

**From the Enlightenment to Transhumanism:  
Emerging Moral Issues Explored  
in Mary Shelley's *Frankenstein***

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Bachelor's Thesis  
2019



**Tomas Bata University in Zlín**  
Faculty of Humanities

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Univerzita Tomáše Bati ve Zlíně

Fakulta humanitních studií

Ústav moderních jazyků a literatur

Akademický rok: 2019/2020

## ZADÁNÍ BAKALÁŘSKÉ PRÁCE

(projektu, uměleckého díla, uměleckého výkonu)

Jméno a příjmení: Klára Kiliánová  
Osobní číslo: H170101  
Studijní program: B7310 Filologie  
Studijní obor: Anglický jazyk pro manažerskou praxi  
Forma studia: Prezenční  
Téma práce: Od osvícenství k transhumanismu: morální problémy v románu *Frankenstein* Mary Shelleyové

### Zásady pro vypracování

Shromáždění materiálů k tématu  
Studium odborné literatury  
Formulace cílů práce  
Analýza prvků osvícenství a transhumanismu v románu *Frankenstein* Mary Shelleyové  
Vyození a formulace závěrů práce


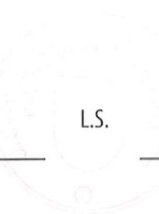

Forma zpracování bakalářské práce: **Tištěná/elektronická**  
Jazyk zpracování: **Angličtina**

**Seznam doporučené literatury:**

- Ferber, Michael. *Romanticism: A Very Short Introduction*. Hampshire: Ashford Colour Press, 2010.  
Mercer, Calvin, and Tracy J. Trothen. *Religion and Transhumanism: The Unknown Future of Human Enhancement*. Santa Barbara: Praeger, 2014.  
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Smith, Andrew. *Gothic Literature*. Scotland: Edinburgh University Press, 2007.

Vedoucí bakalářské práce: **Daniel Paul Sampey, MFA**  
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Datum zadání bakalářské práce: **8. listopadu 2019**  
Termín odevzdání bakalářské práce: **11. května 2020**

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## **ABSTRAKT**

Román Mary Shelleyové z roku 1818 *Frankenstein neboli moderní Prométheus* vypráví příběh o ctižádostivém vědci, který zaujmul roli Boha, když zdárně stvořil nový druh lidské rasy přesahující vymezení lidskosti. Ve stejném duchu, technologický a vědecký pokrok inspiroval dnešní hnutí transhumanismu a jeho představy o vylepšení lidské rasy a dokonce, stvoření umělého života. Transhumanisté chtějí vylepšit lidskou rasu pomocí biomechanického a genetického inženýrství a eventuálně, získat kontrolu nad lidskou evolucí. V románu Mary Shelleyové se objevují myšlenky transhumanismu, které vychází ze starověkých a okultních věd jako alchymie. Ačkoliv Victor Frankenstein dosáhnul úspěchu, to, co stvořil se stane jeho zkázou. Tato bakalářská práce se soustředí na směry, které formovali moderní vědu se začátkem ve starověkém Řecku až po moderní dobu a hnutí transhumanismu. Zároveň se tahle práce bude soustředit na historický a kulturní kontext románu *Frankenstein neboli moderní Prométheus* a poukáže na spojitosti s dnešním světem.

Klíčová slova: alchymie, osvícenství, Frankenstein, gotický román, Mary Shelleyová, Percy Bysshe Shelley, materialismus, renesance, romantismus, transhumanismus

## **ABSTRACT**

Mary Shelley's 1818 novel *Frankenstein; or, The Modern Prometheus* tells the story of an excessively ambitious scientist who successfully creates a so-called posthuman – beyond human – and thus, positions himself as God. Similarly, the influence of advanced technology and science has inspired the modern-day movement of Transhumanism and its ideas on human enhancement and even the creation of life itself through technology. Transhumanists seek to enhance the human condition through biomechanical and genetic engineering and, eventually, they wish humans to direct their own evolution to a posthuman species. Several transhumanist ideas which proceed from ancient sciences, alchemy and occultic beliefs and practices can be found in the novel. Despite the success of Victor Frankenstein's experiments, his creation turns out to be his demise. This study aims to explore the foundational notions which helped to shape contemporary science – building on the beginnings of science in ancient Greece towards modernity and the movement of Transhumanism – while exploring the historical-cultural context of *Frankenstein; or, The Modern Prometheus* and connecting it to the contemporary world.

Keywords: alchemy, the Enlightenment, *Frankenstein*, Gothic novel, human engineering, Mary Shelley, Percy Bysshe Shelley, materialism, “playing god”, posthuman, the Renaissance, Romanticism, Transhumanism

## **ACKNOWLEDGEMENTS**

I hereby declare that the print version of my bachelor's thesis and the electronic version of my thesis deposited in the IS/STAG system are identical.

Klára Kiliánová



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## INTRODUCTION

*Frankenstein; or, The Modern Prometheus*, a novel inspired by the Greek myth of Prometheus seems to be ominously prescient in its message despite it being over two hundred years old. This thesis aims to explore the history of contemporary science and its efforts to establish the human as the master of his own evolution and introduce possible consequences of man playing God in connection with Mary Shelley's novel *Frankenstein; or, The Modern Prometheus*. The constant progress of technology and sciences since ancient times has nurtured the birth of a loosely defined movement of Transhumanism. The shared element among transhumanists is the confidence in the progress of technology, a common Enlightenment idea which draws upon a utopian vision of human society that eventually will no longer need to be confined by what were once thought of as natural laws of physics and biology. Transhumanists seek to utilise contemporary science to enhance the human condition, i.e. increase longevity, elimination of diseases, and improvement of human intellectual, physical, and emotional abilities. Shelley dramatized the transhumanist ideas through the character of Victor Frankenstein and his insatiable ambition to play God. The fate of Victor Frankenstein can serve as a warning of what can ensue after unregulated genetic enhancement. Generally, transhumanists are not daunted by the possible consequences of playing God (Bostrom, 2005; Peters, 2007; Mercer and Trothen, 2014).

This thesis aims to explore the birth of science and its gradual development and to discuss the possible future of human engineering in connection with the historical context and the story of the novel *Frankenstein; or, The Modern Prometheus*.

**I. PAST AND FUTURE:  
RELEVANCE OF THE NOVEL  
*FRANKENSTEIN* TODAY**

## 1 THE TRUE AUTHOR OF FRANKENSTEIN

Generally, it is assumed that it was Mary Shelley who conceived the ideas forming the story of a creation abandoned by its creator and consequently forced to endure the existential horrors. An often repeated but possibly apocryphal creation story tells of the novel being the result of a contest of who could write the most frightening tale which took place on a stormy 1816 night in a small cottage on the shores of Lake Geneva. Spirits were said to have blown through the house as the writers worked on their contributions in various sections of the cottage. Among the four contestants were said to be Lord Byron, age 28 at the time, along with 23-year-old Percy Bysshe Shelley and his current paramour Mary Shelley, 18 years old. (Perrottet, 2011)

The claim that Mary Shelley was inspired to write, or at least begin *Frankenstein; or, The Modern Prometheus* on that fateful night is supported by various academic articles, as well as by the traditional literature. Still, to some scholars, the authorship of *Frankenstein; or, The Modern Prometheus* attributed to Mary Shelley seems only reliable on the surface.. According to some academics, it was not Mary who stood behind the creation of *Frankenstein; or, The Modern Prometheus*, but her husband, Percy Shelley (Zimmerman, 1998; Howard, 2008; Lauritsen, 2007). Harvard University alumnus John Lauritsen is a strong defendant of Percy's authorship. Furthermore, he spent a great deal of time rereading and comparing the works of the individual works of Mary Shelley and Percy Shelley. What is more, unlike her famous mother pioneering women's rights advocate Mary Wollstonecraft, the style of writing of Mary Godwin (she had not yet married Shelly when she is said to have begun the novel) was described as "...flaccid, sentimental, verbose, clumsy, and sometimes ungrammatical." Before the first, anonymous publication of the novel on January 1<sup>st</sup>, 1818, Percy Shelley might have been concerned that the novel revealed too much about him, such as his fascination with the occult which many Romantics shared. Thus, he claimed the authorship to his wife, Mary. After the first publication and Percy Shelley's death in 1822, Mary, together with her father William Godwin, edited and publicized a second edition in 1823. Later, in 1831, the third edition, "...eliminated or greatly reduced political radicalism, religious scepticism, homoerotism, and a hint of incest" (Lauritsen, 2007; Howard, 2008). Only in the 1831 edition was the idea was introduced that in 1816 Mary Godwin wrote the story as a part of a ghost story writing competition in Geneva with Lord Byron, John William Polidori (Byron's physician) and Percy Shelley. This version of the origin of the novel added it was a result of an inspiration caused by a

nightmare Mary suffered. However, some academics claim that this is not true (Balfour, 2016; Jogleux, 2015; Farrell and Hart, 2011). Despite this evidence to the contrary, in this thesis I will refer to Mary Shelley as the author of the novel.

## 2 THE BIRTH OF THE FUNDAMENTAL IDEAS OF THE ENLIGHTENMENT

The purpose of this chapter is to convey the impact of ancient thought on European and mainly English intellectual culture during the 17<sup>th</sup> century, as well as to examine the philosophical, intellectual, and religious changes throughout this period. The 17<sup>th</sup> and 18<sup>th</sup> centuries witnessed the evolution and development of a “new philosophy.” This opening section will provide various arguments from the Enlightenment, which originated a few centuries earlier from streams of thought beginning in the Renaissance.

### 2.1 Emergence of Reason

The use of reason and the emphasis on rationality has its roots in ancient Greece, namely the pre-imperial period from 600 to 300 BCE, which is known as the Hellenic era. During this period, Greek science witnessed an unprecedented turn, as natural philosophers developed a series of theories about the natural world (Dorn and McClellan, 2006).

Additionally, Hellenic science’s most remarkable feature is the putative invention of natural philosophy or the philosophy of science. This study of the philosophy of nature began with early Greek speculations on the cosmos and the disinterested Hellenic quest for abstract knowledge focusing on philosophical dimensions and detachment from economic or social objectives (Gottlieb, 2016).

Plato, one of the most prominent Greek philosophers along with his student Aristotle, emphasized that one should not study astronomy seeking practical benefits (Dorn and McClellan, 2006; Funkenstein and Sheehan, 2018). Plato’s idea that unphilosophical people confuse fleeting phantoms, i.e. beautiful objects, with reality, which is considered to be Beauty itself. A higher point of view is taken by those who realize that there is an ideal realm of Forms which exists separately from the physical world and our subjective opinions. Plato stressed that the true philosopher’s job is to use rational inquiry to grasp the transcendent realities and focus on the important ones. Plato’s work heavily contributed to the future development of Western Philosophy and is still often referred to today in both academic and popular works.

Plato’s pupil Aristotle (384-322 B.C.), a Greek philosopher and scientist, is an acknowledged founder of what became the modern studies of logic, the natural sciences, the arts, metaphysics as well as many other fields of inquiry. He created a system of natural philosophy to describe the operations and structure of the world. Aristotle thought of reason and thought as the highest activity in the universe, and firmly believed in the rationality of

the universe. He supposed that God's only activity is thinking about himself, as he is the only thing worth attention, hence the noblest entity engages with reason and thought. Aristotle compared humans to gods because of their ability to reason. Even though Aristotle often mentions God and gods, scholars indicate that was not doing it in the sense of what today we would call organized religion, "Rather, we might connect Aristotle's remarks about the divinity of the universe with the sense of wonderment which nature and its works produced in him" (Barnes, 2000; Grant, 2001). Lastly, Aristotle believed in the worthiness of unprejudiced examination of natural phenomena, and his attention to empirical data derived by the senses, a stance which greatly influenced the Renaissance and, later, the Enlightenment thought of Shelley's day. Reason represented the most powerful tool available for obtaining knowledge about the workings of the natural world (Gottlieb, 2016)

In contrast to Plato's valuation of the ideal Form of a thing and from there using this perfect model to compare all the specific examples in existence, Aristotle began his typology with the exact examples of things in the real world, working his way up to the idea of the perfect Form of the thing (Hauser, 2013). English Romantic poet Percy Bysshe Shelley (1792-1822) was much inspired by the Classical Greek heritage and contributed to the translation of Greek texts. Shelley adopted Plato's theory of Ideas, which is demonstrated in his *Hymn to Intellectual Beauty* (1817). Shelley drew inspiration from his study of an ancient Greek tragedian Aeschylus (c. 523 B.C.- c. 456 B.C.), and applied it in his 1820 masterpiece *Prometheus Unbound*. This lyrical drama contains many similar themes to the novel *Frankenstein; or, The Modern Prometheus*, for example stealing the source of light, power and creation from the gods, and receiving punishment for doing so (Dietz, 1948).

