An Experiment with an Air Pump

INTRODUCTION

BRIEF BIOGRAPHY OF SHELAGH STEPHENSON

Shelagh Stephenson is an English playwright and actress. She was born in Tynemouth, Northumberland, England in 1955 and studied drama at Manchester University. She has acted with the Royal Shakespeare Company and has had roles on television series such as Coronation Street, *The Adventures of Sherlock Holmes*, and *Big Deal*. More recently, she has written for *Downton Abbey*. In addition to *An Experiment With An Air Pump*, she has written several plays for BBC Radio, including *Darling Peidi*, first broadcast in 1993, and *Five Kinds of Silence*, which was first broadcast in 1996 and won the Writers' Guild Award for Best Original Radio Play as well as the Sony Award for Best Original Drama. Stephenson's notable stage plays include *The Memory of Water*, first performed in 1996, and *An Experiment With an Air Pump*, which was first performed in 1998 by the Royal Exchange Theatre in Manchester, UK and was a joint winner of the 1997 Peggy Ramsay Award. *The Memory of Water* was made into a film, *Before You Go* (2002). Her most recent play is *The Long Road*, which was published in 2008.

HISTORICAL CONTEXT

An Experiment With An Air Pump grapples with moral issues that arise with scientific advancement. In particular, the 1799 plot examines the practice of body snatching, which refers to the removal of corpses from gravesites; corpses were then sold to medical schools and used in anatomy studies. The practice was common in Britain as well as the United States throughout the 18th and 19th centuries, when doctors interested in gaining a better understanding of human anatomy in the rapidly advancing field of medicine required fresh corpses. Prior to the passage of the Anatomy Act of 1832 (which Kate references in passing in *An Experiment With An Air Pump*), the only corpses available for medical dissection in Britain were those of executed criminals, and thus the demand for bodies for use in educational dissections far outpaced supply. The Anatomy Act granted doctors and student physicians the right to acquire and dissect donated corpses. Though the Anatomy Act was intended to curtail the illicit trade of stolen corpses, it failed to keep up with the demand for corpses and in fact only led to increased rates of body snatching.

RELATED LITERARY WORKS

In addition to *An Experiment With An Air Pump*, Stephenson's notable stage plays include *The Memory of Water*, a comedy about three sisters who must come to terms with memories of their haunted paths in the aftermath of their mother's death. Conflict arises when the three sisters reunite after years apart and find that they remember vastly different accounts of the past. *Five Kinds of Silence* is about a woman and her two daughters who suffer years of abuse at the hands of family patriarch Billy, who was himself a victim of childhood abuse. Billy himself doesn't appear in the play, and his family's story comes to light through police officers' and psychologists' interviews with the victims. *An Experiment With An Air Pump* grapples with themes of moral issues and advancements in science, making it comparable to *Inherit the Wind*, a 1955 play by Jerome Lawrence and Robert E. Lee that tells a fictionalized account of the 1925 Scopes "Monkey" Trial, in which a high school teacher was accused of violating a Tennessee state law that forbids the teaching of human evolution in public schools. The play uses its retelling of the trial to explore the notorious 1954 McCarthy trials. Another relevant work is *A Number*, a 2002 play by British playwright Caryl Churchill; the play takes place in the near future and tells the story of a father and his three sons, two of whom are clones of the eldest son. The play examines the ethics of human cloning. *Sweet, Sweet Motherhood*, a play written by Jeremy Kareken in collaboration with biologist Lee M. Silver, is also worth mentioning, as it's a comedy that grapples loosely with advancements in reproductive science.

KEY FACTS

- **Full Title:** An Experiment With An Air Pump
- **When Written:** 1998
- **Where Written:** UK
- **When Published:** First performed in 1998 by the Royal Exchange Theatre
- **Literary Period:** Contemporary
- **Genre:** Drama
- **Setting:** A house in Newcastle upon Tyne in 1799 and 1999
- **Climax:** Isobel, after overhearing Armstrong admit that his feelings for her are insincere (and merely an attempt to get her into bed so that he can see her naked, malformed back), hangs herself.
- **Antagonist:** The play casts scientists who are incapable of forming a nuanced understanding of the potential moral issues that scientific advancement poses—most notably Kate and Armstrong—in a less favorable light. In addition, Armstrong's shameless seduction of Isobel to satisfy his erotic and scientific curiosities (which ultimately leads to Isobel's suicide) makes him the clearer antagonist.

EXTRA CREDIT

Based on True Events. Though a work of fiction, *An Experiment With An Air Pump* features one character who is a real historical figure, Peter Mark Roget. Roget is best known for publishing his *Thesaurus of English Words and Phrases* (1852).

Cracking the Code. At the time of the play's first performance in 1998, the Human Genome Project, the groundbreaking research project that sought to identify, map, and sequence all genes of the human genome, had been underway for eight years—it began in 1990; the project was considered complete in 2003, though only 85 percent of genes were mapped. The final 15 percent was completed in January 2022.

PLOT SUMMARY

An Experiment With An Air Pump takes place in a house in Newcastle upon Tyne and follows two stories that occur 200 years apart, in 1799 and 1999. Though the play switches between these two timelines, for the sake of clarity, this summary will present the stories one at a time.

The play opens with the cast frozen in place in a physical recreation of Joseph Wright's famous 1768 painting *An Experiment on a Bird in the Air Pump*—a painting in which a scientist places a bird into an air pump with the intention of starving it of oxygen. The cast remains frozen in place around Fenwick, the scientist. When the characters unfreeze, Fenwick's twin daughters, Maria and Harriet, watch with horror as their father seals the air pump and cuts off the air supply of Maria's pet bird, whom she named after her fiancé, Edward. Luckily, Fenwick successfully performs the experiment, and the bird survives.

Sometime later, Fenwick is working at his desk. Roget, a scientist, reads Fenwick the lecture proposals that scientists have submitted for Fenwick's upcoming New Year's Eve lecture series. Fenwick is disappointed that none of the proposals embody the revolutionary spirit of the Enlightenment and rejects all of them. Armstrong, a brilliant young scientist who is staying with the Fenwicks, accuses Fenwick of rejecting proposals based on his personal feelings about their authors rather than on the proposals' scientific merit. Susannah, Fenwick's wife, drinks brandy off to the side; she tries to participate in the men's conversation, but Fenwick ignores or cuts her off before she can say much of anything. Meanwhile, an angry mob of rioters is outside protesting the monarchy's tax on fish. Though Fenwick thinks that this riot will be mostly ineffectual, he's confident that once knowledge spreads throughout the masses, people will reject the monarchy in favor of a democracy, and England will undergo a real revolution.

Maria, Harriet, and the Fenwick family's Scottish domestic servant Isobel enter to ask Fenwick if he's ready to see them perform a play that Harriet wrote, which she describes as "a hymn to progress." Harriet's character in the play represents progress and industry, Maria's represents "pastoral innocence"—meanwhile, Isobel is forced to play a simple sheep and has only "infantile" lines. But Fenwick claims he's too busy to see the play; this deeply upsets Harriet, who admires her father and wants to be a scientist like him. Fenwick's relationship with Susannah is equally fraught; he doesn't take her seriously because she's more interested in art than in science, and he frequently patronizes and insults her. Susannah, meanwhile, mocks her husband's morally upstanding persona, insinuating that he's not quite so philanthropic and radical as he'd like to think, and that Armstrong, Roget, and Fenwick's other admirers let their admiration blind them to the less savory parts of Fenwick's personality.

Isobel, though not formally educated, is smart and insightful. She also has a malformed, twisted back. Armstrong is abnormally interested in Isobel—and in her back specifically; he makes repeated efforts to woo her, telling her that she's beautiful and attempting to kiss her. Isobel is initially skeptical of Armstrong's advances—she's never had a suitor before. Yet Armstrong insists that he loves her—he even gifts her a book of Shakespeare's Sonnets and, later, a gold necklace. Despite her initial skepticism, Isobel warms to Armstrong and develops feelings for him. It's immediately clear that Armstrong is just using Isobel, though he repeatedly denies it, even as Roget continually demands that Armstrong reveal his true intentions with Isobel. Roget and Armstrong also clash over Dr Farleigh's anatomy demonstrations, which Armstrong attends frequently—the bodies that Dr Farleigh dissects are the recently buried dead whom Farleigh has acquired through the illicit body-snatching market, and Roget doesn't think this is right. Armstrong thinks that stealing dead bodies isn't a big deal, though, especially if the dissections lead to valuable scientific discoveries.

