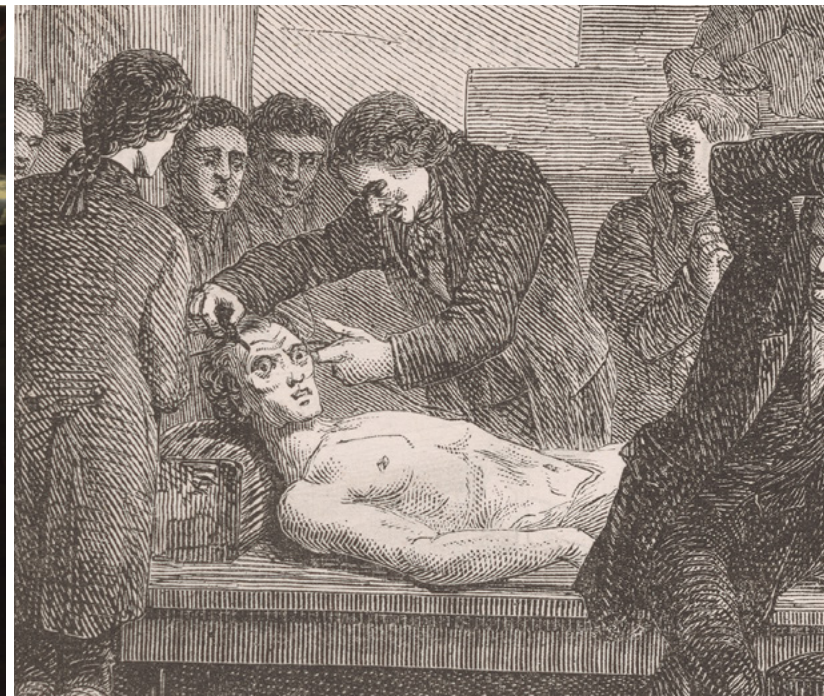# SECTION ONE: HISTORICAL CONTEXT FOR *FRANKENSTEIN*

LEFT: Joseph Wright, *An Experiment on a Bird in the Air Pump*, 1768 . Oil on canvas. Presented by Edward Tyrrell, 1863. © National Gallery, London / Art Resource, NY. RIGHT: Auguste Pontenier (1820–1888), wood engraving in Louis Figuier (1819–1894), *Les merveilles de la science, ou Description populaire des inventions modernes,* Paris: Furne, Jouvet et cie., 1867–70, The Morgan Library & Museum, purchased on the Gordon N. Ray Fund, 2016, PML 196256.

LITERARY TRADITIONS

Frankenstein should be read in the context of the Gothic literary tradition. By the early eighteenth century in Britain, the term Gothic referred to art or literature situated in desolate or romantic settings with plots that were **macabre**, mysterious, or filled with horror. However, the term originated many centuries earlier when Germanic marauders known as Goths invaded European territories between the third and fifth centuries. The word came to signify violence, chaos, and destruction. "Gothic" then expanded around the thirteenth century to describe art and architecture lacking classical or regular proportions and depicting violence.

The British rise in Gothic imagery in literature and art of the eighteenth and nineteenth centuries echoes the politics of the period. During this time, the British were involved in a brutal eight-year-long war with their thirteen American colonies, bloody uprisings in Ireland, and colonial expansion in India. Meanwhile, the specter of the French Revolution influenced the British government to limit freedoms at home. In this context, artists and writers began to express their anxieties through Gothic chaos and violence.

Whether set on moonlit beaches, desolate moors, in forests, caves, castles, abbeys, crumbling mansions, or even graveyards, crypts, and gallows, these Gothic stories featured demons, possessed monks, dying parents with secrets to tell, or characters with unnatural obsessions. In the case of *Frankenstein*, the cemetery, the mysterious murders, and the **sublime** landscapes of the Alps and

Arctic are elements that invoke the Gothic tradition. Shelley's creature-creator pair draws from the demons and obsessions of earlier Gothic stories while creating something wholly new.

Elements of the Gothic can be found throughout British **Romanticism**, the artistic and literary movement spanning the late eighteenth and early nineteenth centuries. Inspired by the mystical elements associated with the Gothic genre, Romantic literature often emphasized the natural world. Romanticism focused on the power of the imagination and emotions, and was an optimistic response to new cultural ideas after the American and French Revolutions. Romanticism contrasts with the earlier concept of the **Enlightenment**, which focused on reason and logic. Romantic artists and writers further explored the concept of the sublime, the contemplation of nature as awe-inspiring, and going beyond the realm of perception. We will examine how artists drew on the aesthetic traditions of Romanticism, the Gothic, and the sublime in the "Objects and Discussion Prompts" later in this section.