### 2.1.1 Theories of Souls

As early as in the 12<sup>th</sup> century B.C., people have been thinking about the concept of a human soul. The term "soul" was used in the Homeric poems in two ways. However, Homer does not ascribe any attribute to souls; no character from his work does anything for the sake of his soul.

From Homer to the end of the 5<sup>th</sup> century, the concept of "soul" undergoes significant semantic expansion. Sicilian philosopher and poet Empedocles (c. 492-432 B.C.), as well as Pythagoras, believed that even plants have souls. The belief that souls are not limited to humans was followed by Plato but rejected by Aristotle. The Pythagorean speculation beginning around the mid-6<sup>th</sup> century concerning what happens after a person's death contributed to the semantic expansion of the concept of the soul.



Many 5<sup>th</sup> and 6<sup>th</sup>-century thinkers thought that the soul is bodily and material but composed of delicate or rare kinds of matter. The idea that the soul is physical solves the issue about the relation between soul and body, the difference of which was only in degree of properties such as mobility and fineness (Algra et al., 1991).

In *Phaedo* Plato also polemizes about the immortality of the soul. The soul is supposed to be imperishable, as the body is a subject to destruction, the soul is intangible, and thus, cannot be destroyed. Lastly, Plato also believed in the idea of the soul's reincarnation (Bremmer, 1983; Snell, 1960).

Ancient Greek philosopher and scientist Aristotle (c. 384-322 B.C.) thought of a soul as a certain kind of nature that rests in living bodies and accounts for change. The soul-body relation is an instance of the more general relationship between a form and matter. Thus, living organism with a soul is a particular kind of in-formed matter. Aristotle constructed a framework, in which each of the vital functions such as metabolism or reasoning are approached as functions performed by natural organisms of suitable structure and complexity. Therefore, the soul is a system of abilities possessed and manifested by animate bodies (Granger, 1996).

Throughout the Hellenic period, variants of theories concerning souls emerged. Ancient philosophy and theorizing about the soul did not end with the Hellenic period. The revival of interest in the works of Plato and Aristotle is present in the works of Christian writers, such as Clement of Alexandria, who was inspired by the ancient theories of the soul, especially Platonic ones (Armstrong, 2008). Mary Wollstonecraft Shelley (1797-1851) was also influenced by Ancient Greek mythology regarding the soul. This is reflected in the novel, in which she draws inspiration from the story of Prometheus. From this story, she adopts a sense of consequence resulting from seeking enlightenment and power (Dudczak, n.d.).

Mary Shelley's concept of the soul is said to favour neither the Romantic transcendental idea based on the belief that there is a divine spirit in nature and in every living soul nor in materialist reductionism, which views "man as machine" (Willis, 1995, Haydel n.d.).

### **2.1.2 Astrology, Alchemy and Other Occult Sciences**

During antiquity, the period of classical and other human civilizations before the Middle Ages, a group of disciplines referred to as occult sciences were flourishing. These include mainly alchemy and astrology, which were defined to include all things below the moon in the sublunary, belonging to this world, or elemental world and all things above the moon in

the superlunary, belonging to the celestial world, or heavenly realm. These two worlds were linked by the esoteric mathematics and geometry of Pythagoras and Plato, which were applied in numerology, the belief that there is a divine or mythical link between numbers (Armstrong, 2008).

Astrology and alchemy were not considered pseudoscience, i.e. against the Christian view of the world, until the 9<sup>th</sup> century, and were not entirely separated from astronomy and chemistry until the 17<sup>th</sup> century. Throughout the Middle Ages, the sciences of alchemy and chemistry were almost synonymous (Godwin, 1982; Haydel, n.d.).

### 2.1.2.1 Alchemy

Alchemy has become known as the predecessor of modern chemistry, although the development was not quite this simple. The practice of alchemy has a long history beginning in Babylon and from there was brought to Egypt. From there, it spread to Byzantine and Islamic worlds during the first millennium B.C.

Alchemists desired to extract pure substances by imitating the condition of creation, and thus, to manipulate nature (Funkenstein and Sheehan, 2018). The most notable pursuit of alchemists was the philosophers' stone, which could transmute metals and create elixirs. As known in medieval folklore, the spirits of the elements or "elementals" were essential for alchemists for their goals. The names for these spirits were standardized in the 16<sup>th</sup> century by Paracelsus (1493-1542) and Heinrich Cornelius Agrippa, but the concepts had existed long before (Gottlieb, 2016). The author of *Frankenstein; or, The Modern Prometheus* used knowledge both of the occult and of modern science to create the character of Victor Frankenstein, who adored science from early youth. The novel was influenced by alchemy and the authors such as Cornelius Agrippa and Paracelsus, who are mentioned by name in the novel as characterising Victor's conception of science. In *Frankenstein; or, The Modern Prometheus* the name of Agrippa is mentioned eight times and Paracelsus four times (Shelley 2019; Science and Medicine in the Eighteenth and Nineteenth Centuries, n.d.).

Even though the pursuits of alchemists were fuelled by abstract powers, their extended experimentation led to an improvement in the laboratory techniques, theory, and experimental method, some of which are still used today (Classen, 2015). In the novel, the contribution of alchemists to the development of modern science is expressed by the character of anatomy professor Dr Waldman, "These were men to whose indefatigable zeal modern philosophers were indebted for most of the foundations of their knowledge. They had left to us, as an easier task, to give new names and arrange in connected classifications

the facts which they in a great degree had been the instruments of bringing to light. The labours of men of genius, however erroneously directed, scarcely ever fail in ultimately turning to the solid advantage of mankind” (Shelley, 2019).

Alchemy was still relevant in the 13<sup>th</sup> century, as it began to circulate by Great European writers such as the German Catholic scholar Albertus Magnus, who is mentioned by name in Chapter 1 as one of the direct influences on Victor Frankenstein (Shelley, 2019; University of Pennsylvania, n.d.).

## 2.2 The Development of Religion in the Middle Ages

The Early Roman Empire’s knowledge of science and natural philosophy was mainly an inheritance from ancient Greece. The first centuries after Christ witnessed an emergence of Christian faith, which interacted with the initially dominant pagan beliefs and predetermined the development of a new worldview (Grant, 2001). Thus, the knowledge, which previously came from pagan learning, was changed after the triumph of Christianity in the 4<sup>th</sup> century. A new type of wisdom arose from Sacred Scripture, The Bible, with the ultimate belief that an omniscient and omnipotent God had created our world from nothing. In the novel *Frankenstein; or, The Modern Prometheus*, Victor’s sin was stealing power from God, which was doomed to failure. He wished to apotheosize himself by creating his species who would praise him as divine. Thus, Victor’s violation of what was sacred resulted in unleashing a monster to the world (Peters, 2018; Rubin, 2014).

As the influence and power of the Roman Catholic Church expanded, the necessity of a uniform doctrine emerged. The newly established doctrine was one of the Holy Trinity, one God with three natures (Deming, 2010).

The Roman Empire was influenced by contact with other ethnic groups near its borders, mainly the Germanic tribes. The continuous Germanic uprisings and invasions which started in the 2<sup>nd</sup> century lead to the deposition of the last Roman emperor by Germanic military leader, this event is often referred to as the fall of the Roman Empire in the West. Consequently, the Roman Empire was divided into the Latin West and the Greek East. As stated in the *Oxford English Dictionary*, the literary and artistic term “Gothic” as something to be feared comes from the intimidating architecture of the Germanic tribes who “ravaged the rest of Europe in the third, fourth and fifth centuries” (OED Definition of Gothic, 2003) The Gothic is discussed in more detail below.

The Mediterranean empire was transformed by the emergence of a new religion from the Arabian Peninsula, Islam. Muslim conquest was followed by a large-scale spread of

Islam throughout Europe, whose culture was thus immensely affected by these conquests (Classen, 2015).

British mathematician and philosopher best known for his work in mathematical logic, and the philosophy of science Alfred North Whitehead (1861-1947) supposed that the long practice of Christianity and its principles prepared Europe for the Scientific Revolution of the 17<sup>th</sup> century. Whitehead believes that Christianity had implanted in the Western mind the conviction that nature was a rational and ordered creation of God, and thus, it obeyed strict laws. Hence, it could be understood through systematic observation and experimentation, "...there can be no living science unless there is a widespread instinctive conviction in the existence of an Order of Things, and, in particular, an Order of Nature" (Whitehead, 1948). Additionally, Whitehead suggested that the scientific assumption that effect precedes cause was a derivative of medieval theology, which arose from the "...medieval insistence on the rationality of God" (Whitehead, 1948). Nonetheless, David Deming (Bachelor of Science degree received in 1983), professor of Arts and Sciences at the University of Oklahoma, argues that monotheism existed long before Christianity. He claims that a number of the Greek philosophers were monotheistic. Monotheism supposedly existed as early as 1500 B.C. among the Babylonian and Egyptian priesthoods (Deming, 2010). Deming also denied the claim that science was nurtured by Christianity. He stated that science and religion are competing systems of knowledge based on different epistemological methods.

Ultimately, those who applied reason to theology in the Middle Ages could not challenge the ultimate supremacy of the truths of revelation.

### **2.3 Religion and Reason**

Christianity was born and developed in a long-existing pagan culture already established within the Roman Empire. There was a dispute between the two dominant Christian attitudes towards the empire. One was characterized by an effort to disengage Christianity from the intellectual traditions of the pagan society in which it emerged, which should have protected Christian belief from the heretical pagan influence. Even though this unfavourable approach towards Greek philosophy remained present in the Middle Ages, some churchmen from the early centuries of Christianity showed tolerance towards the pagan philosophy.

St. Athanasius (295-373), archbishop of Alexandria, compared the science of medicine with the miracles of Jesus Christ. The comparison included the ability of Asclepius, a Greek god of medicine, to heal wounds by using different herbs, which he discovered by science drawn from nature, and the doing of the Saviour, who instead of healing a wound, modified

a man's original nature, and restored the body whole (Deming, 2010). There was the opposition of medical science versus religion, both of which are ways of understanding the world. However, according to the Christian scriptures, God created the world. He represented a being more significant than His creation of the universe; consequently, the knowledge of God could only be obtained through the revelation of Jesus Christ. Therefore anything that differed from this was evil and undesirable. Finally, the study of nature could not lead to spiritual enlightenment because the universe was a creation of God, not a reflection of his nature. This view is diametrically opposed to the perspective of scientism and materialism, which are discussed below. The work of Victor Frankenstein, and a main reason that the novel still holds so much interest in readers even today, is that Victor is attempting to straddle these two worlds of the physical and alchemical, i.e. to directly challenge the Christian notion of God. This is a common Romantic idea, as many authors rather were shifting towards the ideas of celebrating the individual consciousness and treating nature itself as a deity.

The usage of reason became important even during the Middle Ages. Reason had always been subordinate to Christian faith based on the revelation of fundamental truths that were assumed to be beyond the mind of man. However, during the Medieval era in what is called the period of Scholasticism, the "use of sophisticated logical methods" to justify and "prove" the truth of Christianity was attempted (What Is Scholasticism, n.d.). This goal of the Scholastics to use reason to try to demonstrate logically what once had to simply be taken as an article of faith, i.e. to understand all aspects of metaphysics, can be seen as a foreshadowing of the Scientific Revolution (discussed below) of the late Renaissance and Enlightenment periods. In other words, the perspective that human mind can solve all problems in the world through logic and, later, what became known as science, did not completely fade away during the so-called Dark Ages. So during this "Christian" period we are not as far as we might think from Victor Frankenstein's alchemical challenge to God.

Shelley created the character of Victor Frankenstein, an obsessed student of natural sciences who feverishly studies scholarly books and perfects his experiments. There is a tendency to suspect *Frankenstein; or, The Modern Prometheus* as being seditious in its relation to religion based on the idea that the novel was meant as a parody of Genesis, ridiculing the traditional faith in a kind Creator. Even though Dr Frankenstein's religious beliefs are not clearly defined, he is not likely to be a Christian, evidence of which are his scientific experiments. Nonetheless, the novel occasionally mentions Christianity, and surprisingly, it is most of the time depicted in a positive light, i.e. the compassionate

approach Shelley took in the treatment of Justine Moritz's Catholic faith. Her faith brought comfort to the saintly sufferer, which was contrasting with the anxiety of both Frankenstein and his creation (Ryan, 1988).

