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Manufactured Monsters:
Distinguishing Moral and Biological Evolution Through the Gothic Horror Scientist

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ABSTRACT

Charles Darwin's 1859 publication *On The Origin of Species* generated intense discourse across all facets of society for Darwin's theory of evolution via natural selection, a theory that contradicted the creation story in the Bible. The implications of Darwin's theory divided the scientific community between those who bound science within the realm of religion and those who argued for science's independence from religious influence. This divide resulted in a rising distrust of science in society, a barrier that scientists were forced to navigate as many focused their research on supporting or refuting Darwin's theory.

In the gothic tradition of responding to societal fears, novelists Robert Louis Stevenson and H.G. Wells write of the anxieties and implications of evolutionary theory. Stevenson's 1886 novel *The Strange Case of Dr. Jekyll and Mr. Hyde* interlaces psychiatric research with the fear of biological regression to discuss the origins of evil in humanity. A decade later, H.G. Wells reinforces his support of Darwinism against opposing evolutionary theory with the distinction between biological and moral evolution in his novel *The Island of Doctor Moreau*. Though these novels were separated by a decade of rapid advancements in evolution, both respond to the core principles introduced by Darwin and their implications on morality and the state of humanity. Rather than implementing the gothic tradition of ascribing the evil in their novels to supernatural actors, these post-Darwinian writers use evolutionary theory to demonstrate how easily the human mind can regress into evil without the constraints of morality.

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Chapter 1

Introduction

Humanity has always had a natural inclination toward questioning the natural world, but it wasn't until the Scientific Revolution of the 17th century that modern science emerged to provide a set of defined experimental procedures and evidence-based reasoning that could be used to draw accurate conclusions. This empirical, rational approach distinguished modern science from the earlier sciences that relied heavily on religious influence and coincidental observations to arrive at conclusions. As scientists observed phenomena, they often used religion - particularly Christianity – as a guiding source to arrive at a conclusion. The undisputed idea of God's role in the creation of humanity and his influence over the natural world led to several centralist theories in the 15th and 16th centuries such as sickness being God's punishment for sin, Earth being positioned at the center of the universe, and stars and celestial events being signs from God (Hajar).

The scientists of the Scientific Revolution weren't yet seeking to contradict these theories, but rather sought controlled, empirical evidence to prove their validity. This process began with the development of the scientific method in the 17th century. This method involved asking questions about the natural world, forming a hypothesis based on observations, and designing a controlled, repeatable experiment. The results of this experiment could then offer a conclusion supported by evidence, lead to a revised hypothesis, or inspire new experiments altogether. This methodology forced scientists to be skeptical and find empirical evidence before making claims, as well as allowed for findings to be communicated across disciplines. This

allowed scientists to work with people outside their area of study and develop new interdisciplinary subjects that combined the research of one or more fields. Because scientists were able to communicate their findings more effectively and confidently, research was able to advance rapidly across disciplines.

The shift to skepticism and the importance of empirical data forced scientists to rethink historically accepted facts about the natural world. As studies expanded into the 18th century, several pre-existing theories became partially or wholly inaccurate across many disciplines. By demonstrating sickness was independent of religious adherence, life scientists were able to form hypotheses that led to discovering the role of bacteria and viruses in disease. Similarly, Mathematicians identified chance as a major proponent of the phenomena previously thought to be willed by God, as well as found equations to create order out of disorder.

Despite these advancements, religion remained the dominant belief in society. Scientists did not seek to dismantle God's role but rather proposed their findings as giving empirical explanations for God's will. This coexistence remained virtually unthreatened through the advancements of the early 19th century because although science could now quantify and give rational evidence to natural phenomena, it couldn't explain the origin of man or their highly advanced state.

The idea that humans were the creation of a God was maintained into the Victorian Era (1837-1901), a time marked by scientific, political, and social reform as England rose in power and global presence (Ruse). Christian belief dominated all facets of social class, therefore upholding religious tradition was key to living by a moral code and finding social acceptance. Though the Victorian Era was dominated by scientific advancement, their core religious beliefs

in the mode of creation were unthreatened until Charles Darwin's 1859 publication, *On The Origin of Species.*

Charles Darwin's Theory of Evolution

On November 24th, 1859, English Biologist and Naturalist Charles Darwin published On *The Origin of Species,* which challenged the belief held by most naturalists that "species were immutable products and had been separately created" (Darwin v). Darwin, now known as the father of evolution and evolutionary theory, proposed a theory in which populations of species evolved over generations through the mechanism of natural selection. Darwin's extensive education and detailed research supported his central claim with theories on inheritance, variation, common descent, and the role of advantageous traits in the struggle for survival.

Darwin defined evolution as "descent with modification" (Darwin v) and identified natural selection as the mechanism of evolutionary change. During his research on a variety of plants and animal populations, Darwin noticed that there was a natural variation among the traits expressed within a population, which could be either of an inherited cause or of a non-inherited condition resulting from the environment (Darwin 46). He also noticed how the prevalence of traits would change over generations, and that later generations could possess traits entirely different from the original. He identified the reasoning for this as arising from the biological "Struggle for Existence" (Darwin 12), which he defines as "not only the survival of the individual, but the success in leaving progeny" (Darwin 62). This means the struggle is composed of two interdependent struggles: the struggle to survive, and the struggle to reproduce.

For example, in a population of owls, the owl with the longest and sharpest talons will be better at catching prey than the owl with shorter talons. This means the owls with long talons will triumph in the struggle for food, survive to reproduce, and pass on the trait of long talons to future generations at a higher rate than the owls with shorter talons. This struggle exists in plants as well. For plants in a dry environment, the plants with less surface area (like spines in cacti) will retain more water than the plants with leaves suffering from increased water loss (Darwin 62). Similarly, the traits can also be specific to the struggle to reproduce and leave progeny. A species of fish that releases one hundred eggs to be fertilized will have a higher chance of reproducing than the species of fish that releases ten eggs. In all cases, the organisms with the traits that increase their chances of survival and reproduction would possess the traits favored by natural selection. As this process repeats over generations and favorable traits are inherited at a higher rate than non-favorable ones, the prevalence of traits in a population changes.

Darwin also notes that although some variations have an understood origin, much of the variation across a population does not follow any pattern or law. In his chapter "Laws of Variation", he writes "I have hitherto sometimes spoken as if the variations—so common and multiform in organic beings under domestication, and in a lesser degree in those in a state of nature—had been due to chance. This, of course, is a wholly incorrect expression, but it serves to acknowledge plainly our ignorance of the cause of each particular variation" (Darwin 120). Though Darwin does not know the exact origins of some variations, he is suggesting the presence of randomness and unpredictability in evolution, an idea which will be explained in the years following his publication as studies into inheritance and its components of randomness expand.

Darwin's theory in *The Origin of Species* was met with horror, offense, and rejection from Victorian society. Darwin's proposal threatened to dismantle the core beliefs of an entire religion, and thus most responses to *The Origin of Species* were critical and negative. The scientific community was also divided on their reception of the book. While some scientists supported Darwin's findings, an even larger portion was skeptical and believed Darwin was damaging the credibility of scientists by spreading false claims.

In response to Darwin's publication, the British Association for the Advancement of Science in Oxford called for a meeting in which they would debate the evidence of Darwin's findings and how evolution could exist in the realm of their accepted religious truths (England). The debate was divided between the scientists who had been trained to view science through the lens of religion and accept biblical explanation as truth, and the younger, rising generation of scientists who sought to study science and the natural world without the influence of religion (England). The debate – also known as the Huxley-Wilberforce Debate – was dominated by two individuals. Thomas Huxley, a young biology undergraduate at the time, dominated the debate in his advocacy for the legitimacy of Darwin's theory. Huxley defended Darwin's theory so avidly and successfully that he earned the nickname "Darwin's Bulldog" and would later become one of the most influential evolutionary scientists. Huxley was debating against Bishop Samuel Wilberforce, Oxford's bishop who believed Darwin's theories should be rejected in favor of the biblical interpretation of creation (England). Though the Huxley-Wilberforce Debate did not result in a clear victory for either side, it marked the beginning of the biggest controversy in science - not only between science and society, but between scientists.

In the years following Darwin's publication and the Huxley-Wilberforce Debate, scientists in a variety of disciplines would release their own work to support or reject Darwin as

they fought to maintain their values. Since these Victorian values were determined by religion, the fear that Darwin's theory could dismantle their morals was depicted in many cultural and scientific works. This extended past biology to include works of fine art, theater, and most notably, literature.

The Gothic

The genre of Gothic Horror is often distinguished for the exploration of the battles between humanity and evil, featuring human characters fighting against the evils of the occult. As Darwin's theory began to circulate, the fear of the mystic and supernatural gradually began to shift to the implications of evolution. Replacing the long-accepted belief that God was the creator of the universe opened the door to new terrors, threatening to dismantle how humans perceived the natural order, their superiority, morality, and the fear that we could devolve into the primitive beings Darwin suggests humans came from. While the biological scientists post-Darwin were battling for evidence to prove or refute Darwin's theory, the novelists of the time took up the question that would prove essential to understanding and accepting evolution - if humans came from primitive beings and could devolve back to those forms, what keeps humanity in an advanced state?

This question would guide the themes of Robert Louis Stevenson's 1886 novel *The Strange Case of Dr. Jekyll and Mr. Hyd*e, in which Stevenson examines the possibilities of degeneration to find what keeps humanity distinct from regressed forms. A decade later, H.G. Wells relies on his biology background to make a case on the distinction between moral and biological evolution in his 1896 novel *The Island of Dr. Moreau.* Across the late 19th century,

both authors engaged with the emerging and established theory in science to make a case for their support of Darwinism and its implications on humanity.