SCIENTIFIC HISTORY

Mary Shelley's era was a period of significant scientific discoveries. Inventors revolutionized industry with the creation of the steam engine and increased automation in factory production of goods such as textiles. Public figures such as Erasmus Darwin, physician and poet (and grandfather of Charles), created a positive climate for experimentation. The Royal Institution, founded in London in 1799, promoted and funded **natural philosophers** (as scientists were called at the time) such as Humphry Davy, a chemist who discovered several elements. Lectures and experimental demonstrations on ground-breaking scientific concepts were presented for the general public.

Percy Bysshe Shelley, Mary's husband, took a great interest in chemistry, and Mary likely heard him talk about experiments he conducted as a student at Oxford. Mary Shelley was reading Humphry Davy's book on chemistry as she wrote *Frankenstein*. In her novel, it is chemistry that brings the body to life. Yet, until his professors debunk it, Victor Frankenstein is interested in the medieval predecessor to chemistry, alchemy*. The ultimate goal of alchemy is to transform lesser metals into gold, which was considered incorruptible. This transformative process can be related to the search for eternal life, the possibility that mortal flesh can be made immortal. Alchemy is associated with mysticism and magic as well as science.

Other scientific endeavors in the news and on peoples' minds during Mary Shelley's time included anatomical dissections by medical students (which Shelley knew were generally performed on the corpses of criminals and the poor) and a case in 1816 in which a surgeon applied electricity to the corpse of a murderer, making the body twitch. A reporter at the event described it this way: "Vitality might have been fully restored, if many ulterior circumstances had not rendered this—*inappropriate*" (qtd. in Denlinger, 61).[2] Mary Shelley cites an interest in **galvanism** in her introduction to the novel, as a potential avenue of reanimation. Galvanism can refer to a muscle contracting after being stimulated by an electrical current.

The scientific methodology that Victor Frankenstein employs to bring his Creature to life is never fully explained in the novel. It is suggested that Victor does not entirely trust anyone with the secret. Although electricity has become part of the visual imagery for the reanimation in film adaptations of the story, it receives less attention in the novel. The most compelling image of lightning in the novel is not associated with the Creature, but with Victor. After the Creature has begun to kill, Victor is bitter, and describes himself as "...a blasted tree; the bolt has entered my soul..." (165).

*The original British title of *Harry Potter and the Sorcerer's Stone* was *Harry Potter and the Philosopher's Stone*, which illustrates the close association between alchemy and magic.

[2]Denlinger, Elizabeth C. *It's Alive! ! A Visual History of Frankenstein*. The Morgan Library & Museum, 2018. p. 61. All subsequent references to this catalogue will be given as parenthetical citations.

OBJECTS AND DISCUSSION PROMPTS

OBJECT: HENRY FUSELI, *THE NIGHTMARE*, 1782

One of the most famous paintings of the Gothic movement is Henry Fuseli's *The Nightmare* (1782). In the painting, a demon perches on the chest of an unconscious woman in a gauzy white gown, and a horse peers out from the curtain behind her. Fuseli was a part of the intellectual circle of Mary Shelley's mother, Mary Wollstonecraft. Her daughter would have been familiar with the famous painting. Scholars have suggested that it is the inspiration for the Creature's threat to Victor: "I shall be with you on your wedding-night." The painting's imagery of a beautiful woman in a potentially dangerous bedroom is echoed in many film adaptations. It exemplifies the British Gothic.

Henry Fuseli (1741–1825), *The Nightmare*, 1781, oil on canvas, Detroit Institute of Arts, USAFounders Society Purchase with funds from Mr. and Mrs. Bert L. Smokler and Mr. and Mrs. Lawrence A. Fleischman/Bridgeman Images

DISCUSSION PROMPTS:

⚡ Look together at *The Nightmare*. Ask students what they notice.

⚡ How would they describe the mood of the painting?

⚡ Ask students what they think of when they hear the word Goth or Gothic. Add to their ideas by sharing the types of settings, characters, and conflicts that define the movement (see "Literary Traditions" above). Examining *The Nightmare*, where do students see these elements of the Gothic?

⚡ Mary Shelley was familiar with *The Nightmare*. Ask students to compare the imagery and atmosphere of the painting to the novel, or any of its visual adaptations.

⚡ Ask students to construct a narrative story to describe what is happening in the painting. What happened before this scene and what will happen after? The word "nightmare" is a compound of "night" + "mare" (a female horse) and is an old folklore term for a monster that produced a feeling of suffocation in a sleeping person. How has Fuseli incorporated the folkloric elements into his painting?