### *2.3.1.1 Translations of Arabic and Greek texts*

Western Europeans managed to acquire essential centres of learning with the capture of Toledo from Muslims in 1085 and the conquest of Sicily in 1091. Thus, the knowledge and learning of a much higher level of Islam were made available to European scholars. This new knowledge was primarily aimed at the domains of science and natural philosophy with subjects such as logic, mathematics, astronomy, optics, mechanics, natural philosophy, and medicine, as well as works on astrology, magic, and alchemy. (Grant, 2001). The ideas and treaties of Aristotle entered Europe and changed the position of reason and rationality within society. Aristotle's views were the foundation of medieval university education and became the intellectual property of all educated Europeans. Finally, the conscious application of reason to the natural world combined with the limitation of God's power was the starting point, which would eventually create modern science (Funkenstein and Sheehan, 2002).

### *2.3.1.2 Empiricism*

Empiricism was one of the significant parts of natural philosophy that exhibited itself through sense perception, observation, experience, and experiment. Scholar Albertus Magnus (1200-1280), together with the philosopher Roger Bacon (1214-1292) believed that one should begin with an observation or sense perception as the foundational basis of a generalisation or conclusion (Grant, 2001). The emphasis on experience and observation is another heritage from Aristotle. The empirical approach and praise of sense perception of Aristotle varied from his teacher Plato. Plato, even though he did not renounce the sense, he believed that they were not capable of leading to truth, which was beyond senses. For Plato, an observation was always inferior to rational, abstract thought (Armstrong, 2008)

The authority in the 11<sup>th</sup> and 12<sup>th</sup> centuries began to be challenged by reason. Thus, it was only natural for educated scholars to raise questions about set doctrines and explanations. The need to discover all sorts of truths evolved, and eventually, the question, with its formal structure, comes to be used as the primary instrument for applying reason to natural philosophy and theology. Theologians began to question the limit of God's power. Nevertheless, genuine scientific experimentation started in the 15<sup>th</sup> century. Until then, the experience, for the most part, relied on sources of other authors (Gottlieb, 2016).

### 2.3.2 Materialism and Scientism

In the early 19<sup>th</sup> century, English society argued over the real constitution of life, whether it is primarily biological and explainable by science, or whether there is some mysterious power beyond our comprehension. The first edition of *Frankenstein; or, The Modern Prometheus* (1818) is influenced by materialism, evidence for which is found in the development of Victor Frankenstein.

In her novel, Shelley implicitly raises a controversial question – what would be the consequences if a mere human was playing God? Specifically, what would be the result of the artificial creation of human life, with the denial of biology and the need for both genders, and with the rejection of God. “What if Adam were to reject his own Creator and create a life after his own fleshly or material image?” (Hogsette, 2011). Shelley does not provide an answer to the question, whether the religion or the belief in human potential and the denial of the divine is correct. Shelley only provides the reader with an ominous warning about the effect of pursuing the idea of substituting the belief in a creator who intervenes in the universe for liberalism and the theory that religion ought not to be present with the publicly funded education system. Pigliucci described scientism as follows:

A totalizing attitude that regards science as the ultimate standard and arbiter of all interesting questions, or alternatively that seeks to expand the very definition and scope of science to encompass all aspects of human knowledge and understanding (Pigliucci, 2013)

Furthermore, scientism goes hand in hand with the New Atheism movement. This movement heavily criticises religion. The base for this criticism is predominantly reliant on science, and therefore scientism is what differs it from the previous version of Atheism. Additionally, New Atheists reject philosophy as the birthplace of knowledge.

Scientism is based on the premise “...that science and literal objectivity hold all the essential truths needed for managing human behaviour and societies...” (Guidotti, 2017). According to the followers of scientism, “...all the information worth knowing is scientific information” (Gasparatou, 2017). In a simplified way, this means that since science had proven to be successful, it is also suitable to use the scientific method in all aspects of human lives (Crick, 1996; Harris, 2010; Rosenberg, 2013).

## 2.4 The Renaissance

The Renaissance is often described as a transitional period between the Middle Ages and the Modern Age. It lasted from around the mid-14th century to the mid-17th century. The meaning of the term “Renaissance” means “rebirth,” in this context, a revival of the culture, literature, science and art of antiquity.

### 2.4.1 Sciences and philosophy

In his drama *Doctor Faustus*, English playwright and poet Christopher Marlowe (1564-1593) depicted and amplified the enthusiasm and danger associated with the rise of science, and speculative thought in the Renaissance. Faustus is an educated astrologer who has gained all possible knowledge in the areas of astronomy, anatomy, and philosophy. His desire to learn about magical powers of life and death escalated when Faustus sold his soul to Mephistopheles, a devil. Even though he was given the possibility of asking for forgiveness, Faustus rejects the offer. Faustus is then sent to hell as a consequence of his endeavour to learn about divine astrology. Faustus’ inclination to learning and disdain for religion represents the spirit of the Renaissance. Lastly, Faustus’ destiny summarizes contemporary anxieties about the ethics of scientific experimentation. The changes that took place in science in the 15<sup>th</sup> and 16<sup>th</sup> centuries were accompanied by a question, whether one can know too much (Brotton, 2006). A similar theme appears in the *novel Frankenstein; or, The Modern Prometheus* in which Dr Frankenstein acquires the knowledge over life and death, knowledge which would initially be only the privilege of God. Victor Frankenstein goes beyond the human limits and tries to become god-like. Consequently, the sin of stealing God’s power leaves Victor to endure great suffering.

The 16<sup>th</sup> century also marked the beginning of modern observational science and anatomy ascribed to Andreas Vesalius (1514-1564), a physician, anatomist, and the author of *On the Fabric of the Human Body in Seven Books* (1543) (Funkenstein and Sheehan, 2018; Deming, 2012; Brotton, 2006).

In Chapter 4, Victor Frankenstein asserts the importance of anatomy, “To examine the causes of life, we must first have recourse to death. I became acquainted with the science of anatomy, but this was not sufficient; I must also observe the natural decay and corruption of the human body” (Shelley, 2019).



#### 2.4.1.1 *Natural Philosophy*

In the 15<sup>th</sup> century, magic, philosophy, and science were uniformly named “natural philosophy.” The rediscovery and translation of classical authors was a necessary part of the development of natural philosophy. The translations of Plato inspired Platonist authors such as Marsilio Ficino (1433-1499), Italian scholar and Catholic priest and Giovanni Pico della Mirandola (1463-1494), a Renaissance philosopher.

These Platonic authors stated that, as opposed to Aristotle’s belief, the soul was imperishable, and aims for cosmic unity and love of definite truth; the soul itself was imprisoned in its earthly body (Brotton, 2006; Celenza, 2018). In *Conclusions* (1486), Giovanni Pico della Mirandola pursued the unification of Christianity with the classical philosophy and the establishment of natural philosophy as the best approach to metaphysical inquiry. His efforts were condemned by the papal commission. Nonetheless, his work represents the statement of individuality and the birth of Renaissance man as he viewed man as “the maker and moulder of thyself,” with the liberty “to have what he wishes, to be whatever he wills” (Mirandola, 1998).

Towards the end of the 16<sup>th</sup> century, the influence of Plato and Aristotle was on a decline. Galileo Galilei (1564-1642), an Italian astronomer, physicist, and engineer, accused Aristotle of never testing by experiment. This rejection of Aristotle was shared by an English philosopher Sir Francis Bacon (1617-1621). Bacon created a new vision of scientific knowledge based on a collection of natural data, which had its foundation in observation, experimentation, and induction, which anticipated the experimental science in the latter decades of the 17<sup>th</sup> century (Celenza, 2018).

Bacon supported the idea that science ought to be used to gain control over nature and consequently use this power to enhance the living conditions of human beings (Horkheimer and Adorno. 2002). The idea of controlling nature is reflected in the novel *Frankenstein; or, The Modern Prometheus* and the actions of Victor, who wishes to subjugate nature and defeat death.

#### 2.4.2 **Magic in the Renaissance**

In Pre-Hellenic Greek, the term “sorcerer” was used in a negative meaning of “charlatan” and sometimes “court schemer.” The Persian sorcerers were connotated negatively as demon worshipers. Native Greeks and Romans who engaged with magic practices comparable to those of the magi were feared because of the occultist activities. Some of these native Greeks and Romans were fascinated by Necromancy, the consultation of the dead for divination.

Necromancers, the practitioners of black magic, believed that it is possible to gain knowledge from the dead by sleeping on tombs, visiting oracles, and attempting to reanimate corpses (Kieckhefer, 2014; Ogden, 2001). These practitioners of black magic were mostly doctors, as common people did not understand medicine. In the past, it had been a common belief that death could be reversed and that there is a possibility to acquire power over life and death. Victor Frankenstein sought to gain such power and raise against God and take power over death (Impurity of Purpose, n.d.).

After the Christianization of Rome, the practice of sorcery was deemed heretical as it included entering into a contract with the Devil (Kieckhefer, 2014; Ogden, 2001).

The Renaissance thinkers did not distinguish the so-called sciences and magic, and as a result, the early modern science owns some of its impetus to the Renaissance. Swiss physician and alchemist Paracelsus (1493/4-1541), even though he valued the Bible, tended to incline to his own experience and experiment rather than then to the passed down wisdom. His theories about chemical medicine (using mercury, sulphur, and salt) drew from the Arabic alchemists from around eight hundred years earlier. In Chapter 2 of the novel *Frankenstein; or, The Modern Prometheus*, young Victor reads the works of Paracelsus with great delight as he desires to “penetrate the secrets of nature” (Shelley, 2019).

The first investigation of nature in the Renaissance can be ascribed to magicians, who desired to control the hidden powers in the world and turn them into practical effect. In Chapter 2 of the novel *Frankenstein; or, The Modern Prometheus* Victor Frankenstein wished for science to have a practical purpose “to banish disease from the human frame and render man invulnerable to any but a violent death” (Shelley, 2019).

The Florentine scholar Ficino translated Hermetic writings, a collection of papers that become the most notable occult texts of the Renaissance, into Latin. Indeed, the 15<sup>th</sup>-century thinkers such as Ficino, Giovanni Pico della Mirandola, and others connected aspects of a variety of occult traditions with religion. During the 16<sup>th</sup> century, the esoteric ideas of natural magic were transformed into a new type of philosophy. Men such as Paracelsus characterized an enchanted world of hidden symmetries and spiritual sympathies that could be controlled by the correct spells (Yates, 2015; Gottlieb, 2016). At his young age, Victor Frankenstein found inspiration in the works of these esoteric authors; however, as he continued to study biology and chemistry, he seems to have abandoned these ideas towards a more materialist approach.

### 2.4.3 The Scientific Revolution

The idea fundamental to Scientific Revolution that occurred in the 17<sup>th</sup> century is that the universe and everything inside it obeys laws of nature, which are understandable by reason. Thus, people can learn the truth about the universe through observation and reasoning. This ability of observation and reasoning is strengthened by studying mathematics and logic, by analysing the observations, and by experimenting (Brotton, 2006, Classen, 2015).

Contrary to the evolution of science, the political and religious spheres were in a state of turmoil, i.e. Charles' I. execution followed by the establishment of Commonwealth, a military autocracy lead by a former general Oliver Cromwell from 1653. However, the Commonwealth failed after Cromwell's death, and the monarchy was restored in 1660. It was the revolutionary era when England underwent a series of radical changes that affected authors such as John Milton (1608-1674), a Puritan English poet and intellectual. Milton was anti-monarchy and supported the Commonwealth. In 1667, Milton published his *Paradise Lost* by which he wanted to "...assert th' Eternal Providence, And justify the wayes of God to men" (Milton, 2008; Roberts, 2020).

*Paradise Lost* is rooted in the history of Puritanism and the ideal of the individual "concept of the person as a relatively autonomous self-contained and distinctive universe" (Shotter, 1993). In the 18<sup>th</sup> and 19<sup>th</sup> century *Paradise Lost* is a notable literary text contributing to the creation of cultural identity. Milton introduces Lucifer and Adam as potential figures of individualism. Additionally, he implied that those who attempt to gain autonomous selfhood come to call themselves "Lucifer" and to believe that identity can be chosen. Milton's literary heritage conveys the ideas of the cultural commandments of being, which Mary Shelley sets to disobey. Even though Frankenstein's creature perceives itself as autonomous, his otherness constantly puts his identity into question. The characters of Victor Frankenstein and the creature often refer to themselves to *Paradise Lost* which is a text with supposedly fixed roles, however "...they can no longer be sure whether they correspond to Adam, to God, or to Satan, or to some or all of these figures" (Baldick, 1990; Lamb, 1992).