Chapter 2

The Biological Regression of Dr. Jekyll and Mr. Hyde

Robert Louis Stevenson's *The Strange Case of Dr. Jekyll and Mr. Hyde* is a genre-defining novella whose influence extends beyond literature to reach other facets of modern culture. This widespread representation is what allows much of modern society to have familiarity with the titular characters through their depiction in popular culture, horror, and medicine. Though Stevenson doesn't reveal the truth of Mr. Hyde's origins until the end of the novella, many are familiar with the relationship between Jekyll and Hyde without even reading it.

Stevenson's novella is still considered to be a critical literary work for its rendering of the duality of the human condition through the lens of science, as well as for its depiction of how evolutionary theory affected society and the emerging field of psychiatry. *The Strange Case of Dr. Jekyll and Mr. Hyde* targeted the members of Victorian society who feared biological regression and considered the range of psychological, biological, and moral factors that could cause humanity to degenerate into less-evolved forms.

Psychiatric Degeneracy

Psychiatry and neuroscience were emerging disciplines when Stevenson wrote the novel in 1886, but the early research of their foundational concepts had begun centuries prior. The study of the brain is comprised of chemistry, anatomy, and biology, making it an interdisciplinary study that thrived from the research advancing in multiple fields.

The physiological aspects of the brain's function began in 1786, with Luigi Galvani's experiment on electrical conduction that pioneered the modern field of electrophysiology. This experiment demonstrated the body's dependence on electricity, an idea that was built upon in 1843 when German physiologist Emil du Bois-Reymond demonstrated the function of nerves and their reliance on electricity for signaling (Finkelstein). These findings provided accurate information on electrical potentials, muscular contraction, and action potentials, all of which are part of the process of nervous system signaling (Finkelstein). In addition to learning the biological and chemical function of the brain, scientists were also interested in how the anatomy of the brain contributed to the mind and behavior - early foundations of what would later be established as the discipline of Psychology. In 1815, Jean Pierre Flouren's research into the psychological effects of brain lesions demonstrated that the location of the lesion played a role in the observed effect on the patient's behavior (Yildirim). This experiment led to the discovery of the unique functions of the individual parts of the brain as well as demonstrated the merits of psychological experimentation.

Neuroscience and Psychology became such a rapidly growing field that the discoveries were outpacing the science in *The Strange Case of Dr. Jekyll and Mr. Hyde.* In an effort to preserve the scientific merit of the novella, Stevenson sent the book to Frederic Myers, who was highly regarded for his publications on human personality. Myers and Stevenson exchanged multiple copies of the novella as Stevenson revised it to keep up with the rapid advancements in the field. His commitment demonstrates his desire to represent several elements of the ongoing research in his novel, as well as his particular interest in the dangers of psychological and pharmaceutical experimentation.

Once these theories demonstrated the expected function of the brain and nervous system, attention was shifted to individuals who deviated from those norms. Victorians used the term "degenerate" to describe any individuals whose behavior strayed from what they considered normal and socially acceptable. This could include females who strayed from traditional feminine roles, individuals with mental illness, or those who exhibited sexual perversion (Hermle). Because Victorian society placed such high value on morality and social image, criminals and outcasts of society were also considered to be "hereditary degenerates", which was a theory built from Darwin's idea of inheritance (Hermle). This theory involved the premise of inheriting degenerate factors, which could lead to entire bloodlines being scorned and outcasted by society. While this theory held some truth concerning inheriting disease, society believed that the degenerate traits of crime or socially unacceptable behaviors could also be passed down. This not only led to fear and rejection of those who exhibited degenerate behaviors, but also inspired scientists to study these psychological deviances and the possibility of treatments.

Pharmaceutical Experimentation

Pharmaceutical experimentation paralleled the rise in psychological research as scientists sought to find how the combination of certain chemicals could produce a reaction in the brain. While many experiments were done on patient subjects, there was also a rise in self-experimentation, particularly in the testing of pharmaceuticals. One of the most prominent figures in self-experimentation was Charles-Édouard Brown-Séquard, who advocated for the practice after it led him to the discovery of several diseases in neuroscience and physiology (Hanley). Often, medical schools of the time would require practicing students to test their

pharmaceuticals on themselves before prescribing them, though this practice was removed from the discipline years later (Hanley). This practice could have inspired the methods of Dr. Jekyll, who used self-experimentation to advance the efficacy of his drug.

The development of pain suppressants is considered to be one of the biggest medical advancements made in the nineteenth century, but it wasn't without its challenges. The effect of cocaine on pain suppression had been studied in animals by Peruvian surgeon Moréno y Maïz, and in 1880 he recommended it as a surgical anesthetic (Kaye). Cocaine's effects on pain management became so widely accepted that it began to be prescribed as treatment outside of surgery. Robert Louis Stevenson had been prescribed cocaine to manage the pain of tuberculosis and had been under the influence of the drug when writing the novel. Though it would remain in use for several years before its addictive potential would remove it from the surgery scene, scientists were already noticing that people were becoming dependent on the drug, particularly surgeons who were around it often.

Drug addiction is demonstrated in *The Strange Case of Dr. Jekyll and Mr. Hyde* through the tolerance that Dr. Jekyll develops to his "potion". After Jekyll takes the drug, he begins to be plagued with side effects like nausea, bone and muscular pain, and "great sickness" (Stevenson 54). The Diagnostic and Statistical Manual of Mental Disorders (DSM) officially gave substance abuse and substance dependence their own diagnostic criteria in 1994, though the criteria for these disorders have been an ongoing effort and culmination of data since the very first recorded cases (Altschuler). DSM-IV is the criteria that refer to substance abuse and dependence, and though DSM-IV was only a modern establishment, it was meant to provide a single reference to physicians and individuals seeking to diagnose individuals (Altschuler). This was necessary because of the conflicting and surplus of both correct and fraudulent theories on the diagnosis of

substance abuse disorders (Altschuler). Jekyll's case fits many of these criteria and allows modern readers to understand that Stevenson was certainly thinking of a man with substance abuse when writing Dr. Jekyll. The clarity with which Stevenson writes of Dr. Jekyll as a patient of these disorders makes the novella a "primer" sometimes suggested by doctors to families and patients who are dealing with understanding substance dependence (Altschuler).

Though DSM-IV requires only three of their available criteria, Jekyll exhibits multiple. He demonstrates Tolerance, which is exhibited through his mention of requiring a "double dose to recall [Jekyll] to himself" (Stevenson 54). While initially, one dosage of the drug could perform the transformation between Hyde and Jekyll, his continuing use of the drug has led to him building up a tolerance and requiring more to get the same effects. A second criterion for the DSM-IV is Withdrawal. Jekyll notes the "temptations" that urge him to take the drug, which can be referencing both the physical temptations of pain and withdrawal as well as the mental curiosity and temptation that led him to create the drug in the first place. Jekyll also notes that he had become "accustomed" to sleeping as Hyde, again referring to his psychological objections to the absence of the drug. He also notes having a small appetite, another sign of withdrawal from psychoactive substances. Another criterion is that the substance is taken for a longer period than initially planned. While originally beginning as just a trial to test his theory, Jekyll continues taking the drug for a longer length of time than planned, even making plans with his servants for Hyde to take over his assets and have access to his home (Stevenson 56), suggesting his prolonged plan of usage. It also took him a long time to obtain the drug by his experiments (5) and his seclusion from society for ten years also gives evidence to the length of time he was preoccupied with the creation and continued development of the drug. The final two criteria both relate to Jekyll's continued use of the substance. Jekyll is aware of the transformation that occurs

when he takes the drug (7), fulfilling the criteria that he continues usage "dispute knowledge of having a persistent physical or psychological problem" (DSM-IV), and is (4) unsuccessful in stopping usage despite any attempts.

In addition to the potential for abuse and addiction, researchers noticed that the usage of these psychoactive drugs could be associated with certain psychiatric conditions. This led to drug addiction becoming associated with degeneracy as well as marked the shift of drug abuse being viewed as a psychological disorder rather than an accepted practice. Stevenson also responds to the evil associated with science and drugs through his portrayal of Dr. Jekyll's drug. When Dr. Jekyll reflects on his experiment, he admits "The drug had no discriminating action; it was neither diabolical nor divine" (Stevenson 56). Dr. Jekyll realizes that the drug he created did not create Mr. Hyde using divine or hellish powers. Instead, the drug released the evil that was already present within Dr. Jekyll. This depiction of science responds to the Victorian paranoia that rose steadily since Darwin's theory of evolution. Though drug abuse was studied in a variety of mental illnesses, Stevenson seemed most invested in the role pharmaceutics and drug abuse played in the development of Multiple Personality Disorder.

Multiple Personality Disorder

As scientists continued to develop new drugs, they began to take notice of the effects of psychoactive drugs. In addition to addiction, research into the cause of psychiatric conditions and the role of pharmaceuticals in their development became the focus of many studies.