Armstrong eventually confesses to Roget that he finds Isobel's twisted back scientifically and erotically arousing and wants to convince her to have sex with him so he can see her naked back—he sees her as an object of pity and morbid curiosity, not as an object of affection. Roget calls Armstrong a monster. Unbeknownst to Roget and Armstrong, Isobel overhears Armstrong's admission and spirals into a state of despair. She ultimately hangs herself, leaving behind a suicide note that indirectly implicates Armstrong in her decision to end her life. But Armstrong discovers the letter and hides it before the others can see it. He also suffocates Isobel's nearly dead body to speed up the dying process. The 1799 timeline (and the play as a whole) ends with everyone gathered around Isobel's coffin, once more arranged to suggest the Joseph Wright painting that

began the play. As the clock strikes midnight, welcoming in the first year of the 19th century, Fenwick toasts to life's uncertainties.

In the same house 200 years later, Ellen, a 40-something research scientist who now owns Fenwick's house, packs boxes—she and her husband, Tom, a recently unemployed literature professor, are moving out of their house. Though the house has been in Ellen's family for generations, the upkeep is too expensive. Kate, Ellen's colleague, has come to help Ellen pack—and to ensure that Ellen gives her an answer about accepting a job offer with her company. Ellen has been doing groundbreaking work on the Human Genome Project, and Kate's company wants to fund Ellen's research and make it available to the masses. Ellen has procrastinated giving Kate an answer about the job, though, as Tom has major misgivings about it, and Ellen herself worries about the ethical ramifications of making gene editing available to the masses.

Phil, a builder who is conducting a building survey in preparation to sell the house, appears at various points in the 1999 timeline, often for comic relief (Phil subscribes to numerous kooky conspiracy theories, like spontaneous combustion, which he energetically debates with Ellen, who oscillates between dully debunking and humoring him). Phil also weighs in on Ellen's predicament about accepting an offer with Kate's company and about Ellen and Kate's genetic research in general. Phil is skeptical of scientists like Ellen and Kate and the work they do; he thinks that humans don't have a right to meddle with nature and so believes that Ellen's work on the Human Genome Project is immoral and bad for society. Kate, meanwhile, believes that scientific advancement is always good, and so she vehemently condemns Phil's "backward" logic, suggesting that people like him (and Tom) are holding humanity back.

The tension between Ellen and Tom (and in a broader sense, between science's proponents and science's skeptics) becomes more acute when Tom discovers a **box of bones** hidden underneath the kitchen sink. The bones are Isobel's—a fact made evident by the skeleton's missing vertebrae, which the audience can assume Armstrong removed when he dissected Isobel's fresh corpse, though it's never made explicit that this is what happened to her and none of the modern characters ever discover whom the bones belong to. Though Tom's discovery hardly fazes Kate and Ellen (who see the bones as a meaningless object, not the remains of a person who once existed and mattered), it disturbs Tom to think that he and Ellen have been living above a dead girl's bones for so many years,

Eventually, Tom and Ellen sit down and have an honest discussion about Ellen's work, a topic that Tom has avoided talking about up to this point. Through this conversation, they find that their respective interests of art and science are equally driven by passion and are both vital, complementary parts of the human experience. This timeline ends on New Year's Eve, 1999. With this, 200 years after the earlier timeline's characters grieved Isobel and toasted to an unpredictable and unknowable future, Tom and Ellen greet the new millennium with a parallel appreciation for the uncertainty that characterizes the years ahead.

CHARACTERS

Joseph Fenwick – Joseph Fenwick is an esteemed scientist, philanthropist, and political radical. Fenwick embodies the spirit of the Enlightenment and believes that knowledge and progress go hand in hand. Humanity, he thinks, is capable of understanding every element of existence and therefore has a moral imperative to leave no philosophical or scientific stone unturned. Unlike Roget, who wants to believe it's possible for science to be amoral—that is, absolutely objective and unconcerned with whether something is good or bad—Fenwick believes that humans always impose some bias onto the experiments they conduct and the way they interpret evidence. But Fenwick doesn't think this is a bad thing; rather, he argues that "good science," or science that will advance civilization and improve the quality of life for all, happens when scientists let their emotions and morals—that is, the things that make them human—guide their research. Though admired publicly and professionally, Fenwick is a flawed character: he is patronizing and dismissive toward his wife, Susannah, thinking her beneath him because she has little interest in science. Meanwhile, he has little time for his daughter Harriet, who admires his work and dreams of being a scientist herself. And he commits morally questionable acts, like experimenting on his daughter Maria's beloved pet dove in the name of scientific discovery. By the end of the play, owing in large part to Isobel's tragic and unexpected death, Fenwick's outlook on the future shifts dramatically; he still looks forward to the future and the progress that will come with it, but he also acknowledges that there are some things in life that humans will never be able to predict or understand.

Susannah Fenwick – Susannah Fenwick is Fenwick's wife. She spends most of the play drunk, seemingly to cope with the constant belittlement and mistreatment her husband subjects her to. Though Susannah's situation invites sympathy, she expresses her unhappiness with frequent dramatic outbursts and passive aggressive (albeit often humorous) comments directed at her husband. Susannah didn't receive a formal education, and though she has a passion for literature and the arts, she's not very interested in science, and so her husband doesn't respect or take her seriously. Meanwhile, Susannah is resentful of how Fenwick's scientific achievements blind his colleagues to his many faults, like the way he disregards his wife and daughters, the questionable ethics of some of his experiments, and the shallowness of his lofty, idealistic rhetoric about progress and human industry. Toward the end of the play, Susannah confronts Fenwick about disrespecting and not

understanding her, and they have a productive, honest conversation that parallels Ellen and Tom's conversation that takes place in the same house 200 years later. Though Fenwick initially resists Susannah's criticisms, he ultimately acknowledges that he has mistreated her and failed to see her for who she really is (rather than the idealized version he has projected onto her for much of their marriage), and he seems to want to change his ways—which he demonstrates when he orders a shocked Harriet to obey her mother.

Harriet Fenwick – Harriet Fenwick is the daughter of Fenwick and Susannah and the twin sister of Maria. Unlike Maria, Harriet is bold and outspoken. She writes poetry and has even composed a play. However, she's not a particularly good writer, nor has she much interest in the arts, only writing poetry and plays at her mother's urging. Harriet wants to be a scientist, and though Fenwick occasionally praises Harriet's ingenuity, as when she invents a hat that blows steam (to be worn as a costume for her play about progress and invention), for the most part, nobody takes her interest in science seriously. For instance, when Harriet and Maria express (perfectly reasonable) dismay when Fenwick performs a potentially deadly experiment on Maria's pet dove, Armstrong claims that their distress is evidence that women are incapable of appreciating or conducting scientific research. Thus, Harriet, like Susannah, experiences mistreatment due to her gender. Aside from her interest in science, Harriet subverts conventional gender roles by refusing to marry—a position she makes clear when Maria accuses Harriet of being jealous that she (Maria) is engaged when Harriet is not.

Maria Fenwick – Maria Fenwick is the daughter of Fenwick and Susannah. She is sweet and demure but rather naïve, especially compared to her outspoken twin sister, Harriet. Also unlike Harriet, Maria isn't interested in science—or much of anything, it seems. She has a fiancé, Edward, who is stationed in India (at the time the play takes place, England had a colonial presence in India) on unspecified business. During scene changes, Maria walks onstage and reads aloud from her and Edward's correspondence. Edward's early letters are filled with romantic declarations of love and desire for Maria and for his native England. As time, passes, though, Edward's letters become increasingly impersonal—and filled with references to a Miss Cholmondeley, a woman he meets in India. Though it's painfully obvious to Harriet (and to the audience) that Edward has begun a romance with Miss Cholmondeley, naïve Maria remains oblivious to this until Edward slips up and mistakenly calls Maria's eye's blue—the color of Miss Cholmondeley's eyes. Following this devastating revelation, Maria releases the anger and emotion she has kept suppressed all her life and orders Edward never to contact her again.