#### 2.4.3.1 Milton's God

"Milton's portrayal of God has been a frequent subject of debate among critics and scholars" (Zukerman and Luxon, n.d.). Milton presents God in *Paradise Lost* as an omnipresent and invisible existence. Even though God is presented as an individual granted with speech, he is something much higher. Milton described God as a judge over his creations, which could be applied for the traditional Christian God. However, Milton is "...struggling to make his

God appear less wicked than the traditional Christian one” (Empson, 1965). Milton’s God is somewhat defensive as he argues that his foreknowledge of the fall is not connected to fate and that Adam and Eve fell because of their free will, not because of God’s decision. Adam and Eve were punished because they sought the knowledge of “good and evil,” which God declared that only he could have. They tried to “play God” and they were made to suffer because of this, just Victor Frankenstein was made to suffer because he “went too far.”

Percy Bysshe Shelly (1792-1822), one of the major English Romantic poets, “alleged no superiority of moral virtue to his God over his Devil” (Shelley, 2011). Willian Empson (1906-1984), an English literary critic and poet, agreed with Shelley, stating that God's “apparently arbitrary harshness is intended to test us with baffling moral problems” (1965). Besides, Milton’s God does not require absolute obedience from his creations but rather obedience from free beings, “Not free, what proof could they have givn sincere / Of true allegiance, constant Faith or Love” (Milton, 2008). According to William Blake (1757-1827), the English poet, Milton’s portrayal of God was inferior to his portrayal of Satan, and thus, he viewed Milton as a Satanist (Flannagan, 1998). However, Milton willingly allows Satan to seduce not only Adam and Eve but the reader himself. The readers are supposed to realize the nonsensical nature of Satan’s logic, and as a result, the reader should recognize a greater sense of faith, which is the purpose of the poem. In connection with the Scientific Revolution, Milton is suggesting that the purpose of knowledge is not to gain knowledge about everything in the universe. The knowledge should increase our “appreciation of God's goodness” and develop our faith, “Solicit not thy thoughts with matters hid, / Leave them to God above, him serve and feare” (Milton, 2008; Zukerman and Luxon, n.d.).

Milton’s God has a profound influence on Frankenstein’s creature. It yearns for the same opportunities Adam was given from his Creator. In contrast, the monster is abandoned after its creation, left without any knowledge nor any love or affection. The novel depicts his loss of innocence as the reason behind the awful acts he has committed (Dudczak, n.d.).

#### **2.4.4 Isaac Newton’s Contribution to the Scientific Revolution**

Isaac Newton (1642-1726/27) was an English mathematician, physicist, astronomer, theologian, and one of the prominent figures of the Scientific Revolution. He provided fuel for the scientific progress in the 17<sup>th</sup> century by his *Principia Mathematica* (1687). Briefly, Newton tried to provide an understanding of a variety of natural phenomena, such as the motions of heavenly bodies and the motion of sublunary bodies by universal mathematical laws, which serve as an inspiration for the intellectuals of the Enlightenment. Newton

contributed to the Enlightenment understanding of nature as an organized system ruled by exact mathematical-dynamical laws and the belief that people can learn these laws and use them for their benefit.

In the novel *Frankenstein; or, The Modern Prometheus*, Victor was immersed in the study of what he calls “natural philosophy,” specifically classical physics, today known as classical or Newtonian mechanics. Other scholars wanted to observe the magnificent appearances of things, while he wished to investigate their causes apart from the final cause, which Frankenstein disregarded. The final cause and causal explanation try to define the present and the future in terms of the past. However, in Chapter 2, Victor Frankenstein’s view of the world was, “The world was to me a secret which I desired to divine. Curiosity, earnest research to learn the hidden laws of nature...” (Shelley, 2019). Newton’s discoveries made some people believe that it was indeed possible to divine the secrets of the world (Weiner, 2018).

#### **2.4.4.1 Hermeticism, Alchemy and the Rise of Science - Isaac Newton**

Isaac Newton is generally referred to as the most prominent scientist of the time since his work has contributed significantly to the development of science. Despite this being true, sources now commonly claim that Isaac Newton was not only a scientist but an alchemist and magician (Farrell and Hart, 2011; Contexts -- Science -- Alchemy, n.d.; Newman, 2019). The collection of the alchemical texts belonging to Isaac Newton, which were found in his library, can now be found in Jewish National Library in Jerusalem. According to these texts, Newton was mostly fascinated by the idea of the philosopher’s stone, mythical object able to transform base metals into precious ones. The idea of the philosopher stone is also mentioned in *Harry Potter and the Philosopher’s Stone* (1997) by the author J. K. Rowling (Heindel, 2017; Rowling, 1997).

It should be noted that some sources mark chemistry as a more legitimate offspring of its now despised predecessor, alchemy (Newman, 2018; Contexts -- Science -- Alchemy, n.d.). Among one of the most significant objectives of the alchemist was the discovery of the elixir of life and the philosopher stone “...capable of prolonging life indefinitely -- or even “bestowing animation upon lifeless matter,” as Frankenstein achieves,” whose importance is relevant for this thesis in connection with the novel *Frankenstein; or, The Modern Prometheus* (Contexts -- Science -- Alchemy, n.d.). Due to the graduating emphasis on the empirical approach in sciences, these alchemist objectives found themselves to be oppressed in the 18<sup>th</sup> century. Alchemy was no longer considered a part of chemistry.

However, in the middle of the previous century, "...transmutation had formed a natural part of the chymical (sic) discipline, and indeed the term 'chymistry'(sic) had long been coextensive with 'alchemy'..." Additionally, it was also the time when Newton continued his alchemical research and experiments (Newman, 2018). Even towards the end of the 17<sup>th</sup> century, Newton was still seeking to reveal these alchemist pursuits.

Newton firmly believed in the ancient wisdom of the earliest civilizations. This ancient wisdom supposedly arose from the *Corpus Hermeticum* by the semi-mythical Hermes Trismegistus, who has been considered as the founder of alchemy in ancient times.

*Corpus Hermeticum* serves as a basis for Newton's idea regarding gravity. In this idea, Newton applied hermetic principles to the physical ones, "His notion of gravity as a force that acts across space, at a distance, and does so in the way it does purely as a consequence of the nature of the universe, was drawn straight from the magical laws of sympathy and attraction as expounded in the Hermetica" (Farrell. Hart, 2011).

Newton, in his *Principia Mathematica*, attempts to build a path for the future science, where he suggests that humans should learn "...the laws of that Spirit's operation, and thereby, to gain what all magicians strive for: mastery over it" (Farrell and Hart, 2011).

Mary Shelley's father and radical writer William Godwin (1756-1836) in his novel *St. Leon* (1799) incorporates the ideas of hermetic alchemy. The same is done by Percy Bysshe Shelly in his early novel *St. Irvyne, or The Rosicrucian* (1810) (Wiener et al., 2018).

The novel *Frankenstein; or, The Modern Prometheus*, explores the relationship between alchemy and science and the possible consequences of that relationship on human society. The intention to explore this relationship is expressed by Victor Frankenstein, "I had retró (sic) the steps of knowledge along the paths of time and exchanged the discoveries of recent inquirers for the dreams of forgotten alchemists. Besides, I had a contempt for the uses of modern natural philosophy" (Shelley, 2019).

## 2.5 The Enlightenment

The Enlightenment has its core in the relatively systematized activity of eminent French thinkers of the 18<sup>th</sup> century. Nonetheless, the Enlightenment was a phenomenon appearing in Scotland, Germany, and other focal points of the Enlightenment spread throughout America and Europe in the 18<sup>th</sup> century.

The English term Enlightenment is a translation invented in the late 19<sup>th</sup> century consisting of two terms: the French *lumière* and the German *Aufklärung*, both of which share the idea of "light."

Interestingly, the word light appears frequently in the novel *Frankenstein; or, The Modern Prometheus*. For example, in the Chapter 3 “These were men to whose indefatigable zeal modern philosophers were indebted for most of the foundations of their knowledge. They had left to us, as an easier task, to give new names and arrange in connected classifications the facts which they in a great degree had been the instruments of bringing to light” (Shelley, 2019).

Throughout history, light carried various connotations. In a Christian sense, Christ was the light that we let into our souls. In contrast, in antiquity, a light had a connection with Plato’s philosophy, where it was perceived as the knowledge that freed oneself from prejudice and ignorance.

The Enlightenment is, in a broad sense, conceived as the progress of thinking, which was to free human beings from fear and making them rulers of nature. The thinkers of the Enlightenment planned to disenchant the world of myths and fantasy by knowledge and experimentation (Horkheimer and Adorno 2002; Robertson, 2015).

The era of the Enlightenment is a result of the previous period of the Renaissance. The idea shared by the philosophers and scientists of Renaissance and the Enlightenment is the belief in the ability of humans to “...to achieve social and technological progress through the use of critical reason to investigate nature, establish new forms of governance, and transcend superstition and authoritarianism” (Hughes, 2010). It is necessary to remember that these ideas are considered as the base for the Enlightenment only in retrospect. The thinkers and movements of the Enlightenment shared only a few values. They often disagreed with each other in the understanding of core ideas on questions of faith, the state, epistemology, and ethics.

The Enlightenment is an age that is devoted to human progress fuelled by the advancement of the natural sciences achieved by Bacon, Hobbes, Descartes, and the natural philosophers of the Scientific Revolution Galileo, Newton, and Kepler.

French philosopher and mathematician Marquis de Condorcet (1743-1794) believed that as humans discover the laws of nature through the progress of natural science and philosophy, the real moral and political system will uncover itself. This belief was presented in his *Sketch for a Historical Picture of the Progress of the Human Mind* (published posthumously in 1795), in which Condorcet views the history of humans as constant advancement to perfection. In connection to Locke, who asserts the moral and political claims (natural freedom, equality, et cetera), the assertion of these claims in the history and the evolution of the cosmos based on religious mythology is difficult. One of the most

notable legacies of the Enlightenment is the question of how to assert man's claims to freedom and equality (Bristow, 2017).

Immanuel Kant (1724-1804), one of the most influential German philosophers whose works *Critique of Pure Reason* (1781), *The Critique of Practical Reason* (1788), and *The Critique of Judgement* (1790) are believed to have initiated modern philosophy to determine the limits of reason and metaphysics. Kant, in his essay *What is the Enlightenment?* (1784) defines the Enlightenment as “humankind’s release from its self-incurred immaturity,” “immaturity is the inability to use one’s own understanding without the guidance of another” (Kant, 2009). Kant argued that human ethical progress was slowed by the fear of independent thought. This fear represented an obstacle to human ethical development since one tended to rely on other external force or authority such as the Church. Kant also raised the question of how reason could replace the mythical in the world. Since it is generally believed that the Enlightenment aimed to “disenchant” the world, in religious terms, this meant to reject the ancient doctrines of the incarnation and the doctrine of Trinity. But if this were to happen, reason would also have to provide the answers for the mysteries of life. These mysteries include the questions of God, soul, the origin of the Earth, the origin of species, freedom of will, and the problems of time and space (Peters, 2018).

## 2.6 Romanticism

German philosopher and historian Friedrich Schlegel (1772-1829) wrote: “I cannot send you my explanation of the word ‘romantic’ because it would be 125 sheets long” (cited in Speight, 2015).

In a broad sense, Romanticism is a European cultural movement or a series of related movements base on which was the exploration of one’s self and its relationship to others and nature through symbolic and internalized romance plot. The Romantics elevated and valued imagination rather than reason, which sought comfort in or conciliation with the natural world. Romantics viewed God or the divine as being bound with nature or with the soul, by which the Romantic movements substituted the religious doctrine with metaphor and feeling. They perceived poetry and arts as being the most notable human creations, as opposed to set precepts of neoclassical aesthetics, movement based on simplicity and symmetry, which concurred with the Enlightenment. In contrast to aristocratic and bourgeois social and political standards, Romanticism praised more individual, inward, and emotional values. Romanticism is linked with the idea that art and beauty should be essential to human existence and not only limited to philosophical and artistic life (Speight, 2015; Ferber, 2010).