The discovery of Multiple Personality Disorder was preceded by the idea of hysteria and psychological deviance, particularly in women. Clinical indicators of hysteria included

nervousness, high emotions, and agitation, as well as biological signs such as blindness and seizures. In extreme cases, physicians observed that the behavior exhibited by hysteric women was so separate from their ordinary selves that they became victims of a "shifted personality" (Yildirim). The personality changes of these patients became a focus in later studies as researchers sought to find the underlying cause of these extreme cases of psychiatric illness. By the time Stevenson published *The Strange Case of Dr. Jekyll and Mr. Hyde,* there was still no definitive answer on the root cause. However, the most widely accepted theories were the presence of underlying trauma and psychoactive substance abuse. Stevenson seemed most interested in the role that psychopharmaceuticals played in the emergence of Multiple Personality Disorder and psychiatric disease. There have been rare recorded medical instances of multiple personality disorder since the first diagnosis of Mary Reynolds in 1811. Benjamin Rush recorded and lectured about the case, citing instances of dissociation, behavioral changes, and other unexplained symptoms (Yildirim). Though modern physicians attribute most of these cases to childhood trauma and the repression of past traumatic events, there is also a trend of these patients using psychoactive drugs.

Stevenson seemed most interested in the role that psychopharmaceuticals played in the emergence of Multiple Personality Disorder as he depicts Dr. Jekyll exhibiting symptoms of the disorder paralleling his growing dependence and usage of the drug. Dr. Jekyll has spent ten years working on his experiment and being separated from society. He would have been experimenting with his drug during this time, which offered a lot of time for his tolerance to build up. The dual personalities arise when Dr. Jekyll is successfully able to separate the evil from his body into another form - Mr. Hyde.

The case of Dr. Jekyll and Mr. Hyde has become synonymous with the idea of dual personalities and has been used in psychiatric diagnoses to describe multiple personality disorders to patients (Altschuler), a clear indicator of Stevenson's intentions and accuracy with his portrayal of the characters. Multiple Personality Disorder (also known as Dissociative Identity Disorder) is characterized by two or more personalities that do not share memories. In addition to the presence of both the personalities of Dr. Jekyll and Mr. Hyde, Dr. Jekyll also exhibits detachment behaviors and isolates himself from society, both of which are traits found in people diagnosed with the disease.

One distinction between modern knowledge of the disorder and the available research at the time Stevenson wrote the novel is the role memory plays in the diagnosis of Multiple Personality Disorder. Researchers of dissociative disorders at the end of the 19th century found a common clinical feature of the disorder was the presence of memory gaps, which are the time of space when an alternate personality is in control of the mind (Altschuler). Following more in-depth studies, researchers found that dissociative amnesia was a common clinical presentation in patients with DID (Huntjens). This was determined to be a result of the memories being compartmentalized separately by the distinct identities, meaning the memories made by one identity could not be transferred to the other(s).

While Dr. Jekyll's other symptoms meet the criteria for a DID diagnosis, Stevenson chose to have Dr. Jekyll retain all his memories made as Mr. Hyde. One explanation could be that he simply was unaware of dissociative amnesia as a symptom, but the emphasis on Dr. Jekyll and Mr. Hyde sharing memories suggests it was a deliberate decision to make Dr. Jekyll aware of all that occurs in his other form. Dr. Jekyll states "My two natures had memory in common, but all other faculties were most unequally shared between them" (Stevenson 59). Dr.

Jekyll and Mr. Hyde are distinct in their physical form, morality, and consciousness, but the one thing that remains the same is their memories.

The concept that component parts of the brain had different functions began with the study of Phrenology in 1796, which was popularized for the idea that the pattern of ridges and bumps on the skull determined personality, providing a basis on how form affects function (Huntjens). Over time, this theory evolved into the idea that the different regions of the brain had differing effects on personality. The first documented case study of cerebral localization involved an American railroad worker named Phineas Gage who began to suffer severe personality changes after an iron rod was driven through his frontal lobe (Teles). This led to the identification of the Broca's and Wernicke's areas for their respective roles in language production and language comprehension. Though the role of the hippocampus in memory wouldn't be discovered until the end of the 20th century, the conclusions from Gage's accident suggested that the hypothesis on cerebral localization was correct. Because of the confirmation that different parts of the brain had different effects, Stevenson was able to portray that Dr. Jekyll and Mr. Hyde were sharing their memory, but were not sharing other traits such as morality and their conscience.

The collective memory of Dr. Jekyll and Mr. Hyde reinforces the idea that they are one entity and are not two distinct beings. Dr. Jekyll is not able to transfer the evil within himself to a separate host. Rather, he can only separate those components within his body. Had the two been unable to transfer memories between them, Mr. Hyde would represent a separate, distinct form from Dr. Jekyll. Instead, Stevenson was interested in exploring the duality of humanity.

Social Darwinism and Duality

The duality of humanity was at the forefront of Dr. Jekyll's mind when he decided to begin his experiment after years of noticing the competitiveness of his "two natures" (Stevenson 52). Dr. Jekyll is a high-class, well-respected member of society, and feels a "morbid sense of shame" when he engages in immoral actions (Stevenson 52). Dr. Jekyll's shame is a result of both the fear of social repercussions and judgment, but also the good, moral nature of himself attempting to correct his immoral actions. Dr. Jekyll (and much of Victorian society) believed that succumbing to immoral actions shifts an individual away from an esteemed status and closer to a "primitive" nature (Stevenson 53). However, Dr. Jekyll is unable to ignore the parts of him that crave this behavior. He begins to investigate how his scientific background could be used to separate good and evil into two identities. Dr. Jekyll wonders "If each could but be housed in separate entities, life would be relieved of all that was unbearable; the unjust might go his way, delivered from the aspirations and remorse of his upright twin; and the just could walk steadfast and securely on his upward path, doing the good things in which he found please, and no longer exposed to disgrace and penitence by the hands of this extraneous evil" (Stevenson 53). Dr. Jekyll seeks to split his dual natures into two. In doing this, he wishes to evolve one part of himself into a higher, moral state by housing the lesser, immoral nature in another identity.

Dr. Jekyll's belief that one can evolve to a morally perfect state aligns with the evolutionary theories of Herbert Spencer, who is well known for his theories of Social Darwinism. Spencer's theory was derived from Darwin's idea of "Survival of the Fittest", which demonstrated that the organisms best suited to their environment would have the greatest chance at surviving and passing on their traits to their offspring" (Darwin). An example of this theory is Batesian mimicry in butterfly species, where the butterflies whose patterns and coloring mimic

their surroundings are most likely to survive predators. As more of these butterflies survive, they pass on the traits for that coloring at a higher rate than the butterflies who lack sufficient camouflage and are killed by predators. This theory inherently suggests that the weaker members of a species will decline over time as the fittest individuals continue to survive and reproduce.

Herbert Spencer decided to take this theory and apply it to society, resulting in Social Darwinism. This complex social theory focuses on the idea that the weak should be weeded out by nature, and that the elite individuals left behind are innately better than those unfavored by nature. Because of the social class and conflicts in society at the time, Social Darwinism also suggested that the elite individuals who would be favored by nature were individuals of a higher social class. Darwin's theory focused on the physical traits present in plants and animals that make them more likely to survive in their environment. In Victorian London - and historically most of civilized society - the traits that make humans more likely to survive and reproduce are related to class. Those of higher status had more resources to ensure their survival, such as food, water, shelter, and access to medical care. Though certain diseases were equally likely regardless of class, the access to treatment could differ depending on financial and social situations.

Spencer’s theory implies that since the elite are favored, all natural selection is progress forward. Nature would effectively weed out all the weaker, lower-class humans and leave only the elite to reproduce. Those who favor this theory would naturally disagree with interventions to instill equality among humans since this would be seen as a hindrance to evolving humanity to a higher state (Ruse).

Dr. Jekyll’s desire is inherently in agreement with Social Darwinism since he seeks to remove the weaker, undesirable aspects of himself to leave his high-class, moral identity

untainted. The desire to cling to class and social status can mirror the Victorian response to the fear of biological regression.

Biological Regression

The fear of biological regression was an implication of the principles established in Darwin's *On the Origin of Species.* If Darwin was correct in stating that humans are the evolved form of a primitive population, the natural question was the possibility of humanity de-evolving back to that state. Though this idea would be further expanded within the decade through the works of T.H. Huxley and H.G. Wells, Stevenson arrived at an early idea of where the line between evolved humans and degenerate forms is drawn.

Stevenson depicts Mr. Hyde as a degenerate form of Dr. Jekyll immediately upon introducing him. When Dr. Jekyll looks in the mirror and sees Mr. Hyde for the first time, he notes "Edward Hyde was so much smaller, slighter, and younger than Henry Jekyll" (Stevenson 55). Referring to Mr. Hyde as a younger, less-grown version of Dr. Jekyll is a reference to the reversal in physical evolution. He also adds that Hyde left "an imprint of deformity and decay" (Stevenson 55). Dr. Jekyll then chooses to look beyond the physical ugliness of Mr. Hyde, and instead to consider his internal state. Despite their difference in appearance, Dr. Jekyll notes "This, too, was myself. [Hyde] seemed natural and human. In my eyes it bore a livelier image of the spirit, it seemed more express and single, than the imperfect and divided countenance" (Stevenson 55). Dr. Jekyll recognizes the parts of himself that now exist in Mr. Hyde, believing that there is satisfaction in having all of the evil, ugliness, and immoral parts of himself housed in a singular form rather than dividing himself between good and evil.

By demonstrating that both Jekyll and Hyde come from the same origin, their difference in biological states can only be a result of their morality. Dr. Jekyll's morals are what cause him distress, as that is the part of his mind that believes immoral actions are "shameful" and forces him to suppress them. When Dr. Jekyll removes his conscience, Mr. Hyde feels no empathy for humanity or remorse for his actions. The decline in morality is paralleled by Dr. Jekyll's physical degeneration into Mr. Hyde. The physical degeneration of Dr. Jekyll into Mr. Hyde parallels the moral degeneration between them, instilling a relationship between the moral and biological state of an individual. The evolved state of Dr. Jekyll is due to his conscience and morality, and when he removes his conscience, biologically regresses into the less-evolved Mr. Hyde. This makes a case for why the "primitive" paleolithic hunter-gatherers may not be biologically different from modern humankind. When modern humans lose the ethical sense we developed, it is signaled through a physiological atavism referred to as "degeneration," in the later nineteenth century.