Peter Mark Roget – Roget is a scientist and language enthusiast—his character is based on a real person, Peter Mark Roget (1779-1869), who was a physician, amateur scientist, and philologist best known for his *Thesaurus of English Words and Phrases*, which was published in 1852. Roget is passionate about language, knowledge, and scientific inquiry. Unlike Fenwick, who believes that humanity should adopt a moral approach to science and use science to enact positive social change, Roget believes that science should be amoral—that scientists should simply strive to understand the world, not change it. Thus, Roget engages with subjects because they interest him—not because he believes they could be means to a desired, ethical end. Despite his belief that science should be amoral, Roget is one of the more morally upstanding characters of the play, and he struggles to reconcile his personal morals with his amoral pursuit of knowledge. He is disgusted when Armstrong maliciously and calculatingly pursues unsuspecting Isobel, and this disgust sharpens after Isobel finds out that Armstrong's wooing is disingenuous and hangs herself. Though Roget thinks that his morals don't inform his scientific interests, he feels "slightly uneasy" when Armstrong lets it slip that most of the cadavers that Dr Farleigh dissects during anatomy demonstrations are stolen from graveyards.

Thomas Armstrong – Thomas Armstrong is a brilliant but unfeeling young scientist Fenwick has taken on at Dr Farleigh's request. Fenwick, who thinks that "good science" should be informed by good morals, dislikes Armstrong for his detached, ruthless pursuit of scientific progress. Much like Kate's character in the 1999 plot, Armstrong places his passion for discovery and scientific progress above all else. Unlike Roget, who is uncomfortable with the common practice of stealing bodies from gravesites to use in anatomy demonstrations, Armstrong believes that "romantic" people like Roget make poor scientists because they let their moral qualms hold them back. Armstrong's amorality isn't limited to scientific inquiry. He's also highly amoral in his pursuit of personal pleasure: Armstrong relentlessly pursues Isobel, wooing her with false declarations of love and desire and with gifts, including the golden locket that Tom discovers 200 years later with Isobel's remains. Though initially skeptical, Isobel ultimately develops feelings for Armstrong and is devastated when she overhears Armstrong callously admit that he doesn't love Isobel and only wants to manipulate her into removing her clothing so that he can see her naked, twisted spine, which arouses him. After Isobel hangs herself upon learning Armstrong's true intentions, Armstrong not only covertly suffocates her in order to speed up the dying process, but he immediately sets his sights on stealing and dissecting Isobel's fresh corpse, an act he seemingly carries out, as evidenced by the fact that Isobel's remains, which Tom finds 200 later, are missing their vertebrae.

Isobel Bridie – Isobel Bridie is the Fenwick family's domestic servant. She's an outsider in more than one way. First, she's from Scotland, while the main characters are English. Second, though she's intelligent and literate, she's of a lower-class status and lacks a formal education, which causes many of the

play's characters to underestimate and disrespect her, as when Harriet forces Isobel to play the humiliating role of a sheep in a play she has written. Isobel is interested in language and uses it to understand the world—something that she and Roget have in common. Isobel has a physical disability that makes her spine appear twisted. This causes her to be a source of scientific curiosity for Armstrong, who also finds Isobel's twisted spine sexually arousing. Armstrong therefore resolves to woo Isobel, flattering her and giving her gifts in the hopes that she will agree to have sex with him. Though Isobel is initially skeptical of Armstrong's seduction, she ultimately falls in love with him and is devastated when she hears him admit to Roget that his affection for her has been a ruse and that he sees her as an object of pity and morbid curiosity rather than as a lover. Isobel responds by hanging herself, and Armstrong covertly speeds up the process of death by suffocating her when he's briefly alone with her dying body. Adding further insult to injury, he immediately sets his sights on coveting and dissecting her fresh corpse and succeeds in doing so. Centuries later, in 1999, Tom finds Isobel's remains—her skeleton curiously void of its vertebrae—hidden inside the house in which she died.

Edward – Edward is Maria's fiancé. He's stationed in India (where in the late 18th century England had a colonial presence) on unspecified business. During set changes, Maria takes to the stage alone and reads aloud from her and Edward's letters. His early letters are filled with passionate declarations of love for Maria and his homesickness for England, but they become more impersonal over time, and Edward gradually becomes more apprehensive about coming home, wondering if his memories of England are overly romanticized and not true to life. Another reason that Edward's letters get more impersonal is that Edward is having an affair with Miss Cholmondeley, a woman he meets in India. Though he mentions her in passing in his letters to Maria, it's not until Edward incorrectly calls Maria's eyes blue—the color of Miss Cholmondeley's eyes—in one of his letters that Maria (whose eyes aren't blue) finds out about the romance and breaks of the engagement.

Dr Farleigh – Dr Farleigh is a research scientist known for his anatomy demonstrations. He doesn't appear in the play, but numerous characters—namely Armstrong—reference him and his demonstrations. Like many of his contemporaries, Farleigh procures the cadavers he dissects in his demonstrations through the morally dubious act of body snatching—the illicit practice of stealing newly deceased bodies from gravesites. For Armstrong, who believes that personal morals should not impede on scientific progress, Farleigh's graverobbing is entirely unproblematic. Roget, meanwhile, finds Farleigh's methods more troubling.

Miss Cholmondeley – Miss Cholmondeley is Edward's lover in India. He mentions her in passing in his letters to an unsuspecting, naïve Maria, but it's not until Edward incorrectly calls Maria's eyes blue—the color of Miss Cholmondeley's eyes—in one of his letters that Maria finds out about the romance and breaks of the engagement.

Ellen – Ellen is a 40-something scientist doing groundbreaking research for the Human Genome Project, one of whose goals is to identify the genetic source of diseases like schizophrenia or Alzheimer's and, ultimately, use this information to eliminate such diseases and improve humanity's quality of life. At the start of the play, Ellen and her husband, Tom, are preparing to move out of their house (the same house in which the play's 1799 plot takes place), which has become too expensive for them to keep up with. Ellen spends much of the play agonizing over whether she should accept a job offer from a former colleague, Kate, whose company wants to fund Ellen's research with the goal of making gene mapping available to the masses. The job offer is a source of conflict between Ellen and Tom, whose respective fields (science and art) give them different views about progress, ethics in science, and what makes life meaningful in a more general sense. Ellen has a clear passion for genetics and scientific inquiry. However, as a seasoned veteran in her field, she no longer possesses Kate's blind idealism for science's potential to change the world. Rather, Ellen has a more nuanced perspective on genetic research and isn't blind to the ethical issues involved in gene editing—though ultimately, Ellen's passion for science and discovery leads her to set aside her moral reservations and accept a job with Kate's company. Toward the end of the play, Tom and Ellen finally have an honest conversation about Ellen's research, and they make amends. They realize that though their interests lie in different fields (art and science) they both do what they do because they are passionate about it. Furthermore, they come to see that art and science in fact complement each other.

Tom – Tom is Ellen's husband. He's an English lecturer who has recently lost his job. He has moral qualms with Ellen's genetic research and has therefore turned down Ellen's numerous attempts to discuss her job offer with Kate's company, which wants to fund Ellen's research and make gene mapping available to the masses. Tom's humanist sensibilities come across in his fixation with **Isobel's bones**, which he finds hidden in a box underneath the kitchen sink. Isobel's remains don't faze Ellen and Kate: to them, the bones are an ancient relic that has no bearing on the present. But it makes Tom morally uneasy to think that he and Ellen have lived above a young woman's bones all these years; he thinks that the mere fact that Isobel existed, had a name, and (possibly) met with foul play means that she mattered. Tom is most at odds with Kate, whose unwavering commitment to scientific inquiry blinds her to the potentially negative ramifications of gene mapping. Tom, meanwhile, is wary of the potential for gene mapping to become corrupt and harmful to society. Kate, in turn, considers Tom a "dinosaur" whose reverence for the past prevents humanity from changing the world for the better and is

antithetical to progress. Toward the end of the play, Tom and Ellen have an open and honest conversation about their different perspectives, and it allows them to make amends. They both realize that their seemingly opposite interests (art and science) aren't in fact at odds with each other—rather, they complement each other are equally capable of enriching a person's life and helping them to navigate the world.