Romanticism is commonly perceived as a rebelling movement against classicism and the Enlightenment; nonetheless, several Romantic authors appreciated the classical heritage of literature, sculpture, and philosophy and continued in contemporary scientific research. The Romantics adopted and continued the appreciation for rational and autonomous criticism from the Enlightened authors. Romantics strived to establish harmony between reason and our moral sense, which required sophistication of natural human impulses (Ferber, 2010; Wallace, 2016).

Romantics thought of gravity, light, heat, electricity, and magnetism as fluids which had a yet unknown connection with each other. Two pioneers of electricity of the 18<sup>th</sup> century, Volta and Galvani, were suggesting that electricity and magnetism were “vital” or “animating” forces. Thus, the idea of animating dead matter through galvanism came to existence. Mary Shelley was aware of the scientific and literary thoughts and issues of the day as she spent her life in an intellectual environment as her father was progressive political philosopher William Godwin (1756-1836). Her union with Percy Shelley and their literary circle further enriched her knowledge, which she then applied to *Frankenstein; or, The Modern Prometheus* (The Body Electric, 1970). Great chemist Humphry Davy (1778-1829) was interested in poetry as well as in chemistry and electricity. Percy Bysshe Shelley studied Davy’s work, and thus, even though he is occasionally viewed as the most ethereal poets, Shelley was knowledgeable in the scientific thoughts. His *Prometheus Unbound* contains various references to science, i.e. electricity, magnetism, and improvement of humans’ lives (Ferber, 2010).

It is important to remember that Romanticism was not the immediately succeeding movement; what today’s scholars call “Sensibility” (sensitivity or emotionality) came before. Sensibility was the name of an earlier and somewhat related development against classical norms in the 18<sup>th</sup> century, which reacted against the reasonableness and detachment associated with pure rationality. In literature, the emphasis on Sensibility increased the popularity of the novel of letters. Romantic novels served as an opportunity for deep thoughts and conversation (Ferber, 2010).

In contrast to Sensibility, there was a different stream of authors focusing on the cultivation of melancholy. The novels are written in the melancholic spirit revolved around wandering into ruins or graveyards at night or solitude accompanied by pondering the brevity and griefs of life. Some of the melancholic novels included the aspect of horror, ghosts, and other uncanny entities, which eventually lead to the creation of a new genre of “Gothic”

novel, in which the novel *Frankenstein; or, The Modern Prometheus* was among the most successful (Smith, 2007).

## 2.7 *Frankenstein* in the context of Romanticism

Mary Shelley, in her novel *Frankenstein; or, The Modern Prometheus* incorporates elements of the Enlightenment and Romanticism. Mary Shelley elevated the genre of the Gothic novel as she was concerned with the problems of the capacity of human knowledge, the reason for which her novel is an essential work of Romantic literature. Shelley's novel captures the conflict between the ideas of the Enlightenment and the ideas of Romanticism. In her novel, Mary Shelley challenged the admiration of reason and mechanical powers and the idea that humans are predictable, rationally governable machines.

The period of Romanticism marked the beginning of experiments with the unconscious, such as dreams, near-death experiences, and subconscious motivations. Both Percy Bysshe Shelley and Mary Shelley were innovative in exploring the subconscious of the human mind. Victor Frankenstein is noteworthy for his complex motivations to create the monster, a question which critics are still trying to answer. The innovativeness of Mary and Percy Shelley laid in their interest in sciences. In the 18<sup>th</sup> century, electricity was discovered by Galvani and Volta, who connected it to the nature of life. Galvani's experiment demonstrated that the nerves and muscles of dead frogs could be stimulated by electricity produced by chemical reactions, i.e. make them move after death. Mary's father, William Godwin, was acquainted with the scientific thought of the day as he had befriended several scientists such as Sir Humphrey Davy (1778-1829) and Benjamin Franklin (1706-1790). Davy was a family friend and great experimental chemist. Supposedly, Mary Shelley studied Davy's writings on electrochemistry before she started to write *Frankenstein; or, The Modern Prometheus*. Shelley's physician William Lawrence lead a discussion with an English surgeon John Abernethy (1764-1831), about the origins of life. Even though Abernethy stated that science could not discover the secrets of biological life, Lawrence claimed otherwise.

Romantics were fascinated by the verge of life and death because the liminal is the place of transgression. The galvanic demonstrations (using electricity in an attempt to reanimate dead bodies) caused a striking effect on the audience. This kind of sensation was later called "the uncanny," which has had a strong association with the artificial human, i.e. the Frankenstein's monster.

Even though Romantics praised the new science, Mary Shelley realized the shift of morality in the 18<sup>th</sup> century. "The earth was no longer the centre of the world, man was not

the pinnacle of creation, the Bible was not the fount of all truth, and the scientist did not command the elements, he merely discovered them” (Chatterjee, 2013; Holmes 2005).

Mary Shelley started to work on the novel during the Vitalist debate of 1816-1820, and accordingly, it reflects the clashing ideas of vitalists and materialists. Vitalists believed that everything alive has a vital force that delivers life into them. Supposedly, souls were infused into bodies through a particular type of force, such as electricity. This sort of energy distinguished them from non-living matter. Materialists argued that there is no vital force or spirit; for them, the human body was just a machine.

In her novel, Mary expressed her concerns about what would happen if a man wanted to uncover the mysteries of the world, for which he would use the tools of Romantic science but disregarded the Romantic morality, and eventually, what kind of science would that be. That science seemed to have similar characteristics to necromancy, one of the prominent instruments of black magic. Thus, the actions of anatomists resembled the actions of necromancers. Supposedly, the Shelleys visited Frankenstein Castle, former home to the alchemist and anatomist Johann Conrad Dippel (1673-1734), who might have influenced Mary Shelley’s writing of the novel *Frankenstein; or, The Modern Prometheus* (Mueller, 2010). Victor Frankenstein indeed studied the alchemical authors before the character of natural philosophy professor Krempe introduced him to modern chemistry. Frankenstein saw greatness in the work of alchemists, i.e. the pursuit to discover the elixir of life, the philosopher’s stone, and the homunculi or golems as loyal servants. In Chapter 3 professor Krempe’s opinion on the work of alchemists such as Agrippa is that it “...promised impossibilities and performed nothing...” (Shelley, 2019). In contrast, modern science does not promise miracles; however, it has the power to achieve significant accomplishments. After hearing Krempe’s speech, Frankenstein sets to learn how to use the advantages of modern science and reason; however, his spirit remains that of an alchemist, craving power over the natural world. Mary Shelley foresaw the issue of ethics associated with modern science, which without a suitable moral framework, may lead to disastrous consequences. In her novel, Mary Shelley highlighted the motives of the Romantics’ pursuit of science, which was to separate the mind from the body. Shelleys despised the split of the mind and body, idea of which is also expressed in Percy Bysshe Shelley’s *Prometheus Unbound* (1820) (Chatterjee, 2013; Holmes 2005; Ferber, 2010).

## 2.8 The Other Side of the Enlightenment

Generally, the scholarly interpretations of the Enlightenment tend to ignore and omit the socially unacceptable aspects of the movement. These aspects include historical phenomena such as magic, alchemy, and occultism. The possible motivation for the historians to omit these may be that they challenge the commonly accepted views of what the Enlightenment was.

American literary critic and Professor of Literature at Princeton John V. Fleming suggests that Romanticism, an era often viewed as reacting to the Enlightenment, was not always directed against the other movement. Besides, the thinkers of the Romanticism saw their movement as an expansion and refinement of the Enlightenment. Lastly, Fleming stated, that “the origins of Romanticism are intimately connected with hermetic and occult traditions nurtured by an Enlightenment elite” (2013).

Even though the age of the Enlightenment is commonly viewed as ruled by reason, many of the “enlightened” thinkers were genuinely interested in the occult, i.e. a group of political mystics founded by Adam Weishaupt in Bavaria in 1776. The word “occult” originates in Latin, and it is supposed to mean “not visibly apparent” or “hidden from view” (Fleming, 2013). This meaning is associated with the old usage of the word, whereas today, the term “occult” is popularly associated with metaphysics. In the 18<sup>th</sup> and 17<sup>th</sup> thinking and with the connection to the Enlightenment, it was the attempt to discover aspects of Nature previously unknown. According to Fleming (2013), there is a close link between the Enlightenment and the occult. This link is associated with the very meaning of the word *Les Lumières* – the lights and the Enlightenment’s understanding of light, which shines upon darkness and leads humans away from superstition and ignorance. In Chapter 4 Victor states, “Life and death appeared to me ideal bounds, which I should first break through, and pour a torrent of light into our dark world” (Shelley, 2019).

### 2.8.1 The Occult in *Frankenstein*

The occult in Mary Shelley’s time was deemed to have become an underground movement with no credibility. However, this attitude is not applied by Mary Shelley in her novel *Frankenstein; or, The Modern Prometheus*. In her novel, Mary favoured neither science nor the occult. She worked with the myth of Prometheus, which served as a way of introducing “the alchemical dream of animating the inanimate the mythic dimensions of a creation story” (Buchen, 1977). As Professor at the University of Pennsylvania Irving H. Buchen states in his article *Frankenstein and the Alchemy of Creation and Evolution* (1977) that Victor

Frankenstein filled a void in his own soul with alchemy. This exploration of the relationship between science and the occult is apparent in the novel, especially in the scene of the creation of Frankenstein's monster, thus a question of whether such action of combining the elements of science and the occult (animating non-living matter) emerges. The novel revolves around the relationship between myth and history (the nature of cosmic creative force and a human evolutionary force). In this sense, there are two stories in Shelley's novel. The first story concerns Victor Frankenstein and represents a creation story that emphasizes the combination of alchemy and science and its impact on human character. The second story revolves around Frankenstein's creature and represents an evolutionary story that emphasizes human development. The creation story is dominated by the alchemists, Cornelius Agrippa, Paracelsus, and Albertus Magnus, and the scientists, Newton and Galvani (Buchen, 1977).

### 3 THE GOTHIC INFLUENCE

The term Gothic has borne various connotations throughout its use. According to several academics, the term initially referred to a particular The Goths, Germanic tribe from 3<sup>rd</sup> to 5<sup>th</sup> centuries (in this sense, there was a connection between the words gothic and barbaric). Later it started to connote the meaning of “Germanic,” then “medieval” (mainly connected with medieval architecture and art of 1100 and 1500 CE Western Europe) (Wheeler, 2018; Smith, 2007). The combination of the mentioned associations “...provide a context for the emergence of Gothic as a literary mode” (Smith, 2007).

As literature is concerned, Wheeler describes Gothic literature as follows: “...gothic referred to a type of fiction characterized by a gloomy setting, supernatural events, villains, mystery, suspense, and other tropes.” The birth of the Gothic style is usually ascribed to the effort of Romantics, who at the end of the 18<sup>th</sup> century challenged the ideas and beliefs of the mid-eighteen century Enlightenment. As opposed to the fundamental conviction of the immense potential of the rationality of the Enlightenment, the Romantics believed that “...the complexity of human experience could not be explained by inhuman rationalism” (Smith, 2007).

Edmund Burke proposed that the central idea of Romantic literature is the idea of the sublime. This idea is crucial to a comprehension of Gothic authors and the literature of horror. The sublime has a close connection with terror and the feelings of fear (in Burke’s opinion, this fear was connected with the view of forthcoming brutal death), these emotions are the most prominent in human experience, and hence, the most sublime. Burke's stressed that the threat cannot be direct; otherwise, the delight cannot be experienced from the sublime moment. His elaboration on the idea of the Sublime contributed to the Gothic aesthetic in which obscurity, suspense, uncertainty, ambivalence, and play attend presentations of terror (Wolloch, 2014).

Additionally, Burke differentiates between sublime and beauty, “...sublime objects are vast in their dimensions, beautiful ones comparatively small” (Burke, 1990). Lastly, Burke tries to define the state of astonishment as “that state of the soul, in which all its motions are suspended, with some degree of horror. In this case, the mind is so filled with its object, that it cannot entertain any other” (1990).

Philosopher Immanuel Kant in his work *The Critique of Judgement*, provided a different approach towards the Sublime. Kant approaches the sublime as an elevated ability of thinking, which allows the mind to go beyond its physical restrictions. In this sense, the

sublime is not found in the immediate experience of a terrific object but in the way the experience suggests an understanding of the endless abilities of the mind's imaginative powers (Thomson, n.d.).