OBJECT: PHILIPPE-JACQUES DE LOUTHERBOURG, *A PHILOSOPHER IN A MOONLIT CHURCHYARD*, 1790

Philippe-Jacques de Loutherbourg's *A Philosopher in a Moonlit Churchyard* exemplifies the Gothic sublime. The painting, from 1790, depicts a young man standing before an open grave in the ruins of Tintern Abbey (of Wordsworth poem fame) gazing up at a carved image of a resurrected Jesus Christ leaving the tomb. Scholars have suggested that the scene implies an attempt to raise the dead. Loutherbourg specialized in creating drama in his settings. He also built stage sets and special effects for theaters and was interested in the **occult**.

Philippe-Jacques de Loutherbourg (1740–1812), *A Philosopher in a Moonlit Churchyard*, 1790, oil on canvas. Yale Center for British Art, Paul Mellon Collection.

DISCUSSION PROMPTS:

⚡ Ask students to spend a few minutes looking at this painting and jotting down their observations. Then ask them to circle the words or phrases that stand out to them and share these with the class.

⚡ What types of words or phrases did students come up with?

⚡ What do students think is happening in this painting? Tell them that critics have suggested that the open grave and the young man's expression imply an attempt to raise the dead. Ask for their reactions to this theory.

⚡ Like *The Nightmare*, this painting is considered part of the Gothic tradition in art. It is also thought to represent the concept of the sublime, which, starting at about 1757, came to refer to experiences that were beyond human understanding. Visual artists became interested in representing those sensations that cannot be described with words or explained with reason. Ask students to consider the painting again with this in mind. How does the painting exemplify this notion of the sublime?

OBJECT: JOSEPH WRIGHT, *THE ALCHYMIST, IN SEARCH OF THE PHILOSOPHER'S STONE, DISCOVERS PHOSPHORUS, AND PRAYS FOR THE SUCCESSFUL CONCLUSION OF HIS OPERATION, AS WAS THE CUSTOM OF THE ANCIENT CHYMICAL ASTROLOGERS*, 1771

Joseph Wright was a painter who kept up to date on the latest in scientific research through his friend Erasmus Darwin and others in his circle. This knowledge allowed him to depict experiments and scientific demonstrations of the era. This painting from 1771 depicts the alchemist Hennig Brand who discovered phosphorus in 1669 through his experiments with human urine, hoping to create gold. In the painting, the element first appears to Brand in the form of a bright light in a round glass bottle.

Joseph Wright, *The Alchymist, in Search of the Philosopher's Stone, Discovers Phosphorus, and Prays for the Successful Conclusion of His Operation, as Was the Custom of the Ancient Chymical Astrologers*, exhibited 1771, reworked and dated 1795, oil on canvas. Derby Museums Trust.

DISCUSSION PROMPTS:

⚡ Ask students to turn to the person next to them and discuss the painting. What do they see? What do they think about it?

⚡ Compare and contrast this painting to either *The Nightmare* or *A Philosopher in a Moonlit Churchyard*. How does it compare to the settings and characters in Fuseli's or de Loutherbourg's paintings? Do they think it has characteristics of a Gothic painting? Why or why not?

⚡ Next, discuss the techniques the artist uses to tell the story, including lighting and point of view.

⚡ This painting depicts a moment from a scientific event that occurred in the past, over a hundred years before the painting was made. Since there was no visual documentation of this moment, Wright had to imagine it. How has he envisioned the scene? What do students think Wright's attitude is on this moment in history? Ask them to back up their thoughts with visual analysis.

⚡ In the novel *Frankenstein*, how does Victor's reaction to his Creature compare to the imagined scene of Hennig Brand's discovery?

OBJECT: VACUUM PUMP WITH BELL JAR, 19TH CENTURY

This nineteenth century vacuum or air pump would have been used to extract air from the attached **bell jar** and create a **vacuum**. The **vacuum pump** was invented in 1650 in Germany and was used to demonstrate that the elements in air were necessary for living creatures to stay alive. Any breathing creature would quickly die inside once the oxygen and other gases were pumped out. The pump was a popular piece of equipment for demonstrating **pneumatics**, the study of the properties of air.

Vacuum pump with bell jar, ca. 1800–1850, Division of Medicine and Science, National Museum of American History, Smithsonian Institution

DISCUSSION PROMPTS:

⚡ Ask students to look at the design of this object from the nineteenth century. What materials does it use? What objects does it remind them of from today's world? What kind of function can they imagine it might have had?

⚡ Compare to Joseph Wright's ***An Experiment on a Bird in the Air Pump*** from 1768 here:

⚡ Tell students that this scene depicts a common demonstration of the function of the air pump. Any breathing creature placed inside would soon die when the air was pumped out. Ask students to compare and contrast the reactions of the experiment's audience in this painting, as some onlookers are more curious, others more concerned for the bird's life. The experiment is shown in process, with the bird in jeopardy but not dead. The central figure looks out to the viewer as if to invite them into the narrative.

⚡ Discuss the ethics involved in a demonstration like this. Is it justifiable to risk a life to demonstrate or learn something about science? Why or why not?