Phil – Phil is a builder conducting a building survey on Ellen and Tom's house—the same house in which the 1799 plot takes place. Phil hasn't had a formal education, and this sets him apart from the other characters of the 1999 plot, who are all college-educated professionals of comfortable means. Phil subscribes to a number of pseudo-scientific urban myths like the possibility of spontaneous combustion, and he implies that Ellen is closed-minded for not considering his friends' stories—about UFO sightings and the like—to be valid "evidence." The play mostly uses his character to provide comic relief. Phil is generally skeptical of scientists like Ellen and Kate. He has moral qualms with their genetic research, in particular their goal to use gene mapping to eliminate diseases like Alzheimer's or bipolar disorder. Like Tom, Phil believes that Kate's (and to a lesser degree Ellen's) idealism blinds her to the ethical issues and potentially negative consequences of gene mapping. And Phil, too, fears that gene mapping could become corrupt and harmful to society. He also has personal reasons for opposing gene mapping. Phil's Uncle Stan had bipolar disorder, and though Stan ultimately died by suicide, Phil has fond memories of Stan. Phil doesn't think that any human—scientist or not—can objectively decide that the "Uncle Stans" of the world can't live good, meaningful lives just because they also suffer. Phil and Tom are also alike in their reverence for **Isobel's bones**, though Phil's penchant for conspiracy theories also leads him to speculate that Isobel's bones might have belonged to a supernatural, subhuman species.

Kate – Kate is a young scientist and former colleague of Ellen's whose company is offering Ellen a job and wants to fund Ellen's research with the Human Genome Project. Like Ellen, Kate has a passion for scientific research, and she believes that gene mapping can change the world for the better by eliminating diseases like Alzheimer's, bipolar disorder, and schizophrenia. Kate still regards her research with youthful idealism, though, and she doesn't understand Ellen's reservations about accepting a job with her company. Kate is most at odds with Tom and Phil, who both have moral qualms about gene editing and accuse Kate of having an unnuanced, idealized view of science. When Tom half-jokingly suggests that Kate would dissect her own mother for the sake of scientific progress, Kate jokes back that she probably would—so long as her mother were already dead, of course. Kate's views align most closely with those of Armstrong: both have a youthful idealism that blinds them to the ethical issues their fields raise, and both believe that personal morals should not impede scientific research.

THEMES

In LitCharts literature guides, each theme gets its own color-coded icon. These icons make it easy to track where the themes occur most prominently throughout the work. If you don't have a color printer, you can still use the icons to track themes in black and white.

SCIENCE AND MORALITY

An Experiment with an Air Pump is a play that considers the morality of scientific inquiry. The play features or alludes to numerous scientific experiments that raise major ethical concerns, even as they purport to improve humankind's quality of life. Characters like Armstrong and Fenwick in 1799 and Ellen and Kate in 1999 believe that scientific advancement is ultimately good. Though Ellen (and eventually, Fenwick) nurse doubts about the ethical ramifications of the scientific research they conduct (it's implied that Fenwick performs anatomy demonstrations of stolen corpses, and Ellen has done groundbreaking work with the Human Genome Project), they ultimately believe that the benefits of science outweigh any thorny moral issues that certain experiments might raise. Meanwhile, other scientists—like Armstrong and Kate—take on an even less nuanced view of science's moral ramifications; Kate, for instance, jokingly admits that she'd readily dissect her (already deceased) mother if doing so might lead to some discovery that benefits humankind. On the opposite end of the spectrum are non-scientists like Phil, a builder conducting a building survey on Tom and Ellen's house. Phil is overtly skeptical of scientific inquiry. Phil believes that Ellen's genetic research is morally corrupt; he thinks it's misguided for scientists to disregard the past for the sake of the future—and to assume that everything old is bad, while everything new is good.

Yet, what both sides fail to recognize is that science itself isn't inherently moral or immoral—rather, the motives and biases that drive humans to experiment are what should be judged through a moral lens. At the beginning of the play, for instance, Armstrong suggests that Maria's emotional distress at Fenwick experimenting on her pet bird "prove[s] the point" that women are too emotional to appreciate or understand science. In reality, though, Armstrong's supposed "evidence" is not so objective. Rather, his socially constructed, sexist inclinations predispose him to see women as hysterical and intellectually inferior. This, in turn, keeps Armstrong from seeing Maria's distress as a reasonable (not to mention nongendered) response to seeing Fenwick experiment on her beloved pet bird. *An Experiment with an Air Pump* thus suggests that the morality of scientific inquiry depends entirely on the conscious

and unconscious biases that impact the way scientists approach their work—in other words, scientists must remain aware of how their socially constructed views might impact their ability to interpret data objectively.

HUMAN INDUSTRY AND THE LIMITATIONS OF KNOWLEDGE

An Experiment with an Air Pump is an ode to progress and human inquiry, sentiments that captivated society both at the height of the Enlightenment and in the late-20th century, which saw major advancements in the field of genetics. Many of the play's central characters (Fenwick, Armstrong, Roget, Ellen, and Kate) are scientists who share a mutual passion for discovery and knowledge. Fenwick, for instance, is swept up in the spirit of the Enlightenment; he regularly attends scientific demonstrations and performs demonstrations of his own, and he believes that knowledge and progress go hand in hand. Scientists like Kate, Fenwick, and Armstrong unwaveringly believe that more knowledge is always a good thing and that humanity should assume there are no limits to what it can understand. For much of the play, Fenwick is an avowed supporter of scientific inquiry. He subscribes to the Enlightenment ideals of his present-day England and believes that knowledge is inextricably linked with progress. In Act One, Scene One, for instance, Fenwick proclaims that once the English "are released from their ignorance" and discover the degree to which ruling monarchs take advantage of ignorance to exploit and oppress the masses, they will reject the monarchy in favor of democracy, ultimately resulting in an improved quality of life for all.

The play celebrates knowledge and discovery, to be sure, but it also sheds light on the potential hazards that arise when people overestimate their capacity to know everything about the world they inhabit. When Isobel, the Fenwick family's domestic servant, hangs herself after discovering the insincerity of Armstrong's affections for her, it highlights how knowledge—even knowledge worth discovering, for it was undeniably good that Isobel learned the truth about Armstrong before he had the opportunity to exploit her—can bring about violence, death, and other negative, unintended consequences. It also shows Fenwick that there will always be certain aspects of life—love, death, and betrayal, to name a few—that defy logic and explanation, even as society evolves and becomes more technologically and philosophically advanced. *An Experiment with an Air Pump* therefore challenges the notion that humanity should strive to know everything at all costs. Though the play celebrates humanity's quest for knowledge and discovery, it ultimately suggests that it's important for humanity to acknowledge its limited capacity to understand all.

THE IDEAL VS. LIVED EXPERIENCE

Throughout *An Experiment with an Air Pump*, many characters harbor idealized views that don't necessarily cohere with reality. In 1999, Kate is an idealistic young scientist whose company is interested in working with Ellen, a veteran scientist who has made groundbreaking advancements in the field of genetics; Kate's company wants to work with Ellen to make Ellen's work on the Human Genome Project available to the masses. Kate believes that the Human Genome Project, whose goal is to map the human gene system, would be undeniably good for society. Mapping the human gene system would allow for scientists to detect gene abnormalities that cause serious diseases like Alzheimer's disease and schizophrenia—diseases that can impose extreme suffering onto those afflicted by the disease as well as those who care for them. Thus, Kate believes that using gene mapping to identify, target, and rid society of horrific illnesses would decrease human suffering and drastically improve the quality of life for all of humankind. Characters like Phil and Tom, meanwhile, believe that Kate's view is overly—and even dangerously—idealistic. To them, Kate's idealistic support for the Human Genome Project lacks nuance and ignores the many ethical concerns that gene editing presents. Tom, for instance, fears that expectant parents wanting to ensure the health of their baby won't be the only ones who take an interest in gene mapping—he thinks it's inevitable that private health insurance companies, lenders, and employers will use genetics to discriminate against people they consider to be genetically inferior.