The sublime occurs after surpassing human restrictions as the condition of humanity is considered as a limitation. The distinctive aspect of sublimity is its ability to move man outside of the limits of humanity and the empirical world. This experience was essential to the Romantic authors who wished to maintain the intellectual validity and moral value of sublimity (Weiskel, 1986).

What lies underneath the term sublime has been subject to many different interpretations; therefore, the term remains the subject of discussion. Some academics refer to gothic fiction as Dark Romanticism since it is similar to literary Romanticism; however, the aspect of horror is included. The emphasis on nature represents one of these similarities. In the 18th and 19th century, nature was an essential part of the English literature at that time, as a reaction against spreading industrialization.

## 4 THE ROOTS OF TRANSHUMANISM

“The boundary between mythos and science, between magic and technology, was blurry, and almost all conceivable means to the preservation of life was attempted by somebody or other” (Nick Bostrom, 2005).

An eminent advocate of transhumanism, Max More (born 1964), describes the notion of Transhumanism as a collection of beliefs that “refuses to accept traditional human limitations such as death, disease and other biological frailties” (cited in McNamee and Edwards, 2006). The movement can be divided into strong Transhumanism and weak Transhumanism. Supporters of both strong and weak Transhumanism promote the use of technology to improve the human race in aspects such as visage, longevity, and intelligence. However, advocates of strong transhumanism claim that humanity should use technology to evolve into a new species (McNamee and Edwards 2006).

In contrast, American political scientist Francis Fukuyama (born 1959) has expressed concerns regarding Transhumanism, including issues of human equality. The emergence of post-humans would result in a change of humanity’s understanding of equality as the essential human essence is drastically altered, i.e. the separation into entirely inconsonant “classes” of who has embraced or has even born into a radically enhanced form and who has not, either by choice or by birth. Other concerns revolve around the efforts of transhumanists to determine good and bad attributes of humans, as Fukuyama subscribes to the traditional philosophical notions that even what may seem like “bad” qualities, e.g. tenacity, shyness, or even aggressivity, rebelliousness or laziness, can in certain situations be beneficial for humanity (Kirby, 2014). Mary Shelley’s novel *Frankenstein; or, The Modern Prometheus* (1818) foreshadows threats arising today from technological progress and genetic modification, and reflects the possible consequences of humanity’s ambition to play God.

The propensity to use metaphysics and esoteric powers to better the human condition is not new, just as the lines between magic and science are sometimes not clear. There have always been individuals such as the alchemists and occultists who attempted to overcome the limits of human life and body.

From prehistoric times, ceremonial burial sites and the preserved fragments of religious works coming from the era serve as evidence that people of that time were troubled by the death of their close friends and family. Despite being aware of an afterlife, the effort to discover the secret of immortality, or at least to extend life-expectancy was apparent. Nick Bostrom, professor of philosophy at Oxford University best known for his work on



existential risk and the impacts of future technology, in his article *A History of Transhumanist Thought* (2005) mentions explorers searching for the Fountain of Youth, the efforts of alchemists to invent the Elixir of Life and the teachings of esoteric Taoism from China, claiming that immortality through being in harmony with the forces of nature. These efforts were not successful in expanding human life; it did, however, resulted in useful inventions and many discoveries, which would remain undiscovered without these efforts.

On the other side of these efforts, there have always been conflictions regarding the problem of trying to overcome the limits of human abilities. During medieval times, Christianity viewed the alchemist's activities with an unease. The scholastic teaching dominated medieval Europe, and thus, it was socially unacceptable to practise alchemy, since such acts were considered blasphemous. It was the stagnant scholastic teaching which triggered the intellectual revolt in Renaissance humanism, which contributed to the Enlightened thought and eventually evolved into Transhumanism. Thus, the base for rational humanism, which later laid the foundations for Transhumanism, is a combination of the Renaissance legacy and the contributions of Isaac Newton, Thomas Hobbes, John Locke, Immanuel Kant, the Marquis de Condorcet, Jean-Jacques Rousseau, and others.

French physician and philosopher Julien Offray de La Mettrie published *L'Homme Machine* (1747) in which he attempted to support his materialistic view of a human by stating, "...man is but an animal or a collection of springs which wind each other up" (2012). La Mettrie believed that human nature is manipulatable just as the external objects are, since the same substance constituting the said external object is, according to La Mettrie, the same. Moreover, this substance forming both functions on the same principle.

Even though the Enlightenment opened the gates to Romanticism and other movements, which went against the rule of instrumental reason, it has contributed immensely to modern culture. This contribution is mainly represented by the belief in the power of human rationality and science (Bostrom, 2005).

#### **4.1 Playing God with the Human Genome**

Professor of Systematic Theology Ted Peters (born 1941) in his research, compares the story *Frankenstein; or, The Modern Prometheus* with the contemporary question of genetic engineering for enhancement. He also included a quote by Michal Sandel (born 1953), philosopher and a professor at Harvard University, expressing his worry about unregulated genetic improvement (Peters, 2018).

I do not think the main problem with enhancement and genetic engineering is that they undermine the effort and erode human agency. The deeper danger is that they represent a kind of hyper agency — a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires....And what the drive to mastery misses and may even destroy is an appreciation of the gifted character of human powers and achievements.

On the other hand, Peters also provides a quote by Lee Silver (born 1952), a biologist and a professor at Princeton University, which defends playing God with the human genome. According to Silver, if God exists and granted humanity with the responsibility for "...the goods of life and good health," it is only right to try to better the human condition. Furthermore, Peters also considers the opinion of Lean Kass (born 1939), former chair of the U.S. President's Council on Bioethics, who states, that instead of trying to overcome God, humans ought to "...accept what it means to be human" by which he expresses the idea, that the human mortality is only natural.

#### 4.1.1 Directed Evolution

Transhumanists stress the idea that human condition ought to be altered using applied reason and that it is necessary to seek the advancement of intelligent life beyond its human form and limitations though science and technology

In the contemporary world, humans have obtained a sophisticated ability to redesign bacteria, plants, animals, and even a human being itself. This reality signals the possible emerging shift from a world where natural processes and evolution are dominant to a world, where these natural laws are no longer applicable. According to scientist Steve Gullans and best-selling author Juan Enriquez, the authors of *Evolving Ourselves: How Unnatural Selection Is Changing Life on Earth* (2015), evolution is no longer directed by nature but by human forces. Specifically, by Unnatural Selection, the ability of humans to control life on earth according to their desires and choices and by Nonrandom Mutation, the ability to adjust human genetics and any other life form.

The alternation of human genetics could serve as a tool in preserving the human species as it would allow a human being to adjust to different environments, i.e. life on Mars. Additionally, it could eliminate genetic deceases and increase longevity.

The authors of *Evolving Ourselves: How Unnatural Selection Is Changing Life on Earth* emphasize the stimulation of an ethical dialogue concerning the advancements achieved through directed evolution (Mercer and Trothen, 2014; Bidshahri, 2019).

Synthetic biology, science directed at not only the alteration of existing genomes but also at creating life from pre-biotic chemistry. This type of science resembles Victor Frankenstein's efforts to animate a dead matter. Professor of Reformed Theology Henk van den Belt (born 1971) stated that synthetic biology, "shifts or blurs the boundaries between matter and information, life and non-life, nature and artifact, organic and inorganic, Creator and creature, the evolved and the designed...researchers are quickly accused of playing God or of treading in Frankenstein's footsteps" (cited in Peters, 2018).

Interestingly, several years ago, such achievements would be considered impossible or magical. British science fiction writer Arthur C. Clarke defined three adages that have earned the name "Clarke's three laws." The third law, "Any sufficiently advanced technology is indistinguishable from magic," depicts how much has science advanced from the times of the Renaissance. Mary Shelley's novel foresaw the possible consequences of desires going beyond human limits.

## **II. ANALYSIS**

## 5 PLAYING GOD IN *FRANKENSTEIN*

With the development of natural sciences, the grand ambitions of scientists to uncover the way to immortality and to improve the human condition become to be perceived as feasible. In the novel *Frankenstein; or, The Modern Prometheus*, Shelley foresaw the possible grim consequences which may occur as a result of a mere human being trying to play God. The idea of bettering the human condition is not new as its roots go back to antiquity. Even in the contemporary world, people believe in the promising aspect of science and the immense progress in artificial enhancement. The belief that the human being can be improved through science, and thus suppress the natural order (and God) is what raises the question of morality. Specifically, where is the line between being human and being something other, potentially monstrous. What is the difference between fiddling with human technological enhancement and Prometheus' theft of the fire from the gods? Both can be considered as being against nature (Peters, 2018).

### 5.1 Materialism and Scientism in the Context of *Frankenstein; or, The Modern Prometheus*

Initially, Victor believes in the power of alchemy. However, after hearing Professor Waldman's lecture in Chapter 3, his approach towards alchemy is changed, "The ancient teachers of this science,' said he, 'promised impossibilities and performed nothing. The modern masters promise very little; they know that metals cannot be transmuted and that the elixir of life 46 Frankenstein is a chimera but these philosophers, whose hands seem only made to dabble in dirt, and their eyes to pore over the microscope or crucible, have indeed performed miracles. They penetrate into the recesses of nature and show how she works in her hiding-places. They ascend into the heavens; they have discovered how the blood circulates, and the nature of the air we breathe. They have acquired new and almost unlimited powers; they can command the thunders of heaven, mimic the earthquake, and even mock the invisible world with its own shadows." Victor is found immersed in learning chemistry and biology. Frankenstein's transition from alchemy and belief in unexplainable forces to studying solid sciences, which happen to be crucial to the animation of the creature, illustrates how the inspiration for *Frankenstein; or, The Modern Prometheus* arose from the Vitalist debate of the early 19th century; as the most discussed aspect of the creature is the existence of its soul.

In Shelley's *Frankenstein*, these two opposing concepts of the soul (the Romantic view and the materialistic one) fought over each other through Victor Frankenstein's creation, the

unnamed monster. By evoking these two conflicting theories of the soul, Mary Shelley tries to provide a means to understand the dispute between scientific materialism and Romanticism, which had been going on since the 18<sup>th</sup> century. Shelley's novel anticipated the forthcoming dominion of modern science and warned the readers of *Frankenstein* that rejecting humility and respect of Romanticism could result in tragedy (Willis, 1995).

## 5.2 Prometheus and Dr Frankenstein

Victor Frankenstein's act of creating life is reminiscent of that of Prometheus. The story of Prometheus contains motives that can be linked to the novel *Frankenstein*. In the first place, the creation of the human race, when the titan created it out of clay. The second motive is the theft of fire, which allowed humanity to crawl out of the darkness in which the world was. This theft enabled the progress of mathematics, writing, medicine, agriculture, and science. All these actions, however, were perceived as a rebellion against the divine powers. Thus, Prometheus was punished and deemed to spend eternity in suffering. Ultimately, the tale of Prometheus is tightly connected to "hubris, pride, overstepping our limits, crossing into forbidden territory, and violating the sacred" (Peters, 2018).

The creation of life out of non-living matter was the crucial blasphemous act of Victor Frankenstein, one of the two main protagonists of the work *Frankenstein*. His primary motivation for such an action was to elevate himself to the rank of God. Similarly, as Prometheus created beings of his own, who would celebrate him as The Creator. Nevertheless, this godless creation had irredeemable consequences. In this sense, *Frankenstein* contains several images of Christian iconography of the creation and fall, as well as references to the pagan legend of Prometheus. A leading scholar of Romanticism, Marilyn Butler, in her article "Frankenstein and Radical Science," proposed that the novel was supposed to provide a "...commentary upon the contemporary public debate regarding scientific materialism and the Christian concept of a pre-existent immortal soul" (Butler, 1993)

## 5.3 *Paradise Lost* and *Frankenstein*: Miltonic echoes

The connection between Milton's *Paradise Lost* can be derived from the full title of the novel *Frankenstein, or The Modern Prometheus*. Additionally, the 1818 edition contained an epigraph coming from Milton's work: "Did I request thee, Maker, from my clay To mould me Man, did I solicit thee from darkness to promote me?" (Milton, 2008). Furthermore, Mary Shelley's knowledge of and recurrent usage of *Paradise Lost* is not

difficult to establish due to the importance Milton's work had in the Godwin family (Mary Shelley's maiden name was Mary Wollstonecraft Godwin) as it is apparent from Mary Shelley's journals, where she mentions her father's rendition of *Paradise Lost* and her simultaneous working on *Frankenstein; or, The Modern Prometheus* (Pollin, 1965).