The case of Jekyll and Hyde makes an argument against the fear of regression by demonstrating how the evolved state of humanity is not reliant purely on biological mechanisms. Rather, humanity is in an evolved state because the morals we acquire through society allow us to control our primitive urges.

Chapter 3

Artificial Evolution in *The Island of Doctor Moreau*

H.G. Wells was born into the midst of the debate on evolution, and his work as a student, teacher, and scientist of biology would lead him to publish many novels that blur the line between fact and fiction. Though his novels tackled a variety of scientific theories and ethical debates, one of the most prominent topics in his novels was evolution.

Wells' scientific background began with his role as a chemist's assistant at age fourteen, and his continued interest in the natural sciences would lead him to study biology at the Royal College of Science. Wells studied under T.H. Huxley, the evolutionary scientist known as "Darwin's Bulldog" for his public advocacy for Darwin's theory (Blinderman). Wells maintained a close relationship with T.H. Huxley, eventually co-authoring a biology textbook titled *The Science of Life* with his grandson, Julian Huxley. Wells' interest in evolution and his scientific background would inform many of the novels he wrote, but none responded to the ongoing debates of evolution better than *The Island of Doctor Moreau* (1896). The novel examines the relationship between evolution, morality, and religion through the depiction of an island society run by the ambitious and genius vivisectionist Doctor Moreau. H.G. Wells' *The Island of Doctor Moreau* considers multiple evolutionary perspectives that had arisen over the 19th century including Lamarck, Darwin, and Spencer. Despite the inclusion of these perspectives, Wells is able to convey his support of Darwinism as well as dismiss opposing theories.

Dr. Moreau's Lamarckian Evolution

One of the most prominent theories dismissed in the novel is the theories of Jean-Baptiste Lamarck, particularly Lamarck's theory of inheriting acquired characteristics. Lamarck's theory of evolution focuses on the inheritance of acquired characteristics through use and disuse. Lamarck came to this theory through many studies, the most prevalent being an observation of the long necks of Giraffes. Lamarck believed that Giraffes needed a longer neck to reach the high foliage in trees, and thus the constant stretching of their neck resulted in them acquiring the trait of a longer neck that could be passed on to their offspring. This trait for longer necks would then either be "accentuated or attenuated through use and disuse" (Kováč), meaning if Giraffes stopped using their longer necks, future generations would lose that trait. Lamarck believed this constant need to respond to the environment was an "intrinsic trend towards more complexity" and was responsible for the evolution from a simple to a complex state (Kováč). Lamarck's theories are highly prevalent in the methodology of the experiments of Doctor Moreau, the titular antagonist of the novel.

Dr. Moreau, like many other scientists of the time, was interested in evolution. Dr. Moreau is a vivisectionist, meaning he performs cruel and torturous surgeries on living animals for a scientific purpose (Bates). Prior to the start of the novel, Dr. Moreau was forced to flee London after the truth of his gruesome vivisections was brought to life. Rather than stopping his experiments, Moreau decided to continue his studies in the privacy of an isolated island. Without the restraints of society and the scrutiny of the public eye, his experiments became much more horrific. Dr. Moreau performs tortuous vivisections on the animal inhabitants of the island to see how rapidly he can evolve them from animal to human. Unlike Darwin, Moreau does not want to witness evolution occur over generations, but rather he surgically alters the animals' physical

appearance by combining parts of different organisms, resulting in creatures that are not quite animals but not quite humans, earning them the title of "Beast-Folk" throughout the novel. Though these Beast-Folk may appear more human than their wild counterparts, the DNA of these creatures is still entirely animal. Doctor Moreau's philosophy is further explained when the novel's narrator, Prendick, arrives on the island.

Prendick joins Dr. Moreau and his assistant, Montgomery, on the Island after a shipwreck leaves him stranded. Prendick is completely unaware of what awaits him on the island, leading to his utter horror and confusion when he sees the animal-resembling Beast-Folk exhibiting human characteristics like walking on two feet and speaking. When he first hears the Beast-Folk use human speech, Prendick tells Moreau "These things - these animals *talk!"* (Wells 64). Moreau identifies speech as a key difference between humans and animals, telling Prendick "The great difference between man and monkey is in the larynx…in the incapacity to frame delicately different sound-symbols by which thought could be sustained" (Wells 64). Moreau continues this line of thought by explaining how he changes the instincts of the Beast-Folk, saying "The possibilities of vivisection do not stop at a mere physical metamorphosis. A pig may be educated. The mental structure is even less determined than the bodily. In our growing science of hypnotism we find the promise of the possibility of replacing old inherent instincts with new suggestions, grafting upon or replacing the inherited fixed ideas" (Wells 64). The idea of replacing fixed ideas with suggestions is another testament to how Moreau's methods align with Lamarck, but also contributes to the way that Moreau reigns control over the Beast-Folk. In order to ensure the Beast-Folk follow his guidelines - referred to as the Law - Dr. Moreau employs one of the strongest motivators for both humans and animals - pain.

The ability to perceive pain and react to it is a key trait of complex organisms, as pain is often a signal of danger to an organism and a quick response can be the difference between life and death. Studies in evolutionary medicine recognized that individuals with a lower pain tolerance had an advantage as they were able to detect threats earlier and trigger reparatory mechanisms quicker than individuals with a higher pain tolerance (Neese). Having a higher tolerance to pain meant the muscles and tissue would sustain damage longer before the brain received a signal to react to the painful stimulation (Neese). The individuals with a lower pain tolerance therefore had a greater chance of survival as they could detect threats earlier, meaning pain became considered a factor in evolution. Dr. Moreau echoes this by telling Prendick that pain is "our intrinsic medical advisor to warn us and stimulate us" (Wells 65), which is very similar to how modern scientists think of pain as the "fifth vital sign" (Walid). Moreau capitalizes on using pain to guide the behaviors of the Beast-Folk and prevent them from regressing from their advanced state.

Throughout the novel, the ability to recognize and fear pain is directly tied to how human, or intelligent, a being is. The less intelligent an individual is, the less pain it feels. Moreau tells Prendick "Plants do not feel pain; the lower animals - it's possible that such animals as the starfish and crayfish do not feel pain" (Wells 68). To Moreau, being advanced means you can feel pain and react to that stimulus. As a testament to the advanced state of his own mind, Moreau drives a penknife into his thigh, then withdraws it to demonstrate how humans can not only perceive pain but also control their response to act rationally. Moreau tells Prendick "So long as your own pain drives you, so long as the pain underlies your propositions about sin, so long, I tell you, you are an animal, thinking a little less obscurely about what an animal feels"

(Wells 65). Here, Moreau is comparing Prendick to one of the Beast-Folk who allow their fear of pain to control them.

Dr. Moreau's use of pain forces the Beast-Folk to follow his Law, which outlines several rules the Beast-Folk must follow. All of these rules involve forbidding the Beast-Folk from exhibiting their natural, animalistic qualities in favor of the traits Dr. Moreau has surgically altered them to have. He accomplishes this by forcing the Beast-Folk to abide by his Law, which includes rules such as "Not to go on all fours" and "not to eat flesh" (Wells 52). Moreau believes that if the Beast-Folk were to do these things, they would begin to exhibit a "need" for the animal qualities he worked so hard to replace with human ones.

Though Dr. Moreau's methods align more with Lamarck's theory on use and disuse, Wells can clearly dismiss these theories in favor of Darwinism. The first instance that dismantles Lamarck's theory is that the Beast-Folk who can reproduce do not pass down their new, acquired characteristics. Montgomery, Dr. Moreau's assistant, tells Prendick that "[The Beast-Folk] actually bore offspring, but they generally died. There was no evidence of the inheritance of their acquired human characteristics" (Wells 72). Lamarck believed that offspring would inherit the acquired traits of their parents, and if his theory were supported, then the Beast-Folk would have passed down their acquired traits to their offspring since they were still "environmentally needed" in the presence of Dr. Moreau. The lack of these traits is a rejection of Lamarck's Theory in support of Darwin's, which detailed the gradual descent with modification of organisms.

Descent With Modification and Random Variation

While rejecting Lamarck's theory, H.G Wells incorporates and supports several key components of Darwin's Theory including descent with modification, random variation, and natural selection. While Dr. Moreau attempts to surgically alter the Beast-Folk to exhibit their new, evolved features, the subtle appearance of the Beast-Folk's genetic instincts despite Moreau's interference demonstrates why Moreau's attempt is not an example of Evolution.

Several of the Beast-Folk demonstrate animal behaviors despite Dr. Moreau's threats, though are mostly able to suppress them in fear of punishment. Hyena-Swine, one of the most antagonistic and predatory of the Beast-Folk, is an example of this. Hyenas are aggressive, carnivorous predators, and this behavior is established early when Dr. Moreau realizes that one of the Beast-Folk broke the law by killing a rabbit. He identifies Leopard-Man as the one responsible and calls for Montgomery, Prendick, and Hyena-Swine to assist him in catching Leopard-Man for punishment. The Hyena-Swine embodies its predatory instinct as it grows excited for the chase and the hunt for Leopard-Man. During the fight, Hyena-Swine "flung itself upon [Leopard-Man] with an eager cry, thrusting thirsty teeth into its neck" (Wells 84). Hyena-Swine is held back with a whip, but this animalistic urge foreshadows how close it is to its roots.

