vol. 119, No. 3087 Feb. 26, 1954: American Association for the Advancement of Science). JSTOR online. <http://www.jstor.org/stable/1681349>.

¹¹⁹ Jon Lellenberg and Daniel Stashower, eds., *Arthur Conan Doyle: A Life in Letters* (New York: The Penguin Press, 2007), 560.

¹²⁰ Misa Landau, *Narratives of Human Evolution* (London: Yale University Press, 1991), 15.

reach the best possible species. In the lecture near the beginning of Doyle's novel, Challenger's adversary describes the potential of the evolutionary process:

Was this gentleman to be taken as the final type—the be-all and end-all of development? He hoped that he would not hurt the feelings of the gentleman in the red tie if he maintained that [...] the vast processes of the universe were not fully justified if they were to end entirely in his production. Evolution was not a spent force, but one still working, and even greater achievements were in store.¹²¹

Here, evolution is not described as a random process but a purposeful advancement of the species. This is in contradiction to Darwin's natural selection based randomly on environment, not a purposeful progression.

Since carbon dating was not invented until the 1940s, and geologists were still trying to discover the earliest dates of the origins of modern man, there was much room for fictionalization. Challenger's theories would be shocking: A missing link that was still living, if far removed from the world, contemporarily with modern man? Charles Lyell, in his work, is even unsure of the precise dates of the skulls and remains of what would be identified as some of the earliest humans in the Neanderthal cave. Lyell even states near the end of his work that

it [the Neanderthal skull] is at present too isolated and exceptional, and its age too uncertain, to warrant us in relying on its abnormal and ape-like characters, as bearing on the question whether the farther back we trace Man into the past, the more we shall find him approach in bodily conformation to those species of the anthropoid quadrumana which are most akin to him in structure.¹²²

He looks more at the changes in the geology of the earth over time, such as water erosion, the formation of caves, and glacier movement to give clues as to whether this is an ancient man or a modern man. This sort of dating only gives us an

¹²¹ Doyle, *Lost World*, 63.

¹²² Lyell, 296-297.

approximation of when the Neanderthals lived. Who knows? Maybe this species even co-existed with the dinosaurs.

Lyell describes this theory of uniformitarianism, or “progressive development.” This theory did not attribute changes in geology in a cataclysmic way but, rather, a gradual and progressive change over time. He states:

The expectation of always meeting with a lower type of human skull, the older the formation in which it occurs, is based on the theory of progressive development [...] nevertheless we must remember that as yet we have no distinct geological evidence that the appearance of what are called the inferior races of mankind has always preceded in chronological order that of the higher races.¹²³

This means that there is some doubt as to the fact that these findings actually represented ancient man instead of other contemporary, “inferior” races or tribes of man. Lyell even wonders if this skull represents a sort of reverse evolution or atavism. He states that “if it [the Neanderthal skull] be a comparatively modern race, owing its peculiarities of conformation to degeneracy, it is an illustration of what botanists call ‘atavism,’ or the tendency of varieties to revert to an ancestral type.”¹²⁴ This is what was illustrated in the character of Professor Challenger in *The Lost World*.

Werner, a German mineralogist, wrote *On the External Characters of Minerals*, which provides us with some information that Professor Lidenbrock and Axel would have supposedly had knowledge of in Jules Verne’s *Journey to the Centre of the Earth*. In Werner’s book, he states that mineralogy is the most important science in that it has practical functions and is “nearly indispensable to

¹²³ Lyell, 70.

¹²⁴ Lyell, 72.

civilized society.”¹²⁵ And in Verne’s novel, both professor and nephew appear to be excellent mineralogists. During the course of their journey, Professor Lidenbrock even measures their progress by observing which strata of rock they pass through.

In his treatise, Werner describes four ways of identifying minerals. This consists of external characteristics, internal characteristics—such as chemical make-up, physical characteristics, and empirical characteristics—such as where the mineral was found.¹²⁶ Werner then goes on to give more specific guidelines on how to go about classifying minerals especially based on external characteristics such as color, feel, and shape. He believes that the key to correct classification is a complete and detailed description of the mineral in question. This classification of minerals would also aid in dating archeological remains.

The literary imagination of the nineteenth century took up this idea of geological processes and the identification of remains and authors such as Sir Arthur Conan Doyle and Jules Verne romanticized these ideas, even presenting a picture of how these fossils might have looked. In *The Lost World*, the reader gets the impression of an ape-like “missing link.” And in *Journey to the Center of the Earth*, Verne presents his readers with an image of underground prehistoric life, untouched by the world above, even offering a glimpse of a living prehistoric man.

¹²⁵ A.G. Werner, *On the External Characters of Minerals* (Urbana: University of Illinois Press, 1962), xxiii.

¹²⁶ Werner, 2.

In an article entitled “Re-framing the Science in Jules Verne’s *Journey to the Center of the Earth*,” Allen Debus argues that the science in Verne’s novel can be discussed in three distinct categories: the geological, the paleontological, and the paleoanthropological.¹²⁷ In the geological part of the novel, Professor Lidenbrock’s theories of the earth are based off of the archaic theories of Sir Humphry Davy, a British chemist who lived in the late 18th, early 19th century.¹²⁸ He believed that water that flows underground reacts with certain kinds of rocks causing eruptions on the surface—supporting a “hollow-earth” theory. Thus, this volcanic activity takes place near the surface of the earth, not at the core. His theory became so outdated that “Davy himself had disowned [it] some four decades before *Journey*’s publication date.”¹²⁹ However, though Lidenbrock eagerly subscribes to Davy’s ideas, Axel represents the more modern and generally accepted ideas about volcanism.¹³⁰

In the paleontological part of the novel, Verne takes his readers through a kind of time machine to see creatures that were previously only known as fossils. Professor Lidenbrock and company first see evidence of prehistoric remains near the underground sea, and then see the actual creatures themselves. Debus states that “the travelers repeatedly come upon fossils of plants and organisms that will later come to life before their amazed eyes.”¹³¹ Therefore, in Debus’ article, Axel’s mysteriously prophetic dream can be explained in that it symbolically

¹²⁷ Debus, 405.

¹²⁸ *Ibid.*

¹²⁹ Debus, 406.

¹³⁰ Debus, 408.

¹³¹ Debus, 409.

travels through time to describe a sort of “living museum” of prehistoric earth. This, Debus argues, is basically a summary of Louis Figuier’s *Earth Before the Deluge*,¹³² which dealt with a number of theories including Davy’s theory of volcanism. While Verne’s novels, *Robur* and *Begum’s Millions*, attempted to visualize the future of technology, *Journey to the Centre of the Earth* and Doyle’s *Challenger* novels attempt to do exactly the opposite.

The image of the prehistoric man interacting with dinosaurs again brings up the concept of the antiquity of man. How long ago did man as we know it really exist? Debus states that “the question at the center of this paleoanthropological debate, of course, was the contemporaneity of early man with prehistoric fossil animals.”¹³³ Implied in this statement is the possibility that humans have co-existed with dinosaurs. However, as Debus points out, the prehistoric man that Verne presents does not resemble a missing link, or even differ from modern humans apart from his size. It is from this literary evidence that we can see that Verne’s novel was less concerned with scientific accuracy and more concerned with sensation and adventure.

Though Verne did incorporate scientific concepts into his novel, one of the key points that differentiates his novel from Doyle’s is that there is no definite conclusion. Lidenbrock believes that they will be able to follow an ancient passage to the center of the earth while Axel disagrees with his uncle, thinking that it would be too hot. Neither one is proved either right or wrong and the

¹³² Ibid.

¹³³ Debus, 412.

reader must realize that their journey is simply a literary device as well as an adventure plot. The real merits of this novel lie in the description of the different strata of rocks and minerals that they encounter on their descent. They are privileged to go on a sort of living archeological dig as they encounter first fossils and remains, then the creatures themselves. There is no mention of other creatures of this kind, though there is definitely the possibility of a whole society of them. As is found in *The Lost World*, Verne makes no claim that this prehistoric man is the missing link, just a separate species of humans. Verne fantasizes on the history of time based on Lyell's work of dating the antiquity of man using geologic chronology.