Blind idealism affects characters in the play's 1799 story line, as well; Fenwick's unwavering support for democracy causes him to minimize the violence caused by periods of radical sociopolitical change like the French Revolution. Meanwhile, his embrace of ideals repeatedly interferes with his ability to connect with and support his family. Furthermore, Fenwick's status as an esteemed scientist and renowned philanthropist tends to overshadow his less admirable qualities, such as his disrespect for his wife, Susannah, and his refusal to make time for Susannah and for their daughters, Maria and Harriet. The play thus suggests that while idealism can drive people to accomplish great things, it often creates a sort of tunnel vision that causes people to ignore other important—but perhaps less interesting—problems. This, in turn, complicates their ability to solve immediate, pressing dilemmas. Not only this, but unquestioned idealism can also create *new* problems while exacerbating existing ones.

PASSION VS. RATIONALITY

Throughout *An Experiment with an Air Pump*, proponents of scientific inquiry repeatedly accuse their scientifically disinclined counterparts of being overly sentimental fools. When Ellen's husband, Tom, exhibits

reverence for the past, Kate accuses him of being "a dinosaur" whose philosophies about life, while "romantic" and beautiful, have no place in the modern, rational world. And yet, what supposedly "rational" characters like Kate fail to acknowledge is that there's nothing particularly reasonable about their overzealous embrace of science and their complete disregard for the past. Kate continues to insist that her interest in the Human Genome Project stems from the rational desire to eradicate horrible diseases, but she refuses to acknowledge that she is also clearly driven by a burning passion for discovery, her unquestioned faith in the value of progress, and her narrowminded dismissal of history.

Ultimately, as Tom and Ellen eventually come to understand, the arts and the sciences—and, more broadly, passion and rationality—are neither adversaries nor mutually exclusive; that is, a person doesn't have to choose between being passionate and being rational. Scientists like Ellen can be passionately invested in scientific research; meanwhile, English lecturers like Tom can think rationally about the literature they love to study. All in all, the play suggests that passion and rationality are, as Tom puts it, "part of the same thing. Like waves and particles. You need both to define the whole." In other words, passion is just as important to human life as the capacity to think rationally.

SYMBOLS

Symbols appear in **teal text** throughout the Summary and Analysis sections of this LitChart.

LIGHT

Light symbolizes humanity's quest for knowledge and, to use Fenwick's words, "the conquest of nature." Light first appears in the play's prologue when Ellen directs the audience's attention to the oil light at the center of the Joseph Wright painting, *An Experiment of a Bird in the Air Pump*, on which the play is based. Ellen explains that the light has always been her favorite part of the painting—she likes it because it illuminates the painting's focal point, the experimenter Chiaroscuro, rendering him a deity "bathed in celestial light." To Ellen (and to art critics) the painting is notable in that it features a human—Chiaroscuro, the scientist—as its illuminated focal point, a position conventionally (in the Western art tradition) reserved for God or saints. Critics consider Wright among the first artists to capture the spirit of the Industrial Revolution, an era that valued progress and innovation. It was a time in which society traded in their deference to God and believed in their own ability to improve their circumstances and understand the world in which they lived. No longer was life considered a mysterious, unknowable thing that only God could know and control, and no longer was humanity's fate in God's hands—people began to believe that humans were in fact capable of understanding life's biggest mysteries and finding meaning in their lives absent a religious framework. So, in featuring Chiaroscuro, "bathed in celestial light," at the painting's center instead of God, Wright celebrates humanity's ability to make sense of (to shed light on, so to speak) the human condition. The play's minimalist set design further emphasizes light's symbolism; the stage directions specify very few props or other set pieces, and instead, rooms are adorned with bare candles or lightbulbs.

ISOBEL'S BONES

Isobel's bones (which Tom finds 200 years after her death, hidden in a box in the house in which she died) symbolize the interconnectedness of morality and scientific inquiry. Isobel's bones are also significant in what they lack: they are missing her vertebrae. The play never explicitly reveals how this came to be, but the audience may surmise that Armstrong dug up Isobel's corpse to dissect and removed her vertebrae, either for scientific reasons or for his own pleasure. Body snatching (stealing buried bodies) for anatomical research was common in England until the passage of the Anatomy Act of 1832, which banned the practice. Isobel's bones thus become a symbol for the moral concerns that scientific inquiry poses.

Isobel's bones also represent the interconnectedness of passion and rationality. In 1999, Tom, the former English lecturer whom Kate accuses of being a "romantic," consistently refers to the bones as a body. This demonstrates his emotional, subjective view of the world. In calling the bones a "body," Tom projects meaning onto them and suggests that Isobel's life and story matter in a deeper, humanistic way—even after her physical body/soul ceases to exist. Meanwhile, Tom's wife, Ellen, a veteran genetic researcher, initially can't understand why Tom chooses to refer to the bones as a body when that's no longer what they are. They are only a girl in a metaphorical sense—physically, they are a box of bones. Ellen's literal treatment of the bones demonstrates her rationality: she's a scientist and considers emotion an impediment to scientific progress (though she, unlike other scientists like Kate or Armstrong, nurses doubts about the moral implications of her research). In time, Ellen and Tom understand that their different fields have more in common than they first thought—Ellen realizes that she pursues science because she's passionate about it, for instance, which is exactly the reason that Tom pursues literature. She also learns to recognize the value in Tom's reverence for the past, a development that comes through in the way that Ellen eventually stops scoffing at her husband when he calls the bones a body. Finally, Isobel's bones are important because they link the play's 1799 and 1999 timelines. Other than the house, they are the one physical item that links the two timelines together, and they play a

critical role in inspiring debates about morality and science that, too, link the separate timelines.

QUOTES

Note: all page numbers for the quotes below refer to the Methuen Drama edition of *An Experiment with an Air Pump* published in 1999.

Prologue Quotes

I've loved this painting since I was thirteen years old. I've loved it because it has a scientist at the heart of it, a scientist where you usually find God. Here, centre stage, is not a saint or an archangel, but a man. Look at his face, bathed in celestial light, here is a man beatified by his search for truth. As a child enraptured by the possibilities of science, this painting set my heart racing, it made the blood tingle in my veins: I wanted to be this scientist; I wanted to be up there in the thick of it, all eyes drawn to me, frontiers tumbling before my merciless deconstruction. [...] I wanted to be God.

Related Characters: Ellen (speaker)

Related Themes:

Related Symbols:

Page Number: 3

Explanation and Analysis

These are the play's first spoken lines. Ellen gazes upon Joseph Wright's painting *An Experiment on a Bird in the Air Pump*, which is projected above the stage and recreated onstage by the 1799 timeline's cast of characters. Ellen describes the play's main subject, a natural philosopher (precursor to the modern scientist) experimenting on a bird in an air pump. She describes what the painting means—and what it means to her, specifically.

Ellen emphasizes the role of light in the painting. The scientist is not only at the painting's center but is also "bathed in celestial light" and "beatified by his search for truth." Ellen's description of the well-lit scientist draws an explicit connection between light, science, and moral goodness. Not only does the scientist's search for truth make him enlightened in a purely knowledgeable sense, but it also makes him morally enlightened. In underscoring how the scientist is "bathed in celestial light," a visual marker that has thus far been reserved for saints and God, Ellen suggests that the scientist's scientific efforts almost sanctify him. Though many of the play's pro-science characters (Ellen herself included) will try to suggest that science is amoral—that is, it is wholly objective and therefore neither morally good nor morally bad—Ellen's description of the painting here suggests quite the opposite. Instead, she is suggesting that science is morally good.

Nevertheless, Ellen also hints at the moral problems that scientific research poses—especially the field of science (genetic research) in which she works. She recalls how a major factor that motivated her to become a scientist when she was a young girl was that she "wanted to be God." That is, she wanted to make decisions about life and death that would usually be reserved for a higher power like God (or, from a secular perspective, nature). One of the play's central conflicts is whether any human can objectively (and morally) manipulate nature, and Ellen alludes to this debate in her opening lines here.