Another example is Dog-Man, who later becomes Prendick's loyal companion. Dog-Man used to be a St. Bernard, and although he has the quality of speech and can walk on two legs, Dog-Man's canine traits still make an appearance throughout the novel. His first interaction with Prendick involves licking his hand, just as a dog would lick an owner. Prendick in turn "patted the Dog-Man's head" (Wells 105), reinforcing the dog-owner relationship. Dog-Man also refers to Prendick as "Master", though clearly thinks of Prendick as a director he is loyal to rather than

someone to fear like Dr. Moreau. Dog-Man exhibits several other of his canine instincts, particularly in his loyalty towards Prendick. After Moreau and Montgomery die, Dog-Man becomes Prendick's sole companion, "scarcely leaving [Prendick's] side" (Wells 108) and defending Prendick against threats from other Beast-Folk. The persistence of these instincts despite Dr. Moreau's attempts to remove them demonstrates the Darwinian theory of descent with modification rather than the abrupt change in traits.

Another key component in Darwin's publication is the importance of random variation, or chance, regarding evolution. Specifically, Darwin argues that the variation in a species is a result of chance, although acknowledges that certain traits may have a higher chance of being passed onto offspring if they help an individual survive in their environment. Darwin didn't have our modern understanding of genetics, but the phenomenon he observed was explained by Gregor Mendel's 1865 genetic experiments involving pea plants, which demonstrated the random inheritance of parental genes, random mutations, and the Laws of Probability concerning inheritance. Homologous Recombination is another random event left entirely up to chance. During reproduction, the homologs of the chromosomes line up and exchange genetic material, which is a major contributor to genetic variation (Stapley). The role of chance is a major theme in the novel, particularly in the ways it relates to evolution and population genetics.

Prendick's survival throughout the novel is a result of multiple chance occurrences. At the start of the novel, Prendick is stranded at sea in a dinghy with several other men following a shipwreck. Prendick watches the Captain of the ship jump for the dinghy, and "unluckily for himself" (Wells 7), gets caught in some rope instead of making the jump. This is the first instance of chance, and the random death of the Captain now means Prendick and the other men have a better chance of survival as there is one less person fighting over the small container of

water on the dinghy. As the supplies on the dinghy dwindle, one of the men suggests that someone sacrifice themselves to help the others survive. The idea of one individual sacrificing their own fitness (or life) to help increase the fitness of others is known as altruism (Domondon). Darwin was wary of altruism, as the idea of altruists was a threat to the theory of natural selection, as altruists may have stronger traits and be sacrificing them for weaker traits that would normally not be favored by natural selection (Domondon). However, Wells chooses not to have any of the men be altruists, and instead, the decision on who will sacrifice themselves is left to a chance event of drawing lots (Wells 8).

By chance, Prendick is not the one chosen. The man who is chosen starts a fight that leads to the death of everyone except Prendick, leaving him as the sole survivor of the shipwrecked *Lady Vain.* Prendick is saved by yet another chance event when Montgomery, Doctor Moreau's assistant, happens to come across his dinghy and invites Prendick onto his ship. Prendick thanks Montgomery for saving his life, to which Montgomery responds by saying it was "Chance. Just chance" (Wells 18). Prendick insists that it was not chance, but that Montgomery made the decision to save him. Montgomery denies this, claiming "It's chance…as everything is in a man's life" (Wells 18).

Montgomery and Prendick's opposing views on chance and agency become a point of tension between the two men throughout the novel. Montgomery believes he is a victim of chance, and that he is an "outcast" of civilization (Wells 94) banished to the island as the result of a chance event that occurred eleven years ago. This event isn't detailed, but Montgomery is suggested to have committed a crime while intoxicated, leading to his rejection from medicine and society. All of the circumstantial events that led him to his life on the island have him questioning the agency he has over his own life. Prendick later overhears Montgomery asking

"What's it all for? Are we just bubbles blown by a baby?" (Wells 94). Throughout the novel, Montgomery continuously struggles to find purpose in a world where survival is dictated by chance, especially the longer he spends under Moreau's rule.

H.G Wells also includes the role of chance to disagree with the evolutionary perspectives of Social Darwinism and Survival of the Fittest. Spencer coined the term Survival of the Fittest to explain the idea that some organisms had features that made them better suited to survive in their environment, such as speed and strength. Spencer argued these organisms would be the ones to survive and pass on their genes, which aligned with Darwin's idea of Natural Selection. Survival of the fittest would be included in the fifth edition of *On the Origin of Species* (published in 1869) to explain the idea that some beings were better suited to their environment, but Darwin denied that survival of the fittest was part of the evolution process (Cunningham). Darwin maintained the idea that much of evolution was left up to chance and circumstance, and that chance doesn't always favor the most fit. Spencer's idea of survival of the fittest was advocated as reasoning to explain why "the successful deserve their success while those who fail deserve their failure" (Offer). Because of this view, Spencer believed that all evolutionary progress forward was towards advanced species as the weaker, undesirable traits would be weeded out by natural selection (Offer). Wells' use of chance in survival suggests he does not believe that fitness is the most important factor in Evolution, and instead believes that much of it is left up to chance.

H.G. Wells examines multiple approaches to evolution, successfully dismissing Lamarck's Theory in favor of Darwin's. Yet, Wells isn't only interested in engaging in the evolutionary debate between biologists. He is also interested in the impact Darwin's theory has on society, religion, and the way humans perceive themselves in comparison to the species that

Darwin suggests they descended from. In *The Island of Doctor Moreau,* Wells takes it a step beyond accepting evolution to closely examine the distinction between moral evolution and biological evolution, and how this distinction can aid in identifying the line between human and animal.

The Ethics of Evolution

Following the intense discourse on the release of *On the Origin of Species,* Charles Darwin published *The Descent of Man* (1871), which demonstrated how the evolutionary theory presented in *On The Origin of Species* applies to humans and the advanced state of their ethics and morality. Darwin recognizes that the advanced mental capacity of humans exempts us from and challenges many aspects of natural selection. As he notes in Chapter V, "Man is enabled through his mental faculties to keep with an unchanged body in harmony with a changing universe" (Darwin 158). Humanity has resisted physical change over generations compared to other, rapidly evolving animals. Even though our biological form hasn't changed, the environment has. Darwin attributes the unchanging physical form to humanity's "great power of adapting his habits to new conditions of life" (Darwin 158). While Darwin believed many of the same principles applied to humans including common descent, he faced difficulty in attributing the acquisition of morals and advanced reasoning to any evolutionary mechanisms.

One of Wells' biggest inspirations in his work as a scientist was through the influence of T.H. Huxley. Huxley, who worked alongside Darwin and defended him in the Huxley - Wilberforce Debate, responded to the ethical concerns of applying Darwin's theory to human society in his lecture "Ethics and Evolution". In the lecture, Huxley distinguished moral

evolution, a process unique to humanity and human society, from biological evolution, a natural and amoral process. Huxley also responds to Herbert Spencer and disagrees with several elements of his theory on Social Darwinism. Specifically, Huxley disagreed with Spencer's idea that humans were subject to the same laws of competition and struggle as other animals. Instead, Huxley believed that humans were distinguished by their ethics, specifically the morals derived from empathy. Empathy is what leads humans to demonstrate an advanced form of altruism - self-sacrifice to benefit the larger population - by exhibiting behaviors like supporting weaker members of society. In other animals, the biological drive to survive is at the forefront of their actions, while in humans, that drive is often complicated (and sometimes complimented) by our desire to act morally and respond with empathy.

This distinction leads T.H. Huxley to further disagree that struggle and survival of the fittest are evolutionary methods to progress human society. Darwin believed that progress was not guaranteed, especially in humanity. Huxley argues that many of the actions that would "advance" society biologically would be in direct competition with our morality. Because Spencer's theory relied on the survival of only the strongest of society, biological progress in humanity would require immoral acts like infanticide, rejection of weak members of society, and murder (Offer). Empathy for other humans is a fundamental part of human existence, and Huxley is demonstrating that giving up our ethics for the sake of biological progress would take away the very thing that makes us human.

H.G. Wells continues this distinction in his own career, particularly with his 1896 article "Human Evolution: An Artificial Process." In the article, Wells identifies humans as the product of both inherited factors, which are the evolution of the human form via natural selection and acquired traits, which are those that make us civilized. These acquired traits are not a product of

natural selection, but rather are the result of nurture over nature, and include developments such as speech, morality, and the way humans perceive consequences. Wells argues that humans have not evolved biologically in the sense of natural selection since the Paleolithic Age, and that man continues to have the same desires of violence, killing, and sexual passion today (Wells 3). What keeps man restrained and civilized is the acquired trait of morality, which Wells claims "becomes the padding of suggested emotional habits necessary to keep the round Paleolithic Savage in the square hole of the civilized state" (Wells 4). Wells continues to identify Sin as the "conflict of the two factors" and admits that he attempts to convey this idea in *The Island of Doctor Moreau* (Wells 4). Much of what Wells is referring to is another debate in the nineteenth century over the distinction between nature vs nurture, or, the debate over whether a person's disposition is more dependent on their genetics or the environment in which they are raised. In the novel, Doctor Moreau says "Very much, indeed, of what we call moral education is such an artificial modification and perversion of instinct…" (Wells 64). The idea of "artificial modification and the perversion of instinct" is similar to the ideas in Wells' publication where he makes the distinction between the inheritance of the physical form and the acquired traits of morality and speech.