In the novel the creature associates itself with the fate of both Adam and Satan, which emerges from the creature's readings of the *Paradise Lost* in Chapter 15 - "Like Adam, I was apparently united by no link to any other being ... I was wretched, helpless, and alone. Many times, I considered Satan as the fitter emblem of my condition" (Shelley, 2019).

Another association with Satan is made by Victor Frankenstein, who, after going through all the misery of losing his family and bride. Similar themes emerge in both *The Paradise Lost* and *Frankenstein*. Towards the end of the novel, the monster compares its faith to the one of Satan: "The fallen angel becomes a malignant devil. Yet even that enemy of God and man had friends and associates in his desolation; I am alone" (Shelley, 2019). These quotes suggest similar themes that interconnect the two works: "the molding of a living being from clay; the growth of malice and the desire for revenge; the isolation of the hostile being and the consequent increase of his hostility" (Pollin, 1965). Furthermore, the monster often identifies loneliness and the rejection of men as a source of his misery:

But this was a luxury of sensation that could not endure; I became fatigued with excess of bodily exertion and sank on the damp grass in the sick impotence of despair. There was none among the myriads of men that existed who would pity or assist me; and should I feel kindness towards my enemies? (Shelley, 2019)

In the original preface of *Frankenstein; or, The Modern Prometheus* written in 1818 Shelley states, "I have thus endeavoured to preserve the truth of the elementary principles of human nature, while I have not scrupled to innovate upon their combinations" (Shelley, 2019). This innovation of the combination of the elementary principles of human nature Shelley mainly ascribes to *Paradise Lost*. Thus one could assume that she has been strongly influenced by Milton's work.

Further inspiration for Shelley was the Faustian idea that the pursuit of higher knowledge could be dangerous. This can be seen in Letter 4, a conversation of Dr Frankenstein with Walton, the frame narrator of the story through letters he writes to his sister: "You seek for knowledge and wisdom, as I once did; and I ardently hope that the gratification of your wishes may not be a serpent to sting you, as mine has been" (Shelley,

2019). Dr Frankenstein hoped to become the Creator himself when he animated a non-living matter and consequently created new species that did not need the involvement of nature. In his endeavour to achieve such ambitions, he uttered, “A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve theirs” (Shelley, 2019). Ironically, the creature devotes his existence to destroying not only its creator but also the human race. Besides, the scientist addresses his creation in reminiscence of *Paradise Lost* with terms such as “fiend,” “daemon,” “adversary,” or “devil” (Shelley, 2019).

Another resemblance to *Paradise Lost* can be seen when Frankenstein’s monster discovers its monstrous appearance in a mirroring pool while listening to the cottagers. This passage can be understood as a menacing resemblance to Eve’s discovery of her fair features in the pool of Eden. As the creature witnesses its horrid reflection after examining the cottagers’ lives in Chapter 12, it cries out, “I had admired the perfect forms of my cottagers—their grace, beauty, and delicate complexions, but how was I terrified when I viewed myself in a transparent pool! At first, I started back, unable to believe that it was indeed I who was reflected in the mirror. When I became fully convinced that I was, in reality, the monster that I am, I was filled with the bitterest sensations of despondence and mortification. Alas! I did not yet entirely know the fatal effects of this miserable deformity” (Shelley, 2019). In the same way, the idea of Eve is mirrored in the Chapter 16 when the monster demands a companion “I am alone and miserable; man will not associate with me, but one as deformed and horrible as myself would not deny herself to me. My companion must be of the same species and have the same defects. This being you must create” (Shelley, 2019). The Frankenstein’s creation is of the idea that only a mate created by the same hands of Victor Frankenstein would help him to find salvation in the face of universal ostracism.

Given these points, *Paradise Lost* presents Frankenstein’s monster in emblematic and literary terms with the problem of his nature, like Adam, he had no connection to other beings. Yet, his condition was more like the one of Satan, which can be witnessed in the Chapter 15 in the monster’s reading of *Paradise Lost*, “... but I was wretched, helpless, and alone. Many times, I considered Satan as the fitter emblem of my condition...” (Shelley, 2019; Brooks, 1978).



#### 5.4 Dr Frankenstein – The “Overreacher”

The figure of Frankenstein is occasionally viewed as carrying features of an overreacher. Victor Frankenstein represents a protagonist, who is sentenced to punishment after violating the limits set by God. The Edinburgh [Scots] Magazine, and Literary Miscellany, in its review of the first edition of the novel, provided the readers with the opinion that “...it might, indeed, be the author's view to shew that the powers of man have been wisely limited, and that misery would follow their extension” (The Edinburgh [Scots] Magazine, and Literary Miscellany, 1818).

Some scholars, such as Burton R. Pollin, professor of English and a member of the Poe Studies Association, associate the figure of Frankenstein with the characters from *Paradise Lost* and the legend of Prometheus (Pollin, 1965). It is important to note that both leading figures of these works are somewhat flexible when the interpretation of their character is concerned. For example, the nature of Prometheus is by Aeschylus, one of the first Greek playwrights, depicted as a hero who enabled humanity to progress towards civilisation. In contrast, according to a prominent Greek poet of the 8<sup>th</sup> and the 7<sup>th</sup> century B.C. Hesiod, Prometheus ended the initial happiness of humanity and, thus, was rightfully punished by Zeus. The poets of Romanticism compared Prometheus with the Satan in Milton's *Paradise Lost* and “...saw in them both a champion against the oppression of the Christian church and state” (Hetherington, 1997). Shelley placed side by side the opposing ideas of overreachers when the character of Frankenstein identifies himself as Milton's Satan. Additionally, based on the narrative of *Frankenstein; or, The Modern Prometheus*, Shelley puts effort into critiquing the arrogance, egotism, and inhumanity, strong amongst radicals of the Enlightenment.

## 6 THE GOTHIC INFLUENCE IN THE NOVEL *FRANKENSTEIN; OR, THE MODERN PROMETHEUS* – NATURE AND THE SUBLIME

The example of Burke's definition of the astonishment and the Sublime can be found in the novel in the part when Frankenstein is mesmerized by the beauty of nature despite all the horrors happening to him. Other characters in the novel experience this feeling of astonishment by nature as well (Elizabeth, Frankenstein's creature, Clerval, and Walton). And thus, the connection of the Sublime and nature is represented through the characters.

Shelley presents not only the delightful side of nature but also the sublime one. Carter describes the gothic nature as not only having the power of healing but also the power of destruction "Frankenstein is full of the harsh reality of nature. Many storms arise in the novel, including storms the night the Creature comes to life" (Carter, 2017).

Among the most prominent features of gothic literature is the "conflict between ancient and modern and is embodied in various incarnations, especially in the creation of a non-human body" (Kohil, 2018). The ancient is represented by the gothic setting of the book. The novel itself is antiquated, and its story is told through letters by Robert Walton. The antiquated setting conflicts with modernity, i.e. the laboratories and the scientists' ambitious pursuits applied in the novel.

The modern is represented by Frankenstein's immense efforts to accomplish something rather modern, which is to create human life out of non-living matter, which can be achieved through contemporary science. This accomplishment is put in contrast with the setting of the novel, which helps to create the gloomy feeling the readers get. In the scene when the creature is animated, the aspects of modernity (the circumstances underneath the creature was constructed) and antiquity (the setting into which the creature was enlivened) are combined (Kohil, 2018).

## 7 REFLECTIONS OF TRANSHUMANISM IN *FRANKENSTEIN*

In Chapter 2, Victor Frankenstein's scientific aspirations are fuelled by a strong ambition to contribute to the welfare of humanity, to “banish disease from the human frame and render man invulnerable to any but a violent death” (Shelley, 2019). He was a rational humanist who believed that science could ensure the continual advancement of the human species. On top of that, Frankenstein received a proper education, which he thought made him able to contribute to the progress of humankind. He felt as it was his responsibility, just like Prometheus, to “breakthrough, and pour a torrent of light into our dark world” (Shelley, 2019) as Victor stated in the Chapter 4. Even though the novel is more than two hundred years old, a modern reader can notice elements of transhumanist theory. Thus, transhumanism has its foundations in the rational humanism of the Enlightenment. The continual advancement of humanity was appealing to many of Mary Shelley’s contemporaries, including her, her husband Percy Bysshe Shelley, and her father, William Godwin. The novel explores the opportunities of utilizing technology for human enhancement, which is an essential instrument for transhumanists. Swedish philosopher at the University of Oxford Nick Bostrom (born 1973) mentioned Marquis de Condorcet as one of the most notable figures contributing to the development of rational humanism. Condorcet thought about prolonging human longevity by using medical science: “Would it be absurd now to suppose that the improvement of the human race should be regarded as capable of unlimited progress? That a time will come when death would result only from extraordinary accidents or the more and more gradual wearing out of vitality, and that, finally, the duration of the average interval between birth and wearing out has itself no specific limit whatsoever? No doubt man will not become immortal, but cannot the span constantly increase between the moment he begins to live and the time when naturally, without illness or accident, he finds life a burden?” (cited in Bostrom, 2005).

Condorcet’s words are somewhat similar to those of Victor Frankenstein in , “Life and death appeared to me ideal bounds, which I should first break through, and pour a torrent of light into our dark world. A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve theirs. Pursuing these reflections, I thought that if I could bestow animation upon lifeless matter, I might in process of time (although I now found it impossible) renew life where death had apparently devoted the body to corruption” (Shelley, 2019).

In Chapter 2, Frankenstein expressed his great ambition to create a man who would be “invulnerable to any but a violent death” (Shelley, 2019), which is an evidence of him contemplating a technologically enhanced human being. Not only Victor wanted to create an enhanced human, but he wished to create a completely “a new species” (Shelley, 2019), which would adore him as Creator. Frankenstein’s monster is no longer a transitional human species, but a species symbolizing an evolutionary leap. This leap enabled to circumvent the normal human procreation. While Condorcet was contemplating an improved homo sapiens, Victor’s scientific pursuit resulted in creating an entirely new species. This ambition is similar to strong transhumanist and eminent supporter of the movement Max Moore, whose confidence in the progress of technology is fuelled by a vision of a utopian human future where rational intelligence has surpassed its biological limitations. In the novel, Frankenstein's creature is no longer viewed as human. Even the creature itself does not classify its condition as being human (Carretero-González, 2016).

The possible consequences of transhumanist trying to overcome human limitations can also be found in the narrative by Arctic sailor Robert Walton, whose letters provide a framing device for the novel. When Walton gets a first glimpse of the creature, he describes it as “a being which had the shape of a man, but apparently of gigantic stature,” which already suggests its unnatural appearance. In Letter 4, Walton eventually concludes that it must have been a man, considering that when he refers to Victor as “a human being...he was not, as the other traveller seemed to be, a savage inhabitant of some undiscovered island, but a European” (Shelley, 2019). In Letter 4, on Victor’s insistence, Walton confirms that he had seen “some dogs drawing a sledge, with a man in it, across the ice” (Shelley, 2019). In this part of the novel, the difference between the two characters (Victor and the creature) is apparent. Victor Frankenstein, the pursuer, is almost dead in the moment of his rescue and eventually dies. At the same time, the creature had been able to guide all of its dogs across the ice, while almost all of Victor’s dogs died. The creature seems to be in good health, and it even prospers in the natural environment regardless of the weather. All of this, combined with his strength, agility, and resilience, suggests that the creature is physically dominant over a mere human being. The creature observes this fact, “I was not even of the same nature as man. I was more agile than they and could subsist upon coarser diet; I bore the extremes of heat and cold with less injury to my frame; my stature far exceeded theirs. When I looked around I saw and heard of none like me. Was I, then, a monster, a blot upon the earth, from which all men fled and whom all men disowned?” (Shelley, 2019). This evokes concerns of Michal Sanders about unregulated genetic improvement and the possibility that humanity

may face the same tragic fate, i.e. the dreamed-of posthumans of strong transhumanists may bring destruction to their mere flesh and blood creators. The physical features of humans and the creature differ so fundamentally that the creature itself concludes that it is inhumane. Additionally, what sets the creature apart from humans is its intelligence, based on its ability to use language. He learns to speak and write way faster than Safie, the Turkish exile living with De Lacey. Advocates of direct evolution seek such advancement of intelligent life beyond human physical limitations. Victor Frankenstein can be seen to have fulfilled the dreams of the direct evolutionists; however, his dream soon became a nightmare.