But when I was thirteen, what held me more than anything, was the drama at the centre of it all, the clouds scudding across a stage-set moon, the candle-light dipping and flickering. Who would not want to be caught up in this world? Who could resist the power of light over darkness?

Related Characters: Ellen (speaker), Tom, Kate

Related Themes:

Related Symbols:

Page Number: 4

Explanation and Analysis

To begin the play, Ellen stands apart from the rest of the cast to speak about Joseph Wright's painting *An Experiment on a Bird in the Air Pump*, which the characters from the 1799 timeline recreate onstage. Here, Ellen expands on her earlier remarks about "want[ing] to be God," focusing on the presence of light at the painting's center. Whereas earlier in her monologue, Ellen focused on the connection between light and scientific inquiry (or, in a broader sense, humanity's quest for truth), here she draws on "the drama at the centre of it all, the clouds scudding across a stage-set moon, the candle-light dipping and flickering." She implies, in other words, that "the drama," excitement, and renown that comes with doing exciting scientific research was what first made her want to become a scientist—not an objective interest in making discoveries or a principled desire to improve humanity's overall quality of life.

Thus, the play introduces the notion that science is not as morally neutral as its proponents would like to believe it is. Even if the research that scientists conduct results in the discovery of cold, hard truths, it's also true that passion, emotion, and personal bias can play a significant part in what drives scientists to make scientific discoveries in the first place. This idea will later illuminate Kate's hypocrisy, as she insults and criticizes Tom for his "romantic" attachment to the past—all the while harboring her own equally irrational attachment to scientific progress.

Susannah: Maria, show a little faith, your father would never conduct an experiment unless he was quite sure of the outcome, isn't that so?

Fenwick: You haven't quite grasped the subtlety of the word 'experiment', Susannah –

Related Characters: Joseph Fenwick, Susannah Fenwick (speaker), Harriet Fenwick, Maria Fenwick, Peter Mark Roget, Thomas Armstrong, Isobel Bridie, Ellen, Tom

Related Themes:

Page Number: 5

Explanation and Analysis

Susannah, Maria, Harriet, Armstrong, Isobel, and Roget are gathered around Fenwick as he experiments on Maria's pet bird with an air pump. The experiment requires Fenwick to cut off the bird's air supply temporarily, and Maria fears that her beloved bird will die. Susannah, apparently irritated by her daughter's distress, urges Maria to "show a little faith," advising her that Fenwick "would never conduct an experiment unless he was quite sure of the outcome[.]" Susannah's attempt to console her daughter backfires, though. As Fenwick rather sardonically points out, Susannah has gotten the whole point of science wrong. It wouldn't be an "experiment" if Fenwick knew its outcome before he began it—truly objective, empirical research requires the scientist to enter into their experiment blind and follow their research wherever it leads them. They should not be experimenting with a specific outcome in mind—that would be subjective, biased work.

Not only is Susannah's line played for comic effect, but it also sheds light on her character and her relationship with her husband and resonates with the play's central themes. First, Susannah's remark reveals her ignorance about science. She's apparently not interested in research nor, by extension, in her husband's work. This suggests that the couple's opposite interests drive a wedge between them—much like the marriage of geneticist Ellen and her English lecturer husband, Tom, in the play's 1999 timeline. Second, Fenwick's annoyed, dismissive response to Susannah suggests that he even disrespects or devalues Susannah *because* of her disinterest in science and his work. Though Fenwick has a more honest and nuanced understanding of the interconnectedness between science and the arts and between logic and passion, this moment makes it clear that, at least subconsciously, he thinks less of Susannah because she isn't as logical and scientifically inclined as he is.

Armstrong: This goes to prove the point I made earlier, sir: Keep infants away from the fireplace and women away from science.

Related Characters: Thomas Armstrong (speaker), Joseph Fenwick, Maria Fenwick, Kate

Related Themes:

Page Number: 5

Explanation and Analysis

Fenwick is experimenting on Maria's pet dove, which is trapped inside the air pump's glass dome. The experiment requires Fenwick to cut off the bird's air supply temporarily, and Maria is terrified that the bird will die—indeed, the bird's life hangs in Fenwick's hands, and Maria's fear is thus justified. Nevertheless, Armstrong uses this single incident of perfectly reasonable fear to "prove the point" that, as a whole, women aren't fit to pursue or understand scientific research. Armstrong is one of the most steadfast proponents of scientific research in the entire play—he, like Kate in the 1999 timeline, is willing to commit morally questionable acts in the name of scientific research. And also like Kate, he looks down on characters who let their own moral reservations stop them from pursuing certain lines of scientific inquiry. For instance, Armstrong seems to find Roget weak or irrational for taking issue with dissecting stolen corpses for medical research.

But this scene shows that Armstrong is not as wholly rational as he'd like to think he is. Here, he (consciously or unconsciously) uses what equates to anecdotal evidence to confirm his subjective and flawed views about women. He takes Maria's fear for her beloved pet—a single instance of one woman having a problem with something that's only peripherally related to science—to make a sweeping

generalization of how women in general relate to science in general. Armstrong's reaction is played for comedy—he makes a fool of himself with this boorish, poorly researched observation—but it also introduces one of the play's central ideas: that it's impossible to entirely separate personal bias and ego from empirical research. To some degree, a person's (or a society's) interests will affect the type of research they conduct (even if the research itself remains unbiased and legitimate), and, in more extreme cases, the conclusions they reach.

Act 1, Scene 1 Quotes

Armstrong: With respect, I think you confuse a personal antipathy towards Reverend Jessop with the quality of his proposed lecture.

Related Characters: Thomas Armstrong (speaker), Joseph Fenwick

Related Themes:

Page Number: 9

Explanation and Analysis

Roget is reading from a stack of lecture proposals that scientists have submitted to Fenwick with the hope that he'll invite them to speak at his New Year's Eve lecture event. Fenwick dismisses each proposal, claiming that they offer only subpar, unstimulating research—but he also insults the researcher who authored the proposal as he rejects them. After Fenwick insults one researcher, Reverend Jessop, it prompts Armstrong to suggest that Fenwick's reasons for rejecting the proposals aren't as scientific and objective as Fenwick pretends they are—that, in fact, he is "confus[ing] a personal antipathy towards Reverend Jessop with the quality of his proposed lecture." Fenwick denies this at first but ultimately admits that his personal feelings about the scientists may influence whom he invites to speak and whom he rejects. In a broader sense, Armstrong's observation gestures toward the idea that even if scientific research is objective, legitimate, and itself devoid of personal bias, personal bias factors into the research that people in positions of power choose to promote—and the research, like Reverend Jessop's, that they choose to ignore.

But does an idyll have its basis in reality?

Related Characters: Peter Mark Roget (speaker), Joseph Fenwick, Harriet Fenwick, Maria Fenwick

Related Themes:

Page Number: 16

Explanation and Analysis

Fenwick promised Harriet that he would watch the play she's written, though he now claims to be too busy. In the meantime, Harriet gives a rundown of the play's key characters and themes. The play is, in her words, "a hymn to progress," a sort of allegory that pits the backward, innocent shepherdess (played by Maria) against the progressive, enlightened Britannica (played by Harriet) in order to praise society's forward march out of the dark ages that the shepherdess represents toward the brighter, better future that Harriet represents. Roget takes issue with Harriet trivializing the profession of shepherding. He points out that it requires a lot of skill and can in fact be quite dangerous work, not the simple, mindless job of simple people that Harriet has made it out to be. He insinuates that she's selling the past, traditional way of life short and inflating industrialization's prestige and necessity.

When Harriet defends herself, claiming that the shepherdess character is just an "idyll," or an idealized version of a shepherdess, Roget asks, "But does an idyll have its basis in reality?" One of the ideas the play explores is how idealism can warp a person's sense of reality. In Harriet's case, her blind idealism about the promise of industry and scientific advancement causes her to oversimplify the older way of life, transforming it into an "idyll" that misrepresents it and falsely inflates the progress that science and industry have injected into her modern world. Meanwhile, Roget's question of whether "an idyll ha[s] its basis in reality," suggests an interconnectedness between the idyll and reality. However, Roget seems to suggest that idylls are based on some objective, universal truth—not that supposedly objective, universal truths are themselves the products of subjective idealization.