The distinction between biological evolution and moral evolution is clearly illustrated in the Beast-Folk through the distinction between wild and domestic animals. Charles Darwin completed extensive research on the domestication of both plants and animals, which was recorded in his 1868 publication *The Variation of Animals and Plants Under Domestication.* In his writing, Darwin details Domestication Syndrome, which is when a domesticated plant or animal has phenotypic (observable) variation in their traits compared to their wild counterparts (Darwin 52). While these traits can vary in their differences, there was a recorded trend that the

domesticated version of animals tended to be tamer, smaller in stature, and overall less aggressive and unpredictable than the wild version (Darwin 53).

In *The Island of Doctor Moreau*, Dr. Moreau is essentially seeking to "domesticate" these wild beasts by turning them into a being that resembles a human more than a wild animal. While the vivisections do result in more domestic phenotypic traits, the domestication of these Beast-Folk is attributed mostly to the change in their behavior rather than their physical appearance. If appearance was the only standard, then readers may consider the Hyena-Swine to be domestic, when to Prendick - and most readers - Hyena-Swine is the least domestic of all the Beast-Folk. Throughout the novel, Hyena-Swine's predatory behavior and defiance of Moreau's law threaten to undermine Moreau's attempts at domestication. However, the fear of punishment for breaking Moreau's Law keeps the Hyena-Swine from completely regressing. This is an example of Wells' idea that morality keeps the primal early stages of humanity restrained and civilized.

A few weeks following Prendick's arrival on the island, catastrophe ensues when Dr. Moreau's current experiment - a Puma - escapes his lab. Prendick and Montgomery spend time searching for Dr. Moreau until finally finding both Moreau and the Puma dead. The Beast-Folk begin to speak of Moreau's death, and Prendick and Montgomery quickly realize that without the fear of Moreau, the Beast-Folk can't be controlled.

Montgomery and Prendick attempt to keep the spirit of Moreau alive with claims that "This came of breaking the Law" (Wells 92), referring to the Puma's death. Prendick continues to say "he is *not* dead…he has changed his shape - he has changed his body. You cannot see him. But he can see you. Fear the Law!" While this works for several Beast-Folk, the Hyena-Swine rejects Prendick's rule and the fear he tries to instill. Without the fear of Moreau's presence, Hyena-Swine feels no obligation to follow the Law and suppress his desires. This leads to him

swiftly regressing into a wild animal and relocating to the island wilderness. Hyena-Swine continues to break the law and kill animals, walk on all fours, and exhibit his animalistic instincts. His final act of defiance and ultimate regression to animals is when he kills Prendick's loyal companion Dog-Man.

"My St Bernard creature lay on the ground dead, and near his body the Hyena-Swine, gripping the quivering flesh with misshapen claws, gnawing at it and snarling in delight. As I approached the monster lifted its glaring eyes to mine, its lips trembling back from red-stained teeth, and it growled menacingly. It was not afraid and not ashamed; the last vestige of the human taint had vanished" (Wells 111).

Prendick now sees Hyena-Swine as a wild beast, referring to it as a "monster" rather than a Beast-Folk. Even though Hyena-Swine may still have his evolved physical form, his rejection of the Law and the morals it instills results in him regressing into a wild animal. By demonstrating the monster that is left behind in Hyena-Swine once the "human taint had vanished" (Wells 111), Wells identifies the distinction between human and animal lies not in our biologically evolved state, but in our acquisition of morality.

Wells has already established that the presence of morality is a key factor in the evolution of human beings, but he takes it a step further by examining the root of morality to determine its validity as a sign of evolution.

Religion-Elicited Morality

Wells has already established that the presence of morality is a key factor in the evolution of human beings, but he takes it a step further by examining the root of morality to determine its validity as a sign of evolution by examining the differing moral origins of Prendick, Montgomery, and the Beast-Folk.

Dr. Moreau takes on the role of God in this island society, creating life and acting as an omnipotent observer of all who reside there. Dr. Moreau is not only responsible for bringing most of these animals to the island, but for evolving them to their current state as Beast-Folk. Dr. Moreau also echoes the story of Eve falling into temptation by leaving rabbits to roam the island. Moreau knows these rabbits will cause some of the Beast-Folk to disobey the law and eat the rabbits, allowing Moreau to punish them in the House of Pain. The House of Pain is the Christian equivalent to Hell and is where Moreau punishes those who break the Law, which mirrors the Ten Commandments in Christianity. These Laws are shared with Prendick upon his arrival on the island.

> Not to go on all-fours; that is the Law. Are we not Men?
>
> Not to suck up drink; that is the Law. Are we not Men?
>
> Not to eat fish or flesh; that is the Law. Are we not Men?
>
> Not to claw the bark of trees; that is the Law. Are we not Men?
>
> Not to chase other Men; that is the Law. Are we not Men?

The repetitive sequence of the phrase “Are we not Men?” (Wells 52) reinforces Moreau’s ultimate goal of evolving these animals into humans, or beings who more closely resemble man

than animal. Prendick realizes how deeply Moreau's influence resembles that of a God when he sees the fear that he invokes in the Beast-Folk. Prendick speculates that "Moreau, after animalizing these men, had infected their dwarfed brains with a kind of deification of himself" (Wells 53). Moreau's technique involves repressing their animalistic desires by turning their natural instincts into sins that they will be punished for in the House of Pain.

Sociologist Benjamin Kidd believed that religion could be a factor in evolution, and that religion served to increase the survival of a society rather than an individual. Kidd, like Wells, was interested in the role religion plays in evolution and if these two ideas can both be supported. When abiding by Moreau's "religion" and following his laws, the Beast-Folk do seem to be contributing to a better society by being tamer, less aggressive, and more civilized. However, Wells also acknowledges the issues that arise when morality is dependent on religion.

Hyena-Swine is a prime example of the complications of religion-dependent morality. Early in the novel, Hyena-Swine broke the law to eat rabbits, but evaded punishment by pinning it on Leopard-Man. Hyena-Swine continues to obey Moreau, but only out of fear. Following Moreau's death, there is no more threat of punishment in the House of Pain for disobedience. Hyena-Swine now breaks the law freely and becomes the apex predator of the island until Prendick can kill him. Hyena-Swine's animalistic desires were always present but were repressed solely to avoid punishment. Hyena-Swine's law-abiding actions in the novel were not because he agreed with following the law or did not wish to cause harm, but were solely a result of fear of punishment. Once that threat was gone, he had no moral obligation to follow the law. Other Beast-Folk such as Dog-Man still attempt to follow the law following Moreau's death, even without any threat of punishment. These Beast-Folk tell Prendick they will uphold the law not out of fear, but because they "love the law and will keep it" (Wells 105). Because these

Beast-Folk have accepted the Law and the morals it instills on their own, they still feel a desire to uphold it without Moreau looming over them.

The difference between these two types of Beast-Folk is that for those like Hyena-Swine, his morals - the absence of sin - are solely a result of fear of Doctor Moreau. Meanwhile, Dog-Man and the others follow the law and uphold their morals out of their own desire. When Moreau died and his religion collapsed, only the Beast-Folk who upheld the Law on their own were able to retain their morality. For those like Hyena-Swine, it was a case of what Wells refers to as "artificial evolution", in that Hyena-Swine did not evolve the traits of civilized behavior and obedience out of true evolution, but that these traits were acquired out of fear. Once the stimulus of fear and punishment vanished, Hyena-Swine no longer needed to repress his instincts.

Montgomery's Moral Dependence

Montgomery, Dr. Moreau's human assistant, demonstrates how the idea of becoming dependent on another for moral values can be applied to humans. When Prendick meets Montgomery, he is quick to realize that Montgomery's morals do not align with Prendick's. After saving Prendick from the dinghy, Montgomery dismisses Prendick's thanks by insisting it was a result of chance rather than a conscious decision by Montgomery. Montgomery also says that he was just "bored, and wanted something to do" (Wells 18) when he saved him. Montgomery refuses Prendick's thanks not only because he thinks himself undeserving of thanks for something that occurred by chance, but also because he has selfish reasons for bringing Prendick to the island. Montgomery has no company aside from Dr. Moreau and the Beast-Folk,

causing him to spend most of his time drinking or attempting to civilize the Beast-Folk into companions that can tame his loneliness.

Montgomery often attempts to make Prendick crack his selfless nature and act immorally by drinking with him, something Prendick refuses every time. Because Montgomery thinks of life as meaningless and a result of chance, he lacks any motivation or need to develop his own morals to guide him in a society completely ruled by another. As this dynamic continues, Montgomery begins to revert from a human with agency to one of the Beast-Folk under the control of Dr. Moreau. Montgomery even thinks of himself as a "bubble blown by a baby" (Wells 94), referring to himself as an aimless object guided by Doctor Moreau's wishes.

Montgomery's dependence on Dr. Moreau is cemented when Montgomery struggles to find a purpose in life following Dr. Moreau's death. As the last two humans on the island. Prendick and Montgomery begin to discuss their plan. During this conversation, Prendick realizes that "[Montgomery] had been strangely under the influence of Moreau's personality: I do not think it had ever occurred to him that Moreau could die" (Wells 87). Without Moreau, Montgomery is lost now that he must rely on his own morality to guide his decisions.

As time passes, Montgomery slowly starts to exhibit his own morals in the absence of Dr. Moreau. Montgomery and Prendick work together to "put an end to all we found living" in Moreau's laboratory (Wells 93). Despite this being against Moreau's wishes, Montgomery can agree with Prendick that killing these tortured beings is a mercy. However, Montgomery's true morality comes to the surface when he and Prendick disagree about their plans with the Beast-Folk. Montgomery knows that Prendick's morals and selfless nature are unswayable and worries that Prendick's moral compass will guide him to kill all of the Beast-Folk who freely reside on the Island. Montgomery says "We can't massacre the lot - can we? I suppose that's what *your*

humanity would suggest. But they'll change. They are sure to change" (Wells 94). Montgomery's hope that the Beast-Folk will change demonstrates that he is beginning to realize his actions do have a result on the world around him, and that he can no longer be a silent bystander blown around by the actions of others.