Doyle's ape-men and the Piltdown man, however, show a very current debate entering into the world of fiction. Though *Journey* does deal with a current and new classification of rocks and minerals, this is hardly controversial when compared to the "discovery" of the Piltdown man. And while Verne himself, though fascinated with science, was not involved in a capacity other than that of enthusiast, Doyle was involved in scientific investigation and discovery. His background was one of university medical student and he had been educated in the sciences. Using this knowledge and education, he crafts an adventure novel incorporating what he has observed and read of current theories and discoveries.

Doyle's missing links in his novel aggressively assert themselves. They try to eradicate the human species living on the plateau, rightly thinking of them as competition and an impediment to survival. There is a definite contemporary

plot and setting and the scientific ideas are current up to the very year of publication.

In the next chapter, I intend to look further into Doyle's scientist hero, particularly in his sequel to *The Lost World*, *The Poison Belt*. The romantic protagonist of Verne's earlier novels has been replaced with a scientist protagonist who uses the scientific method to test his theories. Instead of being swept up in an adventure by an adversary or threat, the scientific hero's only adversary is the doubting public and he actively goes off onto an adventure in order to prove his theories correct.

CHAPTER THREE

“For Once I was the Hero”: The Scientist Hero

The Characterization of the Scientific Method

The scientist hero emerged as a figure in the literature of the nineteenth century, in response to the increase in the public interest of science¹³⁴— particularly the ideas of geology and evolution. In Verne, we saw the scientist anti-hero in *Begum's Millions* and the beginnings of the scientist hero in *Journey to the Centre of the Earth*, however, Sir Arthur Conan Doyle arguably introduced the first scientific hero in the adventure genre of literature. The scientist hero has its roots in the detective hero, who uses the scientific method to solve his problems in a logical way. In detective fiction, as early as the work of Edgar Allen Poe and Wilkie Collins, there was a natural shift from realist sensation fiction towards mystery plots. These detective novels, while taking place in a modern, urban setting similar to sensation fiction, also contain the amateur detective, outside of the normal conventions of the profession, who solves a mystery using clues and observation.

From Conan Doyle's main protagonist in his Professor Challenger series, I have developed a working definition of a scientist hero. Always male, he is a character who is, in actuality, a scientist, embarking on a quest, the premise of which is generally based on a previous hypothesis or claim. He only finds an

¹³⁴Fraser, 14.

adversary in nature and the doubting public and he and his colleagues or companions accompany him on his mission. As Professor Challenger states:

The true scientific mind is not to be tied down by its own conditions of time and space. It builds itself an observatory erected upon the border line of present, which separates the infinite past from the infinite future. From this sure post it makes its sallies even to the beginning and to the end of all things. As to death, the scientific mind dies at its post working in normal and methodic fashion to the end. It disregards so petty a thing as its own physical dissolution as completely as it does all other limitations upon the plane of matter.¹³⁵

This description implies superhuman capabilities, but the scientist hero in fiction is one who is wholly dedicated to science, no matter what his surroundings are or what events may occur. This can often lead to humorous situations. In *Journey to the Centre of the Earth*, the reader sees Professor Lidenbrock calmly taking note of the different strata of rock that they pass through while they are being carried up an erupting volcano. And in *The Lost World*, as they are being attacked by pterodactyls, Professor Challenger comments on how lucky they are to be able to observe their habits.

This hero is also an expert in his field. In *Victorian Quest Romance*, Fraser talks about the idea of the adventurer having exclusive knowledge of his subject. He argues that “it is far from coincidental that the revival of quest romance coincides with the emergence towards the end of the nineteenth century of the cult of the specialist or the ‘expert.’”¹³⁶ However, he goes on to say that the protagonists of these novels are really amateurs who specialize in a certain field. This is exactly what we see in detective fiction. The protagonist, or

¹³⁵ Sir Arthur Conan Doyle, *The Poison Belt* in *The Professor Challenger Stories* (London: John Murray, 1963), 259-260.

¹³⁶Fraser, 16.

detective, does not usually work in the police force but acts as an amateur consultant—the most famous of these amateur detectives being Sherlock Holmes. For Sherlock Holmes, his discipline consists of an amalgam of different facts collected in a very slapdash manner—the beginnings of the scientist hero. In the later fiction of Doyle, Challenger, his protagonist, and even Professor Summerlee, though perhaps amateur *detectives*, are specialists in their disciplines and are actually professionals. It is interesting to see that in Conan Doyle's novel his main protagonist is a professor and not merely an amateur. All of his fantastical hypotheses prove to be correct; however, he is viewed by the public and especially by the newspapers as an eccentric who is certainly not respected as an eminent scientist. At the end of the novel, he gains the respect of society until the next novel in the series, in which he must again prove that his theories are correct to the doubting public.

While Jules Verne's novels contain both romantic adventure and scientific fact as I have discussed in the previous chapter, Conan Doyle drew from the realism that became popular in the 1860s. Doyle was influenced by the growing sub-genre of the detective novel, popularized by Poe and Collins. In fact, Sherlock Holmes, one of the most recognizable and iconic literary figures, is an earlier model of a scientist hero. Though an amateur with a questionable degree from university, Sherlock Holmes methodized what we would know today as criminology and treated solving crimes as scientific experiments. Paterson states that "In addition to engaging in analytical reasoning, he [Sherlock Holmes]

studies the wheel marks of a hansom cab, examines elaborate patterns of footsteps, identifies cigar ash, and in the end engages in the detailed step-by-step summary of his methods that has become indispensable to the mystery format.”¹³⁷ This methodology of detection using keen observation through the senses is also indispensable to the scientific romance format and, therefore, a quality of the scientist hero. Detailed scientific discovery is a key component to the types of novels such as *Journey to the Centre of the Earth* and the Challenger series.

The scientist hero replaces the romantic hero as the popular literary genre moves from gothic to realism to science. John Kimball’s book *The Romance of Evolution* gives us a contemporary perspective on the changing attitudes towards science. He states that “the scientific imagination, daring and dashing as the most romantic knight of chivalry’s golden age, has sallied forth in some brilliant charge up to the gates and over all barriers, and has been the first to raise the shout of victory.”¹³⁸ In this instance, science is imagined through the heroes in the scientific romances of the nineteenth and early twentieth century. Kimball compares them to the knights of the romantic age in that they fought battles—though usually on an intellectual level—upheld the moral and ideals of their calling, and triumphed over their foes.

The perception of scientists, or natural philosophers as they were classically known as, also changed dramatically over the course of the nineteenth

¹³⁷ Audrey Peterson, *Victorian Masters of Mystery: From Wilkie Collins to Conan Doyle* (New York: Frederick Ungar, 1984), 205.

¹³⁸ Kimball, 10.

century. These new scientists were young and active on the field as well as in the classroom. They were not the old and ancient philosophers such as Aristotle or Galileo. Kimball expresses this idea poetically:

The stock picture of the natural philosopher as an ugly, dried-up old man gazing bewildered at the stars of stooping useless over a few withered leaves, and with no heart or imagination, nothing but the cold dry light of intellect, is the very opposite of what is true. Nearly all great discoveries have been made in the fire and freshness of youth or in the richness and strength of maturity.¹³⁹

One can definitely place Professor Challenger into this category. It is probably no coincidence that *The Poison Belt*, published in 1913, came out only a year after the publication of *The Lost World*. Edward Malone definitely possesses “the fire and freshness of youth” while Professor Challenger and the other members of his party have “the richness and strength of maturity.” There are certainly no “dried-up” men in either Doyle or Verne’s novels.

While Professor Challenger and his party were in South America being chased by dinosaurs and ape-men, they were also classifying the different flora and fauna, observing the lifestyles and habits of the dinosaurs, and creating a map of the plateau. One contemporary critic felt that the ending of *The Lost World* seemed contrived because it did not fit in with the rest of the novel. He simultaneously argues that it is too easy and predictable¹⁴⁰—Lord John Roxton discovers diamonds on the plateau because he notices them in the mud near the pterodactyl nests. However, this is an echo of the detailed deduction that Holmes practices in his cases. Lord Roxton explains his discovery to Malone:

¹³⁹ Kimball, 8.