Harriet: Primarily because you're playing a sheep. And besides, some people are not meant to say anything of consequence. As in life, so in a play. Certain rules must be obeyed. And one of them is you stick to your own lines. You can't swap them round as it takes your fancy. Think of the chaos. Think of the audience.

Related Characters: Harriet Fenwick (speaker), Joseph Fenwick, Susannah Fenwick, Maria Fenwick, Peter Mark

Roget, Thomas Armstrong, Isobel Bridie

Related Themes:

Page Number: 18

Explanation and Analysis

Harriet, Isobel, and Maria are in costume in Fenwick's study. Harriet is giving Fenwick, Susannah, Roget, and Armstrong an overview of her play when Isobel interrupts her to take issue with the production. Isobel plays a sheep (while Harriet and Maria play "idylls" representing progress and the past, respectively), and she feels that her role and lines are insulting and designed to belittle and humiliate her. This passage is Harriet's dismissive response to Isobel. In it, Harriet insinuates that Isobel's lower status makes her fundamentally lesser than Maria and Harriet and, therefore, less deserving of a dignified, robust role in Harriet's play. In a broader sense, Harriet's response to Isobel suggests her belief in a fundamental—and fundamentally unexamined—social order. Her logic is circuitous (the truth must be true because it's believed to be true) and fundamentally opposite the empiricism her play espouses.

Harriet admires and longs to emulate her father: she wants to be a scientist like him, and she values progress, industry, and truth. Yet her blunt dismissal of Isobel's complaints shows that she's willing to accept without question unexamined "truths" about class, rank, and order when they suit her. Here, for instance, she claims that "some people are not meant to say anything of consequence," as though Isobel's lower rank and status as a foreigner (Isobel is Scottish) make her fundamentally, naturally lesser than Harriet and her family, who are English. Harriet's ignorant dismissal of Isobel thus reinforces the play's ultimate claim that no science—no matter how empirical humans try to make it—is ever entirely objective or amoral. Where humans are involved, they will always (however unintentionally) project their own biases and preconceived notions about right and wrong onto their surroundings.

Act 1, Scene 2 Quotes

❝ Ellen: Anecdotal doesn't count. They could be making it up. Or elaborating something much more explicable.

Phil: Why would they want to do that?

Ellen: Because people like telling stories. They like sitting around and telling tales for which there's no rational explanation. Like ghost stories. And crop circles. And being a reincarnation of Marie Antoinette. I'm not entirely sure why. You'd need to ask a psychologist.

Related Characters: Ellen, Phil (speaker)

Related Themes:

Page Number: 32-33

Explanation and Analysis

Ellen and Phil, a contractor she's hired to survey her historic home (the same home in which the 1799 timeline takes place) before she sells it, argue about what constitutes legitimate scientific evidence. As a successful geneticist, Ellen is aghast when Phil suggests that a handful of ludicrous stories that friends and acquaintances have told of UFO sightings or spontaneous combustion are valid evidence that such phenomena exist. "Anecdotal doesn't count," Ellen tiredly explains to Phil.

Still, Ellen doesn't go so far as to call Phil's friends liars. Instead, she categorizes their stories—and Phil's willingness to believe them—as a fundamental part of being human. She explains that "people like telling stories. They like sitting around and telling tales for which there's no rational explanation." In this way, she implicitly draws a connection (albeit a loose one) between Phil's friends' conspiracy theories and the rigorous, legitimate scientific work that she does as a geneticist: both are a response to humanity's innate drive to know the truth about itself and the larger world. Early on, then, the play hints that the opposing forces of rationality and irrationality and logic and emotion aren't as distinctly separate as they might seem at first glance.

❝ Ellen: The fact that you've never had a moral qualm in your life doesn't mean you have superior reasoning power, it just means you have a limited imagination.

Related Characters: Ellen (speaker), Thomas Armstrong, Tom, Phil, Kate

Related Themes:

Page Number: 36

Explanation and Analysis

In the 1999 timeline, Ellen is addressing Kate, critiquing Kate's refusal to entertain any of the moral qualms that other characters like Tom and Phil—and to a lesser degree, Ellen—have about genetic research. Tom and Phil raise legitimate concerns about the Human Genome Project (which Ellen works on and whose research Kate's company wants to invest lots of money into). Beyond the simple fact

that the project's integrity could be corrupted and used for bad (i.e., private lenders and employers could use a person's genetic information to discriminate against people with a perceived inferior genetic makeup), Phil and Tom especially wonder if humanity can ethically and objectively determine which diseases create so much suffering that it warrants scientists using genetic research to eliminate those diseases. In other words, can and should humanity—no matter how noble its intentions—take on the role of God and try to control nature?

But Kate refuses to entertain any of these moral considerations. Instead, she believes that using scientific discovery to improve society—at least, whatever counts as improvement in her eyes—should always take precedence. Like Armstrong in 1799, Kate's character embodies the young, driven scientist whose personal passion for science disallows them from forming a more nuanced, objective view of the ethical considerations her research poses for society. Kate believes that her single-minded interest in progress gives her "superior reasoning power" (as compared to someone like Tom, who Kate believes is holding society back with his sentimental attachment to the past and his subservience to nature). But the opposite may be true. As Ellen suggests, Kate's youthful passion for her discipline gives her "a limited imagination," blinding her to considering viewpoints that contradict and challenge her own. Ellen suggests instead that most aspects of life become morally thorny if one thinks about them long enough—even science, which in theory should be amoral and devoid of human bias.

❝ Kate: We'll be able to pinpoint genes for particular types of cancer, for neurological disorders, for all sorts of things, some of them benign, some of them not, but what it really means is we'll understand the shape and complexity of a human being, we'll be able to say this is a man, this is exactly who he is, this is his potential, these are his possible limitations. And manic depression is genetic. We'll pin it down soon.

Phil: And then what? No more Uncle Stans.

Related Characters: Phil, Kate (speaker), Ellen

Related Themes:

Page Number: 38

Explanation and Analysis

The 1999 timeline's characters are debating the ethics of the Human Genome Project. Kate is a young, idealistic, and passionate genetic researcher—and the project's most unwaveringly loyal advocate. In this passage, she argues in support of gene mapping, boasting that it will help researchers locate the genes that cause certain diseases. If researchers can isolate genes that cause humans lots of suffering, they can then, through selective breeding, eradicate those diseases from existence and ultimately (to Kate's mind) improve the quality of life for collective humanity.

But Phil, who previously spoke fondly of his Uncle Stan, who had bipolar disorder (which the play refers to as "manic depression"), suggests that eliminating horrific diseases isn't the unquestionably right choice that Kate is making it out to be. Instead, Phil suggests that society would lose something valuable—or at least, something it has no business determining the value of—if it got rid of all its "Uncle Stans." While Uncle Stan undoubtedly suffered because of his disease (Phil later reluctantly admits that Uncle Stan ultimately died by suicide), he also enjoyed life and brought enjoyment to Phil and other people in his life. Phil is suggesting that it's misguided for scientists like Kate, Ellen, and their colleagues to believe that they can determine whether society would genuinely be better without any "Uncle Stans" in the world. He thinks there's no way they, as mere mortals, can determine how much suffering a person has to endure to make their life not worth living.

Act 1, Scene 3 Quotes

❝ Fenwick: By the end of the nineteenth century everyone will understand how the world works. By the end of the following century, if you can imagine that far, every man or woman in the street will understand more than we can ever dream of. Electricity, the stars, the composition of the blood, complexities beyond our imagination, will be as easily understood as the alphabet. Magic and superstition won't come into it. And it stands to reason, any citizen with the facts at his disposal could not tolerate a monarchical system unless he was mentally impaired or wilfully resistant to reality.