⚡ Discuss in relation to *Frankenstein*. What are some ethical quandaries Victor encounters in his experimentation? Where do students stand on these ethical questions? For instance, Victor uses parts of dead bodies to bring the Creature to life. Do students think this is ethical? Do students think this is more or less ethical than killing a living thing in the name of science? **DISCUSS**.

ACTIVITIES

1. CREATING 21ST CENTURY GOTHIC:

In the novel, the Creature is never fully described visually. Characters explain his appearance in different ways, often remarking that he is too frightening to look at. The reoccurring concepts are that the Creature is ugly, large in size, and although similar to a person, does not look quite human. Examples include:

- *"A being which had the shape of a man, but apparently of gigantic stature" (25)*

- *"The filthy mass that moved and talked" (149)*

- *"This tremendous being…so scaring and unearthly in his ugliness" (221)*

For this activity, ask students to visualize the character of the Creature. What do they think he looks like? Ask them to draw or paint his image. What clues did they use from the book's descriptions? What aspects of their drawing or painting may have been influenced from popular culture depictions of the Creature? **DISCUSS.**

As an extension, ask students to think about the context of the term "Gothic" in different media. What does "Goth" mean to them today? What would a modern day Gothic setting, a place of mystery and horror, look like? Students can create a landscape of a twenty-first century Gothic setting for their image of the Creature to inhabit.

2. SHARING GOTHIC STORIES:

Mary Shelley's novel was inspired by a ghost story writing contest amongst her friends. Only two participants in the contest completed their stories, and these formed the basis of some of modern literature's enduring myths: Mary Shelley's *Frankenstein* and John William Polidori's "The Vampyre." Although Polidori's short story does not have the lasting narrative impact of Shelley's work, his concept of the vampire as an aristocrat influenced Bram Stoker's later novel *Dracula*.

As a class, read another example of a Gothic work; there are suggestions in the Gothic novels section of the bibliography. Compare with *Frankenstein*. What are the elements they share? Based on their reading, what would students say about the moods, settings, characters, and plots that are part of the Gothic tradition?

Tell students that they will be writing their own Gothic short stories. They should first brainstorm the mood, setting, characters, and plotlines they will explore to make it "Gothic." How will they develop the Gothic elements of their story? How would they describe the main characters—their obsessions or conflicts? What kind of settings will it take place in? They should also sketch out the plotline: What is the conflict and how does it resolve?

As an extension of the writing exercise, students can read their works aloud in groups to recreate the ghost story competition.

3. EXPERIMENTING WITH A VACUUM PUMP:

The vacuum pump and bell jar were popular pieces of equipment for chemistry and physics demonstrations at the time. Many simple experiments with a vacuum pump and bell jar can demonstrate to students the changes that occur when air is removed from an enclosed space.

For a list of vacuum pump demonstrations online, please see the suggested web resources at the end of this resource. A homemade vacuum pump can be created or a small vacuum pump and bell jar set can also be purchased for a low price (see the online resources.) Possible activities to demonstrate the effects of air being removed include:

- Placing a balloon in the bell jar and watching how the differential in air pressure affects its size

- Similarly, placing shaving cream or a marshmallow inside can demonstrate changes in volume due to air changes

- Simply placing water in a vacuum will cause the water to boil because the air is not exerting pressure

After watching online or participating in a vacuum pump experiment, ask students to revisit the experiment depicted in Joseph Wright's *An Experiment on a Bird in the Air Pump* from 1768. Does it affect their understanding of the experiment?

4. EXPLORING ETHICS:

Mary Shelley and Joseph Wright both explored the ethics of science through their art. In Wright's painting, he shows witnesses reacting to a demonstration which could result in the death of a living creature. Shelley's novel explores the ethics of bringing a creature composed of the parts of corpses to life. Our existence is filled with ethical questions having to do with progress in science and medicine.

Ask students to choose one ethical question below and discuss with a partner. Encourage students to fully examine each side of the question.

ETHICAL QUESTION #1: Is potential harm to living things justified in pursuit of discovery? For example, is it ethical to test products on animals to prevent human suffering?

ETHICAL QUESTION #2: How is personhood defined? For example, could artificial intelligence ever be considered alive? Could human clones have human rights?

ETHICAL QUESTION #3: How is an experiment conducted? What defines consent for the participants of an experiment? For example, consider the ethics of testing new drugs on patients with terminal illnesses or testing on incarcerated prisoners. Students can explore historical examples such as the Tuskegee Experiment or Henrietta Lacks.

Next, ask students to each write a short fictional story about a scientific quandary in their chosen ethical question. For example, students might want to imagine a world in which a disputed scientific practice is now common. The story can explore the implications of this practice.

Ask students to share their story with a partner. They can discuss the consequences the story envisioned and the reactions of their readers.