¹⁴⁰ *Times Literary Supplement*, Oct. 17, 1912. “The Lost World.” *The Times Literary Supplement*, 1912 (New York: R. R. Bowker, 1968).

You may remember that day we found the pterodactyl rookery in the swamp—what? Well somethin' in the lie of the land took my notice. Perhaps it has escaped you, so I will tell you. It was a volcanic vent full of blue clay. [...] Well, now, in the whole world I've only had to do with one place that was a volcanic vent of blue clay. That was the great De Beers Diamond Mine of Kimberly.¹⁴¹

Noticing a certain clue that is hidden to the casual observer, having a suspicion based on previous experience, and secretly carrying out a separate expedition in order to prove the hypothesis, are all similar aspects of a Holmsian methodology. Lord Roxton's subplot is, in fact, a reappearance of a typical plot from a Sherlock Holmes novel. In a way, we can classify Lord Roxton as a sort of scientist hero as well.

In *The Poison Belt*, the sequel to Professor Challenger's adventure in *The Lost World*, this detail-oriented scientific plot is even more evident. Here, we have more of an emphasis on the stationary laboratory than fieldwork or discovery science. In *The Poison Belt*, Professor Challenger and his companions do not travel to South America but stay in England. In fact, for most of the novel, the characters remain in one room watching the supposed end of the world. The title refers to the poisonous "ether" from space that descends upon the earth, slowly wiping out, or at least temporarily sedating the population. It is a novel that is, in a way, more thoughtful and contemplative than the exciting adventures found in *The Lost World*, but *The Poison Belt* does continue some themes that occur in the first novel including ideas of race, the invasion of nature into society, and Darwinian evolution. This presence of evolution is particularly important,

¹⁴¹ Sir Arthur Conan Doyle, *Lost World*, 212.

especially in regards to the regeneration of life—discovering organisms that would survive us if a calamity were to wipe out mankind.

The scientist hero also serves a different role in fiction than do protagonists in other genres. In *Journey to the Centre of the Earth* and the Professor Challenger novels, especially, the protagonist serves to convey the scientific idea or argument that the novelist is trying to represent, as well as being an entertaining character. One still has the adventurer, but this adventurer is also coupled with the additional role of adventurer in science. As Gillian Beer states in her book *Darwin's Plots*, “Evolutionary ideas proved crucial to the novel during that century not only at the level of theme but at the level of organization.”¹⁴² Beer argues that these ideas make up the foundation—organization—of the novel itself. Organization, in this case, would refer to that of a plot structure which illustrates how similar it is to the structure and argument of a non-fictional scientific work. Plot structure aside, one can also apply this organization to the function and archetypes of characters within the scientific romance, particularly the scientific romances of Conan Doyle. Sometimes, the plot simply seems fantastical, such as in *The Poison Belt*. It is the role and function of the characters that convey the science of the novel. Just as a writer addresses his audience in a scientific work, the scientist hero addresses his colleagues and the public.

¹⁴² Gillian Beer. *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction* (Cambridge: Cambridge University Press, 2009), 6.

If one were to take this comparison even farther, the reader could compare Challenger's party to a sort of divided scientist hero. Challenger is the hypothesis or claim, while Summerlee is a sort of anti-hypothesis, who is of the opinion that the experiment will fail and that the claim is incorrect. Lord Roxton is the personification of action and field work. He is very willing to participate in the actual experiment. And Malone, the reporter, naturally assumes the role of observer, recording the progress of the experiment and commenting on the results. He then publishes it in his newspaper and informs the public whether or not the claims were valid—which, in this series, they always are.

In *The Poison Belt*, the reader can see this clearly in the reaction that the different characters have to the news, or theory, that Challenger puts to them—the world is about to end. Summerlee questions him based on the fact that there seem to be no outward disturbances other than the strange behavior that people are exhibiting. Lord John Roxton asks about what would be the correct course to take:

We ain't nervous folk, as you know well; but when it comes to makin' a week-end visit and finding you've run full butt into the Day of Judgement, it wants a bit of explainin'. What's the danger, and how much of it is there, and what are we goin' to do to meet it?¹⁴³

This last question speaks particularly to the role that Roxton's character plays. He is particularly concerned with what should be done. While Roxton is ready for action, Malone tells the reader: "I was a spectator. It did not seem to be any personal concern of mine. But here were three strong men at a great crisis, and it

¹⁴³ Doyle, *Poison Belt*, 242.

was fascinating to observe them.”¹⁴⁴ Malone generally acts as a source of information and keen observation, much like Watson in the Sherlock Holmes series. In *The Lost World*, he is the first to spot the ape-man, and in *The Poison Belt*, he is the first of the party, aside from Challenger, to realize that their strange behavior is due to the effect of the poison. Throughout the novel, as well, Summerlee, when not being sarcastic or particularly argumentative, is still doubting Challenger’s theories and methods, making it necessary for Challenger to explain his reasoning. In this way, Summerlee allows the reader access to a more scientifically based explanation of their fantastical events, something that would not be gotten from Challenger’s conversations with Malone. Challenger only describes his reasoning to other scientists—not having confidence in the laypeople’s ability to reason or understand scientific concepts. Although Challenger calls Summerlee “an unimaginative obstructionist,”¹⁴⁵ he is a very useful character in the novels, providing a foil for Challenger’s abrasive character. In a sense, he challenges Challenger in a more direct way than the general public.

The rise of the popularity of science helped develop the scientist hero and, consequently, the role of scientific romance. Beer argues that the evolutionary theory propounded by Darwin and others became such an established idea in society that it naturally came out in writing.¹⁴⁶ She also states that there was more of a dialogue, albeit indirectly, between fiction writers and science writers: “they

¹⁴⁴ Ibid.

¹⁴⁵ Doyle, *Poison Belt*, 259.

¹⁴⁶ Beer, 2.

[science writers] shared a literary, non-mathematical discourse which was readily available to readers without a scientific training. Their texts could be read very much as literary texts.”¹⁴⁷ In comparing works such as Lyell’s *Principles of Geology* with fictional novels like *Journey to the Centre of the Earth*, there are definite similarities even with writing style and argument. The fictional narrative forms deal with the same issues and theories—both science and fiction drew upon the scientific imagination so that the two seem to be very closely related.

Earlier, I discussed how the uncertainty and inconclusiveness of scientific theories, particularly those of geologic and evolutionary time opened broad possibilities for the fictional imagination. As John Tyndall, in one of his essays, so eloquently states:

We stand at length face to face with the Incomprehensible. The territory of physics is wide, but it has its limits from which we look with vacant gaze into the region beyond. Whence come we; whither go we? The question dies without an answer [...] upon the infinite shores of the Unkown.¹⁴⁸

This “region beyond” is exactly what novelists of this century attempted to portray. In a way they, along with other members of the public, became lay scientists—participating publically in scientific debates and theories. Although Gillian Beer argues that the scientific ideas, particularly those of evolution, are incongruous in these novels and represent established theories or ways of thinking within the culture, I argue that the scientific imagination within the novels was full of contemporary controversy. Doyle achieved this more so than Verne,

¹⁴⁷ Beer, 4.

¹⁴⁸ John Tyndall, *Essays on the Use and Limit of the Imagination in Science* (London: Longmans, Green, 1871), 72.

although even in Verne's *Journey*, the reader sees an imagined primordial world—evolution personified.

The Lost World, in which the appearance of forums on progression versus natural selection theories of evolution were very commonplace, nevertheless contained a contemporary and controversial debate on what exactly the missing link was. People debated this, especially with the discovery of the Piltdown man, which was widely discussed and was not uncovered as a hoax until much later. Lyell was pondering this over in his works concerning man's antiquity. And certainly Darwin could not find an answer to this question either. When was the point at which monkey became man?