In a way, the creature developed a sense of morality (despite it becoming a murderer), evidence for which is found in his dietary choices expressed in Chapter 17, “If you consent, neither you nor any other human being shall ever see us again; I will go to the vast wilds of South America. My food is not that of man; I do not destroy the lamb and the kid to glut my appetite; acorns and berries afford me sufficient nourishment. My companion will be of the same nature as myself and will be content with the same fare. We shall make our bed of dried leaves; the sun will shine on us as on man and will ripen our food” (Shelley, 2019). The creature wishes for the innocent life of Adam and Eve before the Fall, which he learned about when reading *Milton’s Paradise Lost*. Interestingly, its lifestyle reflects its moral choice to not to cause harm only for dispensable satisfaction (Baldick, 1990; Lamb, 1992).

The nature of the creator is physically and intellectually inferior to the nature of the creation. Ultimately, the creature’s condition resembles one of a posthuman “whose basic capacities so radically exceed those of present humans as to be no longer unambiguously human by our current standards” (Transhumanist FAQ, n.d.). Synthetic biology aims to alternate the human genome that could eventually lead to the creation of a posthuman through “smaller but cumulatively profound augmentations to a biological human” (Cole-Turner, 2011). Had the creature been given a female partner, it could have become the first representative of a new species (Carretero-González, 2016; Feder, 2018). This reflects Fukuyama’s idea of Transhumanism and the belief that the emergence of a posthuman would shake the idea of equality and human essence, i.e. what it even means to be human. According to the novel, the posthuman is superior to the ordinary human in physical strength and it can be argued even in depth of emotion and philosophical insight. Thus, if Frankenstein was to provide the creature with a female, humanity might become dominated by the new species created by a human. As in the novel, in a Transhumanist future the creature might seek to destroy the creator, or at best treat him as a pet or plaything.

Throughout the novel, Victor Frankenstein expresses transhumanist ideas, “if I could banish disease from the human frame and render man invulnerable to any but a violent death [...] Life and death appeared to me ideal bounds, which I should first break through, and pour a torrent of light into our dark world,” however, he wishes to create a posthuman. Victor Frankenstein achieved something strong transhumanists wish for; however, Victor’s accomplishment eventually became his damnation. When Frankenstein animates the creature in Chapter 5, the creator shows a typical Romantic mixture of ecstasy and torment: “How can I describe my emotions at this catastrophe, or how delineate the wretch whom with such infinite pains and care I had endeavoured to form?” (Shelley, 2019). The act of creating life should have been followed by responsibility; however, Victor fails at expressing any kind of empathy towards his creation. Additionally, Victor addresses the creature as “it” which symbolises Victor’s conception of the creature as a beast or a monster. The reason for Victor’s rejection of his creation is possibly the fact that the creature only partially resembles a human being. Even though Frankenstein devoted his effort to select “his features as beautiful,” the result is just a mockery of what he had dreamt for. In Chapter 5, the abhorrent appearance of the creature makes Victor indifferent towards its needs, “I beheld the wretch—the miserable monster whom I had created. He held up the curtain of the bed; and his eyes, if eyes they may be called, were fixed on me. His jaws opened, and he muttered some inarticulate sounds, while a grin wrinkled his cheeks. He might have spoken, but I did not hear; one hand was stretched out, seemingly to detain me, but I escaped and rushed downstairs [...] No mortal could support the horror of that countenance. A mummy again endued with animation could not be so hideous as that wretch. I had gazed on him while unfinished; he was ugly then, but when those muscles and joints were rendered capable of motion” (Shelley, 2019). From this scene onwards, Victor continues to address his creation as a “monster,” which irreversibly affects their relationship. In Chapter 9, Victor comments upon his creation, “Remorse extinguished every hope. I had been the author of unalterable evils, and I lived in daily fear lest the monster whom I had created should perpetrate some new wickedness” (Shelley, 2019). Frankenstein’s rejection of responsibility for the creature is reminiscent of J. Robert Oppenheimer (1904-1967), the “father of the atomic bomb,” who expressed his thoughts about the destructive power of the nuclear bomb: “Scientists’ responsibility must be engaged before their creations are unleashed” (cited in Weinmann, 2018). In this sense, Oppenheimer warns about the threats posed by technological progress. As he watched the first test of a nuclear explosion, Oppenheimer famously quoted from a sacred Hindu text: “Now I am become Death, the destroyer of worlds” (Temperton, 2017).

Victor fails to identify the creature as a correlate being, and thus, Victor does not feel any ethical responsibility towards his creation since a “monster” is not an ethical subject. Frankenstein failed to transcend the abhorrence of the creature’s appearance and assumed that the interior of the creature must be just as dreadful. Victor’s condemnation of the creature can be seen in his assurance about the creature’s guilt over murdering Justine (servant to the Frankenstein family) and William (Victor’s younger brother) before the creature confesses to their murders. The creature’s confession only supports Victor’s preconceived impressions about the monster’s evil nature. Victor continues to despise the creature even after he listens to the creature’s life story. (Carretero-González, 2016; Feder, 2018; Peters, 2018). Consequently, if humanity was to apply technology to facilitate the evolution of humans into posthumans, the idea of what is “human” would be blurred.

The story is narrated by three different narrators, i.e. Victor, Walton, and the creature, and thus, each narrator offers a different point of view on the same story. Frankenstein’s creature occupies the central position, and most importantly, after learning the perspective of the monster, it is expected that the idea that the creature is not just a monster occurs in the minds of readers. The creature’s story is one of sheer misery and emotional pain. His atrocious acts than agree with William Godwin's belief that the morality of a human being is based on the person’s perceptions. At the point where the creature starts to compare itself to the aspects of the human world, In Chapter 12 it figures that it does not belong in it, “Sometimes I tried to imitate the pleasant songs of the birds but was unable [...] I had admired the perfect forms of my cottagers—their grace, beauty, and delicate complexions; but how was I terrified when I viewed myself in a transparent pool! At first I started back, unable to believe that it was indeed I who was reflected in the mirror; and when I became fully convinced that I was in reality the monster that I am, I was filled with the bitterest sensations of despondence and mortification. Alas! I did not yet entirely know the fatal effects of this miserable deformity” (Shelley, 2019). The creature’s first reactions to his appearance are filled with disgust. The creature’s deformity makes it think whether it is really a monster, disregarding his actions of generosity towards the cottagers it observed. Thus, the strong transhumanist’s pursuit of creating a posthuman world could trigger issues of the coexistence of humans and posthumans, who in many ways would be incompatibly dissimilar, even a different species.

The moment when the creature learns to read and discovers his origins in Victor’s journal marks the creature’s painful anagnorisis. The creature learns that it is indeed the only representative of its species. It is also frightened at discovering that the creator dismissed all

of the expectations he had before the animation of the creature just because of the creature's physical appearance. The reality that the creature resembled a monster caused that the potential of the species Victor created remains unexplored and rejected (Carretero-González, 2016; Ring, 2007)

The creature's morality has been shaped by his experiences and the literature it read. Having read Milton's *Paradise Lost*, the creature once it learns about his origin, it starts to blame his creator for his wretched life, which could only become bearable if it had a companion of the same species. The creature insists that Victor grants it with a companion, which the creature sees as a solution he contemplates for the two species to live peacefully.

The physical appearance of the creature did not convince Frankenstein. However, the creature's eloquence seemed to be compelling just as it was with the blind De Lacey in Chapter 12, "His words had a strange effect upon me. I compassionated him and sometimes felt a wish to console him, but when I looked upon him, when I saw the filthy mass that moved and talked, my heart sickened and my feelings were altered to those of horror and hatred. I tried to stifle these sensations; I thought that as I could not sympathize with him, I had no right to withhold from him the small portion of happiness which was yet in my power to bestow" (Shelley, 2019). The creature, just like Satan and Adam, was able to express his plea in a way that it has a profound effect on the listener. The fact that it is not clear whether the creature is speaking the truth echoes the worries of critics of Transhumanism such as Michal Sanders. The uncertainty of the possible impact of unregulated genetic enhancement on the future of humanity is another issue connected with Transhumanism.

Nonetheless, in Chapter 5, Victor refuses to acknowledge the creature's humanness and remains assured about the creature's evil nature, "He might have spoken, but I did not hear" (Shelley, 2019). If Victor were to acknowledge his fault for the creature's wretched existence, he would have to acknowledge his responsibility for the deaths of his loved ones, which is something Frankenstein rejects to do. Victor was assured that granting the creature with a female companion would pose a threat to humanity. In Chapter 20, he envisioned a future which would ensue if he had created another creature "the daemon thirsted would be children, and a race of devils would be propagated upon the earth who might make the very existence of the species of man a condition precarious and full of terror. Had I right, for my own benefit, to inflict this curse upon everlasting generations?" (Shelley, 2019). The hope for the happiness of the creature vanishes when Victor destroys the female he had created. By doing so, Victor brings about his demise (Carretero-González, 2016, Feder, 2018). After considering the fate of Frankenstein, it should be evident that scientists who artificially tinker



with the human genome should program a caution into their framework. In this context, the precautionary principle should be applied, “When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm” (The Precautionary Principle, 2005; Peters, 2007)

## CONCLUSION

This thesis has traced crucial notions which have helped to shape contemporary scientific thought and technology, a journey fuelled by efforts to establish the human as the master of his own evolution and introduce possible consequences of man playing God in connection with Mary Shelley's novel *Frankenstein; or, The Modern Prometheus* (1818).

Shelley's *Frankenstein* is one of the most important Gothic novels of all time, a work which has had tremendous literary influence as well as impact on the philosophy of science. The work explores the idea of the sublime – both beautiful and terrifying – but it is also a profound treatise on ethics and metaphysics whose legacy is still relevant today. Although Victor Frankenstein resembles Dr Faustus, the main protagonist of Marlowe's tragedy *The Tragical History of the Life and Death of Doctor Faustus* (1595/92), the personality traits and ambitions of the two characters differ fundamentally. It is true that Victor Frankenstein, like Dr Faustus, found inspiration in magical and alchemical writings (understood by Christians as the devil's work) of Agrippa, Paracelsus, and Albertus Magnus; however, Frankenstein eventually turns to modern science to discover the mysteries of life and death. This reflects cultural changes from the Renaissance to the Enlightenment, with the influence of scientific empiricism becoming even stronger in the later period. Thus, Frankenstein can be seen as an innovator in researching the pragmatic utilization of science when he gave birth to a posthuman; hence, the novel is considered as a "pioneering work of science fiction [...] one which does a considerable disservice to the image of science as an instrument of human progress" (Stableford, 1995).

The name of the character Frankenstein is widely recognized; however, this recognition is often misguided. The majority are familiar with the Universal Studios film version of 1930, which differs immensely from the book. The character of Frankenstein and his monster are often interchanged by an unknowledgeable audience. Nonetheless, this uncertainty is not that alien to a novel whose central motifs can be understood in various different ways to convey various different messages, i.e., as the creature ponders, who is the real "monster"?

Transhumanism's ideologies concerning the genetic improvement and the artificial creation of life have been facilitated and activated by the progress of technology and science. This thesis focuses on a contemporary interpretation of the story, one which dramatizes the ambitions of humans to go beyond their limitations by attempting to be god-like. Transhumanists seek to enhance the human condition through biomechanical and genetic engineering and, eventually, they wish humans to direct their own evolution into a

posthuman species. Chapter 3 of *Frankenstein; or, The Modern Prometheus* captures a story of a man whose insatiable desires to “pioneer a new way, explore unknown powers, and unfold to the world the deepest mysteries of creation” lead to his damnation (Shelley, 2019). Frankenstein has indeed discovered the “deepest mysteries of creation;” nonetheless, on the very day he successfully animated the posthuman, he expelled it from human society, perhaps echoing the biblical banishment of Adam and Eve from the Garden of Eden in Genesis 3: 22-24.

Consequently, the creature blames Victor for its wretched life, and eventually turns its anger against humanity. The novel depicts a story in which the creator is destroyed by his creation, which could be perceived as an allegory to the efforts of transhumanists, whose pursuits, if unregulated, may have the same ending.

Whether Frankenstein deserved such a fate depends on one’s interpretation of what it means to be human. The creature is very much able to feel a variety of emotions, which, in a way, makes him human-like.; however, he is not perceived as a human due to his unquestionable otherness. The ambitions of transhumanists blur the lines of human and (bio)machine, which poses the question of what position such a posthuman would occupy in human society.

Ultimately, it is possible to interpret *Frankenstein; or, The Modern Prometheus* as a warning for future generations of scientists, who are to always ready to push the limits of science and technology as far as it can go, often eschewing questions of consciousness, morality, ethics, and free will.

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