For the first time, Prendick's morality is being used to villainize him as Montgomery allies himself with the Beast-Folk who he has come to regard as his friends and allies over the years. Montgomery's need for companionship may have initiated the time he spent with some of the Beast-Folk, such as M'Ling, but as time went on Montgomery now identifies more with these Beast-Folk than another human. This leads to an argument breaking out between Prendick and Montgomery that forces them to draw a line between them as their difference in morals separates them into two distinct species. Morality being what drives apart Prendick and the Beast-Folk reinforces Wells' idea that morality is a distinguishing factor in separating humans and animals. Disgusted with what Montgomery has become, Prendick tells him "You've made a beast of yourself, - to the beasts you may go" (Wells 88). Montgomery's change in morality and agency throughout the novel demonstrates the idea that when humans aren't making moral decisions for themselves, they become less human.

Prendick's Atheist Morality

Unlike Montgomery, Prendick is able to maintain his morals and humanity throughout the entire novel. Prendick is an atheist, and his continuous desire to deny drink and immoral actions is the result of his own ethical code, not one instilled by religion. Prendick's morality is tested in the novel even before his arrival on the island. Prendick has always been heavily

dependent on his morals to guide his actions, even without any threat or critical eye watching him. Following the shipwreck, Prendick and the two men on the dinghy soon need resources. Prendick overhears the other two men suggesting "what they were all thinking" (Wells 7), referring to cannibalism. Prendick refrains from describing this suggestion to the reader, nor does he agree with the men. There is nobody to observe or punish Prendick if he agrees with the suggestion, yet he still refuses. This is the first case where Prendick chooses to follow his own morals even without any threat or other force guiding him to be moral. Prendick's morality will be heavily tested upon his arrival on the island and the horrors he encounters.

Prendick's morals continue to be the strongest throughout the novel, even though he is the only one who is not religious or under Moreau's god-like rule. This reflects T.H. Huxley's argument against Spencer's Social Darwinism and Huxley's claim that "society is impossible unless those who are associated agree to observe certain rules of conduct towards one another" (Huxley 56). The backbone of Moreau's island society is that all the Beast-Folk will follow the rules and act civilized. However, the minute that Moreau and his influence die, the entire system is destroyed, and agreement of conduct is lost since this was not a conscious decision of the Beast-Folk, but one forced by fear.

Prendick is often torn between helping the Beast-Folk evade Dr. Moreau or helping Moreau keep the Beast-Folk in line. Much of Prendick's indecision on what to think of the Beast-Folk comes from his struggle to identify them as man or beast. When Prendick first confronts Moreau and sees his laboratory, Prendick believes that the Beast-Folk were humans that Moreau had experimented on, not animals.

Prendick realizes that the Beast-Folk can't help him and flees to the beach. Montgomery and Moreau catch up, and Prendick tells them "I am going to drown myself…Because that is

being better than tortured by you" (Wells 59). Montgomery's whisper of "I told you so" to Moreau suggests he knew exactly how Prendick would react, which hints at Montgomery and Prendick's constant battle over their difference in morality. Prendick ignores their discussion, confronting Moreau by saying "They were men, men like yourselves, whom you have infected ...men whom you still fear!" (Wells 59). Prendick shouts at the crowd of Beast-Folk for support, asking "Do you not see how these men still fear you, go in dread of you? Why, then, do you fear them?" (Wells 59). The Beast-Folk do not fight back, and Montgomery and Moreau quickly silence Prendick before the Beast-Folk can register what he has suggested.

Moreau explains the truth to Prendick, informing him that he's experimented on animals, not humans. Almost immediately, we see a shift in the way Prendick thinks of the Beast-Folk. The creatures he once thought of as his allies against Dr. Moreau he now thinks of with "shivering horror" (Wells 69). Though Prendick comes to understand the nature of Moreau's experiments, he still struggles with his urge to feel empathy for the Beast-Folk. Dr. Moreau is exceedingly convincing in his plea to Prendick's reason, comparing his vivisections to be similar to what breeders of dogs and horses do to get offspring with the best traits (Wells 63). Moreau also notes how this practice had been demonstrated by "all kinds of untrained clumsy-handed men for their own immediate ends. I was the man to take up this question armed with antiseptic surgery, and with a really scientific knowledge of the laws of growth" (Wells 64). Moreau also appeals to Prendick's emotional state, pointing out cases of Siamese twins or dwarfs being made for "artistic torture" (Wells 63), or purely an aesthetic experimentation rather than an experiment with a meaningful purpose. Moreau is attempting to get Prendick to see his work as better, solely because he is experimenting on animals rather than people.

Another instance of Prendick's morals guiding his actions is during the pursuit of Leopard-Man. Moreau reveals he plans to punish Leopard-Man in the House of Pain for his defiance of breaking the Law. Moreau tells Prendick "Each time I dip a living creature in the bath of burning pain, I say, this time I will burn out all the animal, this time I will make a rational creature of my own" (Wells 69). Knowing Dr. Moreau's intention, Prendick shoots and kills Leopard-Man to save him from Moreau's torture. Though Prendick agrees that Leopard-Man broke the law and was a danger to the humans on the islands because of it, he does not agree with torture.

After Moreau's death, Prendick's morals again lead him to defy Moreau's wishes when Prendick and Montgomery "put an end to all found living" in Moreau's laboratory (Wells 93). Prendick wants to free these creatures from pain, and he understands the best way to do this is to end their suffering. Despite Moreau's attempt to guide how Prendick views his work, he consistently relies on his own morals and empathy to guide his actions and decisions.

Prendick's reliance on his own morals instead of Moreau distinguishes him from the Beast-Folk who rely completely on Dr. Moreau and the Law for their sense of morality. Even when Prendick learns that the Beast-Folk are held in line by the law, he can only think of them as "grotesque caricatures of humanity" (Wells 53). Without the ability to develop their morals organically, Prendick begins to see the Beast-Folk as poor imitations of a human who blindly follows the morals Moreau mandates of the society. Prendick recognizes that their morality is rooted in Moreau, which is what he and Montgomery rely on to control the Beast-Folk following Moreau's death.

After Montgomery is killed in a fight with the Sayer of the Law, Prendick struggles to control the society without reverting to Moreau's House of Pain. Prendick's first enforcement of

his rule is when he shoots Hyena-Swine, the wild predator who has finally come out of hiding to kill Dog-Man. The difference between this act and Moreau's punishments is that Prendick was upholding the law everyone agreed to uphold without fear, all who "love the law" (Wells 97). Because the Beast-Folk agreed on this without Moreau's influence, Prendick wasn't being a cruel leader by upholding the Law.

Prendick continues to exercise control differently than Moreau as he stays on the island. Prendick will use weapons and throw stones to defend himself and those close to him, but his actions are never out of cruelty or a desire to inflict pain. Prendick is the first leader to not act as a God, and in turn, is the only character to find a bit of fulfillment in life. Though not an easy return to society, Prendick is eventually able to leave the island and find a career that does not involve biology, vivisection, or much life at all. While once a biologist, Moreau has tainted that passion for him.

Prendick's strong morality also functions for another purpose, which is to provide an example of a scientist whose intelligence doesn't result in moral decline. There have been many prominent examples of the ambitious scientist who loses his morals in the name of research, such as Stevenson's Dr. Jekyll and Shelley's Victor Frankenstein. Prendick's narration of Dr. Moreau portrays him as a genius who ultimately succumbed to the "overmastering spell of research" (Wells 31). Dr. Moreau is very proud of his Beast-Folk and tells Prendick how he was the "first man to take up [the] question" (Wells 64), referring to his study of evolution through vivisection and surgical modification. Dr. Moreau is aware of the moral implications of his work due to the public's response and the physical pain he causes the animals he experiments on, however, Dr. Moreau takes an amoral approach that doesn't consider the inherent rightness or wrongness of

his actions, only what it produces. He considers the evolutionary advancements to be worth the suffering he causes.

Though Dr. Moreau is the most obvious scientist in the novel, Wells takes more interest in Prendick's approach to science. Prendick's role as a scientist can be forgotten in the shadow of Dr. Moreau, but Wells was clearly interested in portraying an alternative to a scientist whose genius leads to a loss of morality. Prendick is a biologist and claims to have studied biology at the Royal College of Science under T.H. Huxley, just as H.G Wells did. Though being a scientist of life pushes him closer to Dr. Moreau's interests, Prendick's ability to continuously apply his morals to the complex situations he encounters is what distinguishes him. When Dr. Moreau attempts to sway Prendick by telling him about the scientific advancements his research will produce, Prendick is simultaneously able to see the scientific merit as well as understanding that Moreau's work is cruel and immoral. Even though Prendick recognizes Dr. Moreau for the "Moreau Horrors", which were the cruel vivisections that drove him out of London, Prendick also regards him as a "masterful physiologist" who published "astonishing facts" (Wells 39). As he navigates the island and Beast-Folk, Prendick continues to respond to situations with a scientific inquisition that is constantly regulated by his morals and empathy. His decisions are never solely driven by ambition, but rather are kept in check with his strong morals. Prendick's educational history mirroring H.G Wells' adds to the idea that Wells uses Prendick as a vessel to demonstrate his morals and ideals as a scientist, as well as to set an example of an intellectual scientist whose morals don't decline as they advance their studies.