In *Victorian Detective Fiction*, Lawrence Frank talks about how

Darwin and Thomas Huxley [...] pursued the fossil remains that might establish 'intermediate links' between seemingly unrelated species. The goal, through an act of the imagination, was to establish links between apparently random facts to render a narrative account in the form of a family tree.¹⁴⁹

This shows how closely mystery and the imagination are tied to scientific discovery. Especially for the amateur detective such as Sherlock Holmes, one sees evidence—"apparently random facts"—collected and linked in order to discover a solution to the mystery. In Challenger's novels, too, especially *The Poison Belt*, there are clues, seemingly unconnected occurrences and events that gradually lead to a discovery.

¹⁴⁹ Lawrence Frank. *Victorian Detective Fiction and the Nature of Evidence* (New York: Palgrave Macmillan, 2003), 160.

Scientific Possibilities in *The Poison Belt*

There are two facets of scientific work that are the most important and shown through a scientist hero: experiment and observation. In *The Lost World*, Professor Challenger both finds a living missing link and illustrates the idea of atavism of the modern man. This is a classic example of field work, where the scientist goes out to observe and collect data to later present in a public forum. The sequel, *The Poison Belt*, shows Challenger observing the regenerative and cleansing abilities of nature along with the particularly Darwinian idea that humans are not at the end of the evolutionary ladder. In the novel, Challenger predicts the poisonous ether due to a disturbance in Fraunhofer's lines and equips himself and his colleagues with enough oxygen which happens to conveniently last until the ether has passed. They proceed to explore the "dead" world and observe, under a microscope, the only organisms left surviving—the start of a new evolutionary tree.

At the beginning of the novel, Challenger has become enthusiastic, not at the presence of dinosaurs but at the subject of Fraunhofer's lines. This refers to the dark lines in the spectrum of light produced by the sun. Named for the physicist Joseph von Fraunhofer, who, in 1814 identified and plotted several hundred of these lines, Fraunhofer lines was not a new concept by the time *The Poison Belt* was published.¹⁵⁰ In the novel, these lines are disturbed by a mysterious occurrence, one that Challenger seeks to prove as a change in the

¹⁵⁰ "Fraunhofer Lines." *Encyclopedia Britannica*. 2010. Encyclopedia Britannica Online. Accessed 3 May 2010, <http://search.eb.com/eb/article-9035215>.

“ether” surrounding the earth. He is proved right when a poison spreads across the world, making people act strangely. A trait that is unique to Professor Challenger is the way in which he attempts to inform the general public about his discoveries and, in this case, to warn them of potential danger. He, himself, publishes an article in a fictional version of *The Times*, pugnaciously refuting a previous article that argues that there is no correlation between the irregularity in Fraunhofer’s lines and the end of the world. He describes the world as:

A third-rate sun, with its rag-tag and bobtail of insignificant satellites, we float under the same daily conditions towards some unknown end, some squalid catastrophe which will overwhelm us at the ultimate confines of space, where we are swept over an etheric Niagara.¹⁵¹

This article is calculated to cause concern, and indeed, when Challenger’s party travels to a dead London to look for survivors of the poison belt, the headlines on all of the newspapers discuss Challenger’s claim and warning.

This warning and article on “scientific possibilities” also speaks to the recurring appearance of the scientific imagination. It is mentioned more than once in the novel, and the characters use this scientific imagination in order to make predictions and solve problems, such as that of sealing a room with oxygen or predicting poisonous ether. Challenger even mentions the scientific imagination while admonishing his colleagues:

If you had the scientific imagination, you would cast your mind forward from this one fact, and you would see some few millions of years hence—a mere passing moment in the enormous flux of the ages—the whole world teeming once more with the animal and human life which will spring from this tiny root.¹⁵²

¹⁵¹ Doyle, *Poison Belt*, 220.

¹⁵² Doyle, *Poison Belt*, 267.

He urges them to have an open mind and to view the obliteration of the human race, not as a disaster, but as an opportunity. They have the opportunity to observe this event—perhaps the last one in human history.

This widespread extinction is hinted at in Edward Malone’s newspaper office and then shown in the form of increased fights and strange, uncharacteristic behavior from the main characters. On the way to meet Professor Challenger, Malone narrates a strange train ride in which Professor Summerlee, Lord Roxton, and himself all exhibit, unbeknownst to them, effects from the poisonous ether. Malone reacts badly to the fight between Summerlee and Roxton on the veracity of Challenger’s claims. He says, “suddenly I was sobbing—sobbing in loud, gulping uncontrollable sobs which refused to be concealed.”¹⁵³ Professor Summerlee disapproves of this, attributing it to the effects of alcohol, but soon he, too, starts acting strangely. Malone describes this inconsistency in Summerlee’s character:

‘You know me as the austere man of science. Can you believe that I once had a well-deserved reputation in several nurseries as a farmyard imitator?’ Professor Summerlee laid down his pipe and for the rest of our journey he entertained—or failed to entertain—us by a succession of bird and animal cries which seemed so absurd that my tears were suddenly turned into boisterous laughter.¹⁵⁴

At the same time, Lord Roxton tells Malone a “story about a buffalo and an Indian rajah which seemed to me to have neither beginning nor end.”¹⁵⁵

However, these behaviors are explained as soon as they reach Professor

¹⁵³ Doyle, *Poison Belt*, 228.

¹⁵⁴ Doyle, *Poison Belt*, 229.

¹⁵⁵ Doyle, *Poison Belt*, 229-230.

Challenger's house, where Challenger himself has suffered a momentary lapse of judgment shown by biting his housekeeper's leg.

An anonymous reviewer in the *Times Literary Supplement* comments on the similarities of these characters to those found in Sherlock Holmes. In *The Poison Belt*, Malone's status as recorder fulfills an even more important role. The reviewer describes this role as companion and sidekick to the main scientist hero: "Malone, we suspect, is a nephew of Dr. Watson."¹⁵⁶ In this role, Malone carries out a similar function of lending a helping hand to the main character if necessary and recording all of their adventures for the world to read. Indeed, through Malone's observations, a reader can connect these seemingly unconnected events as supporting Challenger's theory of a strange, poisonous ether: "These little things may seem trivial to relate, and passed as mere incidents at the time. It is only now, as I look back, that I see their relation to the whole story which I have to unfold."¹⁵⁷

As in the previous novel, the narrative is written from the point of view of Malone, a journalist at the *Telegraph*. After becoming good friends with Challenger, his employer once again sends him to investigate the professor's outrageous scientific claims. Although part of the narrative is in a diary form—"A Diary of the Dying"¹⁵⁸—and Malone has no hope that it will reach his usual readers, he still perhaps sees it as being found by the new species that will inhabit

¹⁵⁶ *Times Literary Supplement*. October 17, 1912.

¹⁵⁷ Doyle, *The Poison Belt*, 224.

¹⁵⁸ Doyle, *Poison Belt*, 264.

the earth after them. Even in adversity, Malone always thinks journalistically and records the drama of the situation. At the end of the novel, his constant desire to write down his observances, even without a potential audience, proves useful as he publishes a very effective newspaper article chronicling the “lost” day when the rest of the world was unconscious. Malone writes

nine-and-a-half columns of narrative, in which appeared the first, last, and only account of the history of the planet, so far as one observer could draw it, during one long day of its existence. Challenger and Summerlee have treated the matter in a joint scientific paper, but to me alone was left the popular account.¹⁵⁹

In this case, the “popular” account is almost more important than the “joint scientific paper” that Summerlee and Challenger write for the scientific community. It is important to the fictional world of the novel that people know the accurate account of what happened and the possibility that it could happen again.

The four men, joined by Professor Challenger’s wife, set up a sealed room where the tanks of oxygen will be released as sparingly as possible in order to last longer. This oxygen is not used, however, until the poison almost overcomes them. Professor Challenger has orchestrated an experiment to observe and perhaps prolong their lives with the creation of an airtight room that is fueled by oxygen tanks. Before the five characters seal themselves in the room, the Professor receives telegrams and telephone calls from all the people who have previously doubted him in London, and also people informing him of the extent of the damage of the poison in their respective countries.

¹⁵⁹ Doyle, *Poison Belt*, 298.

As with *The Lost World*, there is the idea that some races are more advanced than others, even with regards to races of people in other Western countries. The description that is given of the progression of the poisonous ether is that the less developed, more indigenous races succumb to the poison first, perhaps because of their southern location and certainly echoing the mindset of social Darwinism hinted at in the first book in the series. Professor Challenger receives worried telegraphs and telephone calls about the widespread effects of the poison. In one such telegram, he shares the contents with Malone who, in turn, shares it with his readers. It concerns the spread of the poison to Paris. In a summary of the trends of the damage, Professor Challenger reads, “the less developed races have been the first to respond to its influence [...] the Northern races have as yet shown greater resisting power than the Southern.”¹⁶⁰ France falls victim to the effects of the poison and then it finally spreads to England.

Even Challenger and Malone, as in *The Lost World*, are described as having physically and emotionally atavistic characteristics. In *The Poison Belt*, Challenger is always described as possessing the highest intelligence, yet he is still given animal features and reactions. Sometimes he growls, his hands are described as hairy paws, and when he is angry at Summerlee’s insult in regards to his short and rotund status, Malone says that he “could only growl and blink and bristle.”¹⁶¹ Malone, described by Challenger in *The Lost World* as having an animal instinct for danger, even describes himself as having animal

¹⁶⁰ Doyle, *Poison Belt*, 243.

¹⁶¹ Doyle, *Poison Belt*, 280.

characteristics: “With my abounding animal health and great physical energy any kind of mental clouding was a rare event.”¹⁶² He gives himself, at least physically, an animal nature.

Nature, itself, features prominently in the novel as something both to be feared and to be admired. The “poison” that descends over the Earth does not necessarily act as an adversary. Although the human beings are powerless against the inevitable “death” the poisonous ether brings, Challenger discovers that nature also provides the means for simpler organisms to survive the poison and potentially inhabit the planet once more. Nature asserts dominance over man’s technology and scientific developments, leading to destruction, as one sees also in *Robur*, yet also showing the regenerative properties of life. After the stalwart Professor Challenger does not see any hope or reprieve from this human extinction saying “It is, in my opinion, the end of the world,”¹⁶³ he discovers new life and new hope.

Although nature, in the form of ape-men, almost destroys the explorers in *The Lost World*, man eventually regains dominance. The poisonous ether has not produced a wide-spread extinction but rather, a wide-spread sedative. The whole world is unconscious for a time except for the few who had access to a separate oxygen source, evading the effects of the ether. And indeed, though Challenger and his friends think that they are the only surviving people left on earth, they are surprised when the rest of the population start to wake up and go on with their

¹⁶² Doyle, *Poison Belt*, 291.

¹⁶³ Doyle, *Poison Belt*, 240.

daily lives as if nothing has happened: “here was the world resuscitated—here was life come back in an instant full tide to the planet.”¹⁶⁴ A mass and sudden unconsciousness still produces serious consequences. Malone watches as the nearby town of Brighton burns and numerous train crashes and carriage accidents produce real casualties. Later, they learn that Orlèans and New York have burnt down as well.

In these two Challenger novels nature tries and almost succeeds in asserting dominance—the ape-men and dinosaurs on the plateau and the poisonous ether that temporarily wipes out humanity. As Malone remarks near the end of his narrative, “Never can one realize how powerless and ignorant one is, and how one is upheld by an unseen hand, until for an instant that hand has seemed to close and to crush.”¹⁶⁵ In an essay entitled “The Science Fiction of Arthur Conan Doyle,” George Slusser refers to this tenuousness of man’s position:

We have man cleaving [...] to the streamlined shells he has constructed—the well-ordered world of social conveniences and railroad schedules—in terror of primal forces lurking beyond. Yet in his isolation he must be reminded that he too—both in his body and in the very energy that drives him to “progress”—not only partakes of these forces but even provides, in the act of moving to exclude them, a conduit for their violent reentry into the closed spaces his technology has built.¹⁶⁶

These “primal forces” do not only refer to the dinosaurs or the atavistic man, but to the entirety of nature itself. However, the scientist hero also looks at nature not

¹⁶⁴ Doyle, *Poison Belt*, 292.

¹⁶⁵ Doyle, *Poison Belt*, 290.

¹⁶⁶ George Slusser. “The Science Fiction of Arthur Conan Doyle” in *Critical Essays of Sir Arthur Conan Doyle*. Harold Orel, ed. (New York: G. K. Hall, 1992), 254

only as a destructive power but as something to study and observe, almost impersonally.

During the time in which Challenger and his friends watch what they think is the earth dying, they face the prospect, not only of their inevitable death, but also the death of the whole human race. Challenger refers to the earth as a grape and of the universe as being cleansed of human “bacteria”:

‘You will conceive a bunch of grapes,’ said he, ‘which are covered by some infinitesimal but noxious bacillus. The gardener passes it through a disinfecting medium. It may be that he desires his grapes to be cleaner. It may be that he needs space to breed some fresh bacillus less noxious than the last. He dips it into the poison and they are gone. Our Gardener is, in my opinion, about to dip the solar system, and the human bacillus [...] will in an instant be sterilized out of existence.’¹⁶⁷

This portrays Challenger as a more reverent scientist. “The Great Gardener’s disinfectant”¹⁶⁸ is treated more like the judgment of God than a scientific observation. Science, in a way, is treated as a religion. We see this ideology echoed in Kimball’s work, when he explains the divine influences on science.

When Challenger’s wife suggests praying, Challenger replies, “We all have our own ways of praying. Mine is a complete acquiescence in whatever fate may send me—a cheerful acquiescence. The highest religion and the highest science seem to unite on that.”¹⁶⁹ Doyle, instead of replacing religion with science, unites the two in his belief. On the brink of an inevitable death, this more serious discussion of science and religion is more appropriate than in the adventure-like narrative of *The Lost World*. This discussion possibly foreshadows

¹⁶⁷ Doyle, *Poison Belt*, 240.

¹⁶⁸ Doyle, *Poison Belt*, 243.

¹⁶⁹ Doyle, *Poison Belt*, 273.

the spiritualist themed *Land of Mist* which is the last full-length novel in which Professor Challenger is featured.

In another *Times Literary Supplement* review of *The Poison Belt*, in 1913, the unnamed reviewer criticizes the development of the characters in this sequel while also comparing the two plots of the novels. The reviewer states that there is little action within the novel, which consists in mostly dialogue, but that these characters are meant for adventure and not for discussion: “The dialogue, it is true, is terse, humorous, and suggestive; but still it is not easy to see what essential function is performed, for instance, by Lord John.”¹⁷⁰ Earlier in the chapter, I argued that every character in *The Poison Belt* has a function that is important to the theme of the novel. In the reviewer’s opinion, the absence of action makes the characters become a little redundant. Certainly, as the second book in the Challenger series, the lack of travel might be disappointing to those who regard it purely as an adventure novel. However, the adventure in this novel lies in the reckoning of religion with science and the theory that life can continue even after a widespread extinction of the human race. This work is an example of scientific romance in which the science and not the romance is really at the forefront of the plot.

Although the missing link is not present in this novel, evolution is a key concept. Who is to say that humans are the top of the evolutionary scale? In the sealed room at the end of the world, Challenger discovers an amoeba that has

¹⁷⁰ *Times Literary Supplement*. Aug. 21, 1913. “The Poison Belt.” *The Times Literary Supplement*, 1913 (New York: R. R. Bowker, 1968).

survived the poison. He says, “here in this tiny creature are the roots of growth of the animal world, and by its inherent development, and evolution, it will surely in time remove every trace of this incomparable crisis in which we are now involved.”¹⁷¹ Lord Roxton continues this idea, suggesting that man is vain and thinks that the universe was created just for him when, in fact, there is uncertainty and temporality surrounding the human race. This provides a direct contrast to the human pride seen in Verne’s novels.