Through his characters' actions and Moreau's religious influence, Wells rejects the idea of Religion-elicited obedience in favor of people developing their own morals and abiding by them as they see fit. What makes us truly human is the ability to make moral and ethical

decisions by our own standards, and to be prepared for the consequences of those decisions. While *The Island of Doctor Moreau* can be cited as evidence for what happens when we lose a religious leader, a deeper reading reveals that this is not a warning for the downfall of Religion, but rather a message to not let our morals become completely dependent on religion or another person. The downfall of the Island society and the reversion of the Beast-Folk to animals demonstrates that a society completely dependent on a religious system will crumble once the authority figure falls. To be completely human, a person must create and uphold their own moral standards independently of organized religion. While rejecting fear-elicited obedience, Wells also clearly demonstrates his support of Darwinism and his own ideas of the distinction between inherited and acquired traits that ultimately define the key difference between man and animal, which is not just in physical form, but in moral development.

Chapter 4

Manufactured Monsters

While the nature and precise goals of the experiments performed differ across the two novels, there is one similarity that connects the results of the experiments -the Beast-Folk from *The Island of Doctor Moreau* and Mr. Hyde from *The Strange Case of Dr. Jekyll and Mr. Hyde.* Neither of these creations is found naturally in the environment. Instead, their existence is the result of their creators - the scientists. Each of these antagonists is at one point villainized for their "monstrous" qualities. In *The Island of Doctor* Moreau, Prendick calls the Beast-Folk "Monsters Manufactured" (Wells 63) after Dr. Moreau explains their origins. In *The Strange Case of Dr. Jekyll and Mr. Hyde,* Dr. Jekyll says that Mr. Hyde is "wholly evil" (Stevenson 56), then admits that "Edward Hyde became irrevocably mine" (Stevenson 59). In each of these cases, there is a sense of ownership and creation between the scientists and their creation.

Perhaps it is an ambitious drive to be credited for something so brilliant that causes the scientists to be unable to separate themselves from their creations, but there is also a sense of separation that implies that the horrific acts these creations commit were not their intention and thus not their fault. Prendick's use of the phrase "manufactured monsters" in reference to the Beast-Folk suggests that these beings were made into monsters rather than born monsters. His use of the word "manufactured" can be taken in the literal sense that the scientists manipulated factors to produce the form of their creations, but also suggests that perhaps the monstrous qualities were "manufactured" into them by their environment. This idea is the basis for the nature vs nurture debate, which can also be used to examine if an inclination towards evil is a genetic predisposition or an acquired trait as a result of the environment.

Nature vs Nurture

In both *The Island of Doctor Moreau* and *The Strange Case of Dr. Jekyll and Mr. Hyde*, the reader is left grappling with questions on morality and the root of evil. Comparatively, these texts offer differing perspectives on whether evil is acquired or inherited, which expands to the larger debate of nature vs nurture.

The debate of nature versus nature has continued since the mid-19th century when Francis Galton coined the official term to describe the debate of how the environment and heredity impact sociality in an individuality (Serpell). Nature and nurture refer to an organism's genes and its environment, respectively. The debate focuses on which of these has more impact on a person and can range from the likelihood of developing a particular disease to a person's personality. The debate is still central to understanding human social development and behavior. As scientists began to find clear connections between genes linking to certain diseases, or genes being activated by environmental triggers, the scientific community gradually began to wonder about the aspects that couldn't be explained by genes or environmental factors, such as behavior. The question of whether certain behaviors are genetically inherited or a product of the environment is central in both of the texts, particularly the effect of nature and nurture on evil.

In *The Island of Dr. Moreau,* Wells uses his biology background and the advancements in Mendelian Genetics and Evolution to describe the role that genetic inheritance plays in shaping behavior and personality. Dr. Moreau seeks to triumph over nature by manipulating the code of life - genetics. The Beast-Folk are constantly in conflict between their inherited animal instincts and the way that Dr. Moreau urges them to behave. Though their genes guide them to walk on all fours, Dr. Moreau forces them to walk on two and to perform other human-like behaviors they weren't born to do. This is a direct metaphor for the nature vs nurture debate, as readers wonder

alongside Prendick which of the two will have the biggest effect on the Beast-Folk. Though Dr. Moreau continuously uses punishment, threats, and other forms of manipulation to control the Beast-Folk's behavior, he is never able to suppress their animal instinct entirely. This demonstrates that though the environment can affect our behavior, it can never entirely replace an organism's genetic predisposition.

Though *The Island of Doctor Moreau* emphasizes genetics and nature's role in behavior, Wells does acknowledge the effect of our environment and experience in shaping our ethics in "Human Evolution." The emphasis on genetic inheritance in *The Island of Doctor Moreau* could have been a deliberate choice to push back against anti-Darwinians and those who refused to accept evolution. Though Wells does favor inheritance in the Beast-Folk behaviors, he doesn't explicitly apply that to evil. The Beast-Folk's "sinful" actions are all constructed by Dr. Moreau's Law, which was a method to control the Beast-Folk and not an accurate depiction of morality. The Beast-Folk's inclination towards certain behaviors like eating flesh or being a predator wasn't an inherited inclination towards evil - it was towards being a wild animal.

The Strange Case of Dr. Jekyll and Mr. Hyde offers a middle ground on the nature vs nurture debate and how it influences evil. Dr. Jekyll has evil inclinations before his experiment, which he views with absolute disgust. His entire experiment is driven by his desire to separate the good and evil within himself, so as not to impart "deformity and decay" (Stevenson 55) on the good half. Dr. Jekyll manufactures a drug to separate the two sides, creating Mr. Hyde as an evil manifestation of the evil that was previously housed in Dr. Jekyll. Though Mr. Hyde's evil is fully the product of Dr. Jekyll's experiment and drug, he isn't a separate being from Dr. Jekyll. Their entwined existence demonstrates Stevenson's idea that everyone has the same predisposition to be evil, but that our morality can keep that evil repressed. Dr. Jekyll's feelings

of shame and revulsion towards his evil actions demonstrate his goodness while also reinforcing the idea that a person can never be wholly good or evil, but that our morality is constantly in flux as we navigate our environment and make choices between good and evil.

Each of these texts offers a unique take on the nature and nurture debate and how it can be applied to evil. Robert Louis Stevenson favors the middle ground of the debate by demonstrating how evil is inherently present in all of humanity but is regulated by the morals we develop from the environment. Though H.G. Wells focuses on genetic inheritance, unlike Stevenson, Wells wasn't as interested in labeling characters as evil or monsters in his text as he was in broadly examining the role of biological and social evolution in morality.

Chapter 5

Conclusion

Charles Darwin's Theory of Evolution through natural selection was one of the most important and controversial scientific discoveries of the 19th century. The theory's incompatibility with religious modes of creation divided society, causing distrust of science to reach new heights. While scientists such as T.H. Huxley and Herbert Spencer developed their own theories on evolution to contribute to Darwinism, gothic novelists decided to respond to the societal fears the theory of evolution generated.

Both Robert Louis Stevenson and H.G. Wells use science to impart a sense of terror on their audiences as they write of cruelty, deformity, and primal instincts. The scientists in the novels put evil into the world by mastering concepts of science ranging from anatomy to psychiatry, and then applying that science to their experiments. Yet, the terror that readers feel in response to the novels isn't a fear of the unknown aspects of science.

Most of the science represented in *The Strange Case of Dr. Jekyll and Mr. Hyde* and *The Island of Doctor Moreau* are not new ideas pioneered by the protagonists in the novels. Instead, this science is taken from pre-existing scientific theory that has been grounded in experimental evidence. Both Dr. Jekyll's and Dr. Moreau's experiments were inspired by previous experiments that were done for the benefit of society. Dr. Jekyll's pharmaceutical experimentation does result in the creation of Mr. Hyde, but his methodology is similar to that of the scientists who created pain suppressants and other beneficial medications. In *The Island of Doctor Moreau,* Dr. Moreau

relies on vivisection and evolutionary theory to create the Beast-Folk, but surgical alterations have historically been done for beneficial medical purposes.

In both cases, the authors rely on the principles of established science to guide their fictional experiments rather than writing of horrifying, unknown predictions of science. The decision to use science for evil and selfish gains is the decision of the scientist, not a direct result of the science itself. The authors explore the nature of science alongside human nature to demonstrate that horror isn't found in scientific fact, but in the minds of humans.

H.G. Wells uses *The Island of Doctor Moreau* to demonstrate his support of Darwinian Evolution, but also pushes his readers to consider the origin of their morality and their objection to Darwinism. The revulsion readers may have felt at the Beast-Folk and their unwavering adherence to Law may have inspired them to reflect on their own motivations for adhering to a moral code. Because much of Victorian values were derived from religion, Wells makes a clear case for the dangers of not developing morals independently of other influences.

Similarly, in *The Strange Case of Dr. Jekyll and Mr. Hyde,* the hideous and evil nature of Mr. Hyde is the result of Dr. Jekyll's human desire to remove a part of himself that is found in every human. The disgust at Hyde's deformed appearance and cruel actions would have encouraged readers to reflect on the evil within themselves and note how the presence of their conscience sways them away from evil and into being moral.

Despite being separated by a decade of scientific advancement in evolutionary theory, both novels are able to portray human nature in a way that is still relevant to modern readers. By arguing that the evolved state of humanity is due to acquiring morality, Stevenson and Wells make a case for how Darwinism can be accepted without the fears of moral degeneration and

biological regression. Both novels plead to the humanity in readers, arguing not to condemn or fear science, but to fear those who act without the guidance of morality.

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