The Poison Belt is a fitting sequel in that it handles similar themes of evolution, atavism, and a sort of scientific teamwork. While *The Lost World* deals more with the idea, following Lyell’s work, of imagined geologic and evolutionary time, trying to find a missing link, *The Poison Belt* deals more with Darwin’s idea of a random natural selection. According to this theory, which was not generally acknowledged by the public, man is not necessarily the final product of evolution. Challenger, during the flurry of phone calls he receives before the poison finally takes effect, says, “They are beginning to realize that their continued existence is not really one of the necessities of the Universe.”¹⁷² In *The Lost World*, Challenger finds the missing link, answering the question of where did we come from, and in the sequel, Challenger predicts and witnesses the “end of the world,” answering the question of where are we going.

Even Challenger, however, seems to ascribe, ultimately, to the idea that man is the final product of evolution. It is not until Summerlee points out a

¹⁷¹ Doyle, *Poison Belt*, 267.

¹⁷² Doyle, *Poison Belt*, 240.

counter-argument to his logic that natural selection is brought up. He enters into an argument with Challenger that also seems to argue with the general opinion of mankind:

‘You seem to take it for granted, Challenger,’ said Summerlee, ‘that the object for which this world was created was that it should produce and sustain human life.’

‘Well, sir, and what object do you suggest?’ asked Challenger, bristling at the least hint of contradiction.

‘Sometimes I think that it is only the monstrous conceit of mankind which makes him think that all this stage was erected for him to strut upon.’¹⁷³

Here, Challenger brings in Lyell’s theory of geologic time, while Summerlee points out a more Darwinian concept: Mankind is not the end product of evolution, but simply a random event caused by natural selection and not Divine intention. This is another instance in which, on first impression, Doyle seems to be dealing with the fantastical—only loosely based in science—while he is actually entering into a current scientific debate—that of natural selection versus divine intent: “man may have been a mere accident, a by-product evolved in the process.”¹⁷⁴ The readers of this time would undoubtedly have picked up on this if they had read either Lyell or Darwin.

Although in much of this novel, the characters, particularly Challenger, speculate on the continuation of life after the human race, there is a lot of reflection on the widespread death of the human race. After discovering that they are doomed to existence after mass extinction, Challenger and his party travel to London to discover if there are any survivors. In London, they see people crowding in churches, cars at a standstill, bodies scattered everywhere. There is

¹⁷³ Doyle, *Poison Belt*, 267.

¹⁷⁴ Doyle, *Poison Belt*, 268.

no animal or person who has survived except for an invalid who had an oxygen tank near her when the ether took effect. Challenger points out that the plants and trees have survived, however, giving hope to the idea that not all life on earth has been obliterated. And the finding of amoebic life greatly excites him for prospects of a future species. He explains:

A few million years, what are they in the great cycle of time? The vegetable world has, as you can see, survived [...] From this vegetable life in pond and in marsh will come, in time, the tiny crawling microscopic slugs which are the pioneers of that great army of life in which for the instant we live have the extraordinary duty of serving as rearguard. Once the lowest form of life has established itself, the final advent of Man is as certain as the growth of the oak from the acorn. The old circle will swing round once more.¹⁷⁵

When he references “the old circle,” he refers to the circle of life or the progress of life on the planet. In comparing the development of species on earth to a circle, he implies that eventually, these microorganisms will evolve into a sort of human species again. Perhaps the reason that Challenger gives as justification for this extinction is the fact that the human species is the most developed stage of evolution, therefore, evolution must begin again, revolving in a cyclical pattern.

The contemporary reviewer from the *Times Literary Supplement* argues that the exaggerated figure of Challenger seems out of place in this novel. He says, “Challenger himself has deteriorated; he grows insupportable in proportion as he becomes human.”¹⁷⁶ In the climate of *The Lost World*, Challenger is in his element, fighting ape-men, throwing reporters down the stairs. But once he shows his more realistic and human side, the reviewer thinks that he has become less likable. It might be that the reader wonders why he exhibits such hyperbolic

¹⁷⁵ Doyle, *Poison Belt*, 260.

¹⁷⁶ *Times Literary Supplement*. Aug. 21, 1913.

behaviors while also showing a more rational, kinder side in his attentions to his wife: “now that he [Challenger] figures as an ideal husband his boorishness excites protest.”¹⁷⁷

However, although Challenger might seem slightly out of his element in this novel, the very nature of his character and archetype of scientist hero is perfectly well equipped to deal with such a natural adversary as the poison belt. He is, as in *The Lost World*, a devoted husband, sensitive to personal criticism and resilient towards scientific criticism. He revels in the multitude of panicked phone calls that he receives before the poisonous ether took its full effect. Even while the oxygen is slowly running out and they witness the end of the world through their study window, Professor Challenger excitedly makes a discovery of a living organism, an amoeba, who survives the loss of oxygen. He still pores over his microscopes and makes discoveries while nature is proving a dangerous adversary.

Challenger exhibits the characteristics of a quintessential scientist hero. He is almost above the romantic adventure plot of the novel. Challenger, and other scientist heroes like him, is too busy finding answers and conducting research to be deterred by poisonous ether that threatens to destroy the human race. And, although there are outside sources, such as Nature, posing a threat to the explorers, it is still a scientifically driven plot. As the other members of the party flounder for meaning in their unexpectedly prolonged lives after the ether

¹⁷⁷ *Times Literary Supplement*. Aug. 21, 1913.

has passed, Challenger confidently states, “science is not dead, and this catastrophe in itself will offer us many more absorbing problems for investigation.”¹⁷⁸ These novels are focused on adventure, but their adventure is full of scientific possibilities and imagination.

¹⁷⁸ Doyle, *Poison Belt*, 277.

CONCLUSION

While Verne's novels exhibit elements of romance, adventure, and allegory, Doyle's novels contain plots based on science rather than romance. And although Verne's novels also portray enthusiasm for new developments in technology, he incorporates it for a purely sensational effect. His attitudes about technological progress are ambiguous, seen particularly in his protagonist Professor Lidenbrock, who stubbornly ascribes to the much older "hollow earth" theory in *Journey to the Centre of the Earth* and the vilification of the scientist character in both *The Begum's Millions* and *Robur the Conqueror*. Doyle, on the other hand, displays more of an enthusiasm for evolutionary theories. Both *Begum's Millions* and *Robur the Conqueror* illustrate the influence of the industrial revolution more so than the influence of Darwinian theory in Verne's scientific romances. In his novels, Verne imagines different uses for the fascinating technology being developed during that time. What if one man perfected the heavier-than-air machine and used it to play both the role of beneficent savior and terrifying ruler of the air? What if two scientist engineers, one good and one evil, create cities that embody their respective fields? These novels as well as Doyle's Professor Challenger series envision the potential uses and consequences of different scientific ideas and powerful technology.

Doyle's *The Lost World* closely resembles Verne's *Journey to the Centre of the Earth* except for one important difference: simply that it contains a more integrated scientific idea within the plot. Although Axel and Professor

Lidenbrock have as fantastical a journey as Challenger and his companions do, their theories are never resolved at the end of the novel. The reader never finds out whether one can travel to the center of the earth, whereas Challenger succeeds in exactly what he set off to do—with, of course, some deviations from the data collection involving missing links. Not only does Doyle borrow the basic plot structure from Verne's novel—the discovery of mysterious clues from a previous scientist, the travel to exotic places, the fear of the prehistoric man, even the presence of dinosaurs—he also writes a Challenger novella which presents what might lie at the center of the earth.

To conclude my narrative, I will look at Doyle's, "When the World Screamed," which contains the elements of scientist protagonist, realism, and the integration of science that is also found in the other Challenger novels and *Journey to the Centre of the Earth*. In this novella, Doyle combines scientific experiment with pure fantasy and explicitly finishes what *Journey to the Centre of the Earth* set out to do. In Gary Hoppenstand's "Horror as Humor: Sir Arthur Conan Doyle's 'When the World Screamed'" he discusses both the satire and the terror contained within this short story which he labels as a "science fiction horror story."¹⁷⁹ He describes Doyle as consciously introducing humor into his story as well as terrifying and sensational situations. In "When the World Screamed"

¹⁷⁹ Gary Hoppenstand, "Horror as Humor: Sir Arthur Conan Doyle's 'When the World Screamed'" (Thalia, studies in literary humor: University of Ottawa, 1999) *Literature Online*, accessed 28 April, 2010 <http://gateway.proquest.com/openurl/openurl?ctx_ver=Z39.88-2003&xri:pqil:res_ver=0.2&res_id=xri:lion-us&rft_id=xri:lion:rec:abell:R03967171>. As there is no pagination for this article, I will hereafter indicate references by the author's name and database.

Challenger seeks to pierce the skin of a huge, monstrous creature—the Earth—and observe what happens. Although Hoppenstand argues that it is “research for the sake of research”¹⁸⁰ in that there is little thought of monetary gain, it is certainly also research for the sake of recognition. Challenger’s ego is immense and his goal in this novella is to not only attract the attention of the public but to attract the attention of Nature. Previously, Nature had been studied in Doyle’s novels and seen even as a second antagonist in Verne’s novels, but in this Challenger novella it meets its match in Professor Challenger’s new experiment. This experiment will not only challenge the opinions of the public and fellow colleagues, it will challenge the “opinion” of nature itself. The public spectators, members of the royal family, and journalists are people whom he generously allows to view the spectacle of his triumph.

In this way, the novella portrays the fundamental characteristics of the scientist hero. He publishes an impossible claim in a popular newspaper, other non-scientists form a team to help carry out the experiment, a crowd of doubting, yet interested onlookers arrive at the scene of the public denouement, and there is little disappointment in the outcome of the experiment. In fact, the process of the experiment itself illustrates the egoism, eccentricity, and general correctness of the literary scientific hero. The plot follows closely the structure of *The Lost World*.

¹⁸⁰ Hoppenstand, *Literature Online*.

It is not difficult in “When the World Screamed” to draw a parallel also to Verne’s *Journey to the Centre of the Earth*. In his biography of Sir Arthur Conan Doyle, Daniel Stashower argues that the two later short stories featuring Professor Challenger seem similar to Jules Verne, especially in subject matter. However, Stashower argues that Doyle was preoccupied later in life with spiritualism and though his later Challenger short stories were entertaining for the readers, they were never developed into full length novels. Stashower states that “the plots fell through and the characters appeared to be going through the motions.”¹⁸¹ However, in my second chapter, we see a similar opinion in a contemporary review for the *Poison Belt*. Doyle’s new characters are full of potential, certainly not “going through the motions.” Peerless Jones in “When the World Screamed,” less jocular than Lord Roxton and more open-minded than Professor Summerlee, is also a character with a unique personality. Although he is only called in by Challenger to build a drill that can be controlled remotely, Jones ends up showing his bravery when he risks his life alongside Malone as they race up the well before the Earth’s living skin is penetrated.

In this novella, the situation is more comedic and allegorical than horrifying, as Hoppenstand attests. The only aspect of suspense occurs when Jones and Malone find themselves at the bottom of the shaft after the tarpaulin exposes the strange, living creature living below:

The exposed surface was like a boiling pot. Great grey bubbles rose and burst with a crackling report. The air-spaces and vacuoles below the skin separated and coalesced in

¹⁸¹ Stashower, 432.

an agitated activity [...] The throb of life was in it all. A heavy smell made the air hardly fit for human lungs.¹⁸²

After the electric wiring is put into place to allow for the drill to be operated remotely, Malone and Jones realize that the agitation and trembling of the earth's exposed surface will cause it to explode before they have planned. And no sooner do Malone and Jones reach the surface than the world literally screams as the drill hits it. After this, comedic exaggeration occurs. The earth is so large that Challenger's drill should only seem like a pinprick, yet the earth's insides are so sensitive that the hole closes up after spewing up all the equipment. As the scientists find out later, all of the volcanoes around the world have also erupted—a very great reaction of the earth in comparison to something as small as a drill. One can draw a parallel to the aftermath of *The Poison Belt* when the protagonists discover the full extent of the damage caused by the poisonous ether after their adventure.

Like the other Challenger novels and even a few of Verne's novels, there is some basis in scientific fact or, at least, concepts and theories popular in their time. Though the novella contains more romance than science, there is a basis in some historical theories of volcanism, especially those by Kant. In the eighteenth century, when theories surrounding earthquakes started to undergo a change, scientists focused on the events which signals or even causes an earthquake. There were “[...] ideas of being able to prevent earthquakes, culminating in absurd experiments of drilling holes into the earth's crust in order to decrease the

¹⁸² Sir Arthur Conan Doyle, “When the World Screamed” in *The Professor Challenger Stories* (London: John Murray, 1963), 573.

pressure of hot vapours or to let subterranean fires escape.”¹⁸³ Though the motives for Challenger’s drill in “When the World Screamed” were slightly different, it was a concept not entirely foreign to Doyle’s audience.

Hoppenstand describes the book as “a type of ecological practical joke about the Earth being a living creature.”¹⁸⁴ It is almost making fun of Challenger’s exalted position of being the first human being on the surface of the Earth to alert it to his presence. Hoppenstand categorizes it as both science fiction and horror fiction: “science fiction because of the logical extrapolations concerning the geological make-up of the planet, and horror fiction because of the frightening descriptions of ‘Mother Earth’ as a monstrous living creature, a creature angered by Challenger’s intrusiveness.”¹⁸⁵ Is the geology surrounding a living center of the earth really a “logical extrapolation?” The most salient feature of scientific romance is the methodical way in which the scientist protagonist tests his theories. The aspect that most characterizes this as “science fiction” is the experiment that Professor Challenger designs, not necessarily the geology that is described. The excavation site and series of elevators leading deep into the well provide the reader with the fictional science while the description of the living center of the earth is pure romance.

The romance in “When the World Screamed” echoes that found in many of Verne’s novels. In regards to this romance, Robert Fraser discusses what he

¹⁸³ Erhard Oeser and Johann Stockinger, “Relevance for Earthquake Prognosis” in *HEAT* (Historical Earthquake Theories) Accessed Dec. 14, 2009
<http://www.univie.ac.at/Wissenschaftstheorie/heat/heat-2/heat2x1h.htm>.

¹⁸⁴ Hoppenstand, *Literature Online*.

¹⁸⁵ Hoppenstand, *Literature Online*.

calls “quest romance.” This refers particularly to the intent of the quest, scientific or otherwise, as we have seen in Verne and Doyle’s novels. Within Fraser’s book, he discusses novels that fall into this category. He even asks the question: “to which genre does *Twenty Thousand Leagues Beneath the Sea* belong?”¹⁸⁷ mentioning also H.G. Wells’ more science fiction-like adventure stories. However, it is important to eschew this popular comparison between Jules Verne and H.G. Wells and to focus instead on the elements of plot and character within them, which would make Jules Verne and Sir Arthur Conan Doyle a more suited pair to explore. The scientist character, significantly absent from Wells’ works, is an important figure in both Verne’s and Doyle’s books. It is through this scientific character that one can see the different attitudes these authors have towards the science portrayed in their novels.

In my opinion, H.G. Wells’ works show more of what we would regard as science fiction today—alien invasions, questions of space and time, utopias, dystopias—whereas Doyle and Verne’s novels fall under a category that cannot quite be defined. One could describe them as Mystery Adventure Science Fiction novels, or maybe Scientific Romance Sensation novels, but it is important not to let the classification of the novels interfere with the way they are interpreted or read. As science fiction, Verne seems a bit dull and predictable. But when looking at the historical contexts of his work, a fascinating and sometimes hidden attitude towards science is revealed—not all of his novels display an optimism in

¹⁸⁷ Fraser, 78.

scientific progress that is usually attributed to him. In Doyle's works, one could read his Challenger series for pure entertainment as an adventure novel, but in looking at the scientific debates heating up the early twentieth century public forums and lecture halls, there is a definite mysterious quality in the missing links and other prehistoric creatures they find in *The Lost World*.

My hope is that, during the course of my research, I have come closer to answering Robert Fraser's question as well as my own regarding different ways to analyze and categorize these novels as well as looking at the impact they have had on the literary world. Readers and today's literary critics should take into consideration that these works of literature are just as influential to our literary consciousness as other late nineteenth century and early twentieth century fiction that is widely regarded as more worthy of academic attention. Although Verne is considered by the English speaking world as having written "boys' books" and Doyle has placed his Challenger novels in that categorization as well, their works do not portray solely juvenile adventure but also contain scientific thought and theory. These authors use plot and character to echo the dynamic arguments of leading scientists such as Darwin and Lyell. Doyle's dinosaurs and missing links, and Verne's underground creatures, directly correspond to the scientific ideas and theories of their time.

Although these novels are a far cry from the realism of sensation novels and detective stories, they are, themselves a kind of scientific detective story. In giving scientific exploration a new vitality through fiction, Verne, and especially

Doyle, echo Kimball's sentiments in his *Romance of Evolution*— the young, hearty scientist hero takes on the role of explorer, questioner, and detective, making the fantastical and improbable become possible for the reader.

WORKS CITED

- Beer, Gillian. *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction*. Cambridge: Cambridge University Press, 2009.
- Butcher, William, *Jules Verne: The Definitive Biography*. New York: Thunder's Mouth Press, 2006.
- Costello, Peter. *Jules Verne: Inventor of Science Fiction*. New York: Scribner, 1978.
- Daly, Nicholas. "Railway Novels: Sensation Fiction and the Modernization of the Senses." *ELH*, Vol. 66, No. 2 (Summer, 1999), pp. 461-487. Published by: Johns Hopkins University Press. JSTOR online. Accessed Oct. 26, 2009, <http://www.jstor.org/stable/30032080>.
- Debus, Allen, "Re-Framing the Science in Jules Verne's *Journey to the Center of the Earth*." *Science Fiction Studies*, Vol. 33, No. 3 (Nov. 2006) SF-TH Inc. JSTOR online, <http://www.jstor.org/stable/42414461>.
- Doyle, Sir Arthur Conan, *The Lost World*. New York: Hodder & Stoughton, George H. Doran, 1912.
- Doyle, Sir Arthur Conan. *The Professor Challenger Stories*. London: John Murray, 1963.
- Frank, Lawrence. *Victorian Detective Fiction and the Nature of Evidence*. New York: Palgrave Macmillan, 2003.
- Fraser, Robert. *Victorian Quest Romance: Stevenson, Haggard, Kipling, and Conan Doyle*. Plymouth: Northcote House, 1998.
- Hoppenstand, Gary. "Horror as Humor: Sir Arthur Conan Doyle's 'When the World Screamed.'" *Thalia, studies in literary humor*: University of Ottawa, 1999. *Literature Online*, accessed 28 April, 2010 http://gateway.proquest.com/openurl/openurl?ctx_ver=Z39.88-2003&xri:pqil:res_ver=0.2&res_id=xri:lion-us&rft_id=xri:lion:rec:abell:R03967171.
- Hughes, Winifred. *The Maniac in the Cellar: Sensation Novels of the 1860s*. Princeton: Princeton University Press, 1980.

- Kimball, John. *The Romance of Evolution*. Boston: American Unitarian Association, 1913.
- Lellenberg, Jon and Stashower, Daniel, eds. *Arthur Conan Doyle: A Life in Letters*. New York: Penguin Press, 2007.
- Lyell, Sir Charles. *The Geological Evidence of the Antiquity of Man*. Ernest Rhys, Ed. J.M. Dent, London, 1914.
- Misa Landau. *Narratives of Human Evolution*. London: Yale University Press, 1991.
- Nordon, Pierre. *Conan Doyle*. London: John Murray, Butler & Tanner, 1966.
- Oeser, Erhard and Stockinger, Johann. "Relevance for Earthquake Prognosis" in *HEAT (Historical Earthquake Theories)* Accessed Dec. 14, 2009. <http://www.univie.ac.at/Wissenschaftstheorie/heat/heat-2/heat2x1h.htm>.
- Peterson, Audrey. *Victorian Masters of Mystery: From Wilkie Collins to Conan Doyle*. New York: Frederick Ungar, 1984.
- Rubery, Matthew. *The Novelty of Newspapers*. Oxford: Oxford University Press, 2009.
- Slusser, George. "The Science Fiction of Arthur Conan Doyle" in *Critical Essays of Sir Arthur Conan Doyle*. Harold Orel, ed. New York: G. K. Hall & Co., 1992.
- Stableford, Brian. *Scientific Romance in Britain 1890-1950*. New York: St. Martin's Press, 1985.
- Stashower, Daniel. *Teller of Tales: The Life of Sir Arthur Conan Doyle*. New York: Henry Holt, 1999.
- Straus, William L., "The Great Piltdown Hoax" *Science*, New Series, vol. 119, no. 3087, Feb. 26, 1954, American Association for the Advancement of Science. JSTOR. <http://www.jstor.org/stable/1681349>.
- Thurn, Everard Im. "The Ascent of Mount Roraima," *Proceedings of the Royal Geographical Society and Monthly Record of Geography*. vol. 7. London: Edward Stanford, 1885. <http://books.google.com/books?id=WjARAQAIAAJ&vq=497&pg=PA497-IA4#v=onepage&q&f=false>.

_____. "The Lost World." *Times Literary Supplement*, Oct. 17, 1912. *The Times Literary Supplement*, 1912. New York: R. R. Bowker, 1968.

_____. "The Poison Belt." *Times Literary Supplement*, Aug. 21, 1913. New York: R. R. Bowker Company, 1968.

Tyndall, John, *Essays on the Use and Limit of the Imagination in Science*. London: Longmans, Green, 1871.

Verne, Jules, *Journey to the Center of the Earth*. Translated by William Butcher. Oxford: Oxford University Press, 1992.

Verne, Jules, *Robur the Conqueror*. New York: Ace Books, 1951.

Verne, Jules, *The Begum's Millions*. Middletown, CT: Wesleyan University Press, 2005.

Werner, A. G. *On the External Characters of Minerals*. Translated by Albert V. Carozzi. Urbana: University of Illinois Press, 1962.

Works Consulted:

Batory, Dana Martin. "'When the World Screamed:' Literary Echoes." *Riverside Quarterly* 8.1 (1986): 55-60. Vol. 8, No. 1. *MLA International Bibliography*. EBSCO.

Butcher, William. "Long-Lost Manuscript: The True Antecedents of Professor Lidenbrock, His Nephew Axel and Their Glorious Adventure Underground." *The Modern Language Review*, Vol. 93, No. 4, Oct. 1998. Modern Humanities Research Association. JSTOR <http://www.jstor.org/stable/3736269>.

Doyle, Sir Arthur Conan. *A Study in Scarlet*. Oxford: Oxford University Press, 1993.

Maunder, Andrew and Moore, Grace, eds. *Victorian Crime, Madness and Sensation*. Burlington, Vermont: Ashgate, 2004.

Peterson, Audrey. *Victorian Masters of Mystery: From Wilkie Collins to Conan Doyle*. New York: Frederick Ungar, 1984.

_____. "Review of *Collected Edition of A. Conan Doyle's Novels*." Reprinted from *Athenaeum* (9 January, 1904). *Critical Essays on Sir Arthur Conan Doyle*. Harold Orel, ed. New York: G.K. Hall, 1992.

- _____. "The Land of Mist." *The Times Literary Supplement*, March 25, 1926. New York: R. R. Bowker Company, 1968.
- _____. "Werner, Abraham Gottlob." *Encyclopædia Britannica. Encyclopædia Britannica Online*. Encyclopædia Britannica, 2010. Web. 13 Jan. 2010. <http://search.eb.com/eb/article-9076563>.