Related Characters: Joseph Fenwick (speaker), Peter Mark Roget

Related Themes:

Page Number: 44

Explanation and Analysis

In 1799, Fenwick explains the link between knowledge and progress to the other characters. Specifically, he proposes a

link between knowledge and democracy, arguing that once people become educated and enlightened enough to "understand how the world works," they'll become empowered and so will no longer "tolerate a monarchical system[.]" Fenwick implicitly connects ignorance with subservience and helplessness. He thinks that powerful, exploitative institutions like the monarchy rely on their subjects' ignorance about what they're capable of as individual people. As he sees it, people turn to God to give their lives meaning when they have no better way of understanding how the mysteries of nature work and affect their lives.

By extension, then, Fenwick insists that people also turn to powerful institutions like the monarchy to order society and tell them how to live. But if people could understand how previously mysterious things like electricity and human anatomy work, they'd no longer need to rely on "Magic and superstition" to understand the world. They'd know they're capable of understanding—and even personally affecting—the previously sublime, mysterious forces that acted on them. And then they'd no longer need (and so would actively reject) powerful institutions like the monarchy and the Church that take advantage of their followers' ignorance to control and suppress them.

Fenwick's explanation makes clear his overarching beliefs about what scientific research can do for society—and how society should use it to improve the overall quality of life. Unlike someone like Roget, who believes that science can and should be totally amoral, Fenwick thinks that the best scientific research is backed by morality: he believes that scientists should experiment with the ultimate goal of improving the quality of life for all, not simply for the sake of knowledge and discovery.

Roget: Does good science require a warm heart?

Fenwick: I like to think so, Roget. In fact I suspect pure objectivity is an arrogant fallacy. When we conduct an experiment we bring to bear on it all our human frailties, and all our prejudices, much as we might wish it to be otherwise. I like to think that good science requires us to utilise every aspect of ourselves in pursuit of truth. And sometimes the heart comes into it.

Related Characters: Joseph Fenwick, Peter Mark Roget (speaker), Kate

Related Themes:

Page Number: 47

Explanation and Analysis

Roget and Fenwick debate the relationship between science and morality. Roget believes that scientific research can and should be amoral—that is, researchers should keep their morals outside of their research and should conduct research for the sake of discovery alone. They shouldn't be researching to improve society in a way that aligns with their morals. But Fenwick here shows that he has an opposite opinion. He believes that "good science require[s] a warm heart" and that personal morals should inspire scientific research. He doesn't think that humans can entirely remove their "prejudices" and personal biases from research, nor is this a bad thing. Instead, he believes that "good science requires us to utilise every aspect of ourselves in pursuit of truth," and one of those aspects is the researcher's internalized, subjective ideas about right and wrong and about how best they can draw on those values to improve life.

Compared to other characters like Roget in the 1799 timeline and Kate in the 1999 timeline, Fenwick has a realistic view of humanity's ability to remain objective and unbiased in research. Still, he makes what the play suggests is a dangerous assumption that humans can objectively and accurately determine the rightness or wrongness of their values and whether imposing those values on broader society will improve or degrade collective humanity's quality of life.

Tom: So what's the difference? At what stage does it stop being disturbing and start being archaeology?

Related Characters: Tom (speaker), Isobel Bridie, Ellen, Kate

Related Themes:

Related Symbols:

Page Number: 49

Explanation and Analysis

In the 1999 timeline, Tom has recently discovered Isobel's bones, which he refers to as a "body," underneath the kitchen sink. Ellen asks Tom to stop referring to the bones as a body, and this is his response to her. In asking Ellen, "what's the difference" between a body and a box of bones,

Tom is gesturing toward one of the play's central conflicts: the intersection between science and morality and between rationality and subjective emotion.

Ellen's decision to refer to Isobel's bones as bones rather than a body objectifies the bones, robbing them of any emotional, human connection to the person—Isobel—they once were. She's correct, of course—the bones bear no resemblance to Isobel as she was in life, but her choice of language is cold, detached, and devoid of a humanistic respect for life. When Tom criticizes Ellen for being so detached, and when he asks her, "At what stage does it stop being disturbing and start being archaeology," he is indirectly suggesting that Ellen's detached attitude comes from her job as a scientist. He's implying that it's impossible to simultaneously maintain the cold, detached attitude that scientific research requires and to have human respect for life—in other words, it's impossible to hold a neutral, unattached view of the world without sacrificing some humanity. Tom, unlike Ellen (or even more extremely, Kate), doesn't place science and objectivity above all else. Instead, he reveres the past and doesn't automatically assume that all progress is good, and this attitude comes across in his response to Ellen.

Isobel: I'm unused to answering questions. When I talk about myself my face feels hot. When I talk about myself I feel that I am lying.

Armstrong: Are you?

Isobel: I'm not sure. I try not to. But we all lie about ourselves.

Armstrong: Do we?

Isobel: We don't mean to but we do.

Related Characters: Thomas Armstrong, Isobel Bridie (speaker), Ellen, Phil

Related Themes:

Page Number: 53

Explanation and Analysis

Armstrong is asking Isobel personal questions about her life and past to try to convince her that he's interested in her romantically (though in reality, he only wants to persuade her to show him her naked, twisted back to appease his erotic and scientific curiosities). But Isobel is reluctant to answer Armstrong's questions—not only is she (justifiably) suspicious of Armstrong's motivations for wooing her, but she's also skeptical about any person's ability to speak honestly about themselves in the first place. Here, Isobel proposes that, even though people might intend to be honest about themselves, "we all lie about ourselves." Isobel's remark resonates with Ellen's idea in the 1999 timeline about humanity's need to tell stories about the things it doesn't understand. It's why people like Phil and his friends believe in kooky conspiracy theories about UFOs: they find it comforting and reassuring to have an explanation about something mysterious and potentially threatening, and this comfort matters more to them than the truthfulness of that story. Isobel also seems to suggest that manipulating the truth, intentionally or unintentionally, is a fundamental part of the human experience. People can't possibly judge the world objectively when everything they observe—even down to their sense of self—is subject to personal interpretation.

Act 2, Scene 1 Quotes

Maria: Papa, Edward thinks my eyes are blue, he said so in a letter, and Harriet says this is because he's a complete fool and that she never liked him anyway, but I think, perhaps he has a tropical fever and his mind is wandering or perhaps he meant brown but wrote blue –

Related Characters: Maria Fenwick (speaker), Joseph Fenwick, Harriet Fenwick, Edward, Miss Cholmondeley

Related Themes:

Page Number: 58

Explanation and Analysis

Maria has just received a letter from her fiancé, Edward, who is working abroad in India, in which he mistakenly calls Maria's eyes blue (they are in fact brown). It's painfully apparent to the audience and practically everyone besides Maria that Edward is having an affair with Miss Cholmondely, and this likely explains his error. But despite this, Maria searches in vain for complex, unlikely explanations for Edward's gaffe—reasoning that Harriet's accusations against Edward are skewed by her dislike for him and that it's possible that "perhaps he has a tropical fever" that has affected his mental capabilities. But Maria's attempt to rationalize Edward's mistake is, in reality, not rational at all. In fact, it is a desperate attempt at self-preservation, motivated by her emotional need not to acknowledge that her fiancé has been unfaithful to her. Maria's attempts to rationalize Edward's slip-up thus reinforce the play's position that rationality and

irrationality—logic and emotions—are more interconnected than people would like to think they are.

Harriet: The future's ours, these chimneys belch out hope,
These furnaces forge dreams as well as wealth.
Great minds conspire to cast an Eden here
From Iron, and steam bends nature to our will –

Related Characters: Harriet Fenwick (speaker), Joseph Fenwick, Susannah Fenwick, Maria Fenwick, Peter Mark Roget, Thomas Armstrong, Isobel Bridie

Related Themes:

Page Number: 62

Explanation and Analysis

This passage comes from Harriet's play, which she, Maria, and Isobel perform for Fenwick, Susannah, Roget, and Armstrong. The play is (in Harriet's words) "a hymn to progress," and Harriet's character espouses the merits of science, reason, and industry, a sentiment that comes through in these lines that characterize the future as full of "hope" and "wealth." The cause of such good fortune, she argues here, is that science allows humanity to "bend[] nature to our will[.]" Harriet, like other of the play's young, idealistic proponents of science, takes an unnuanced and unambiguous position on science's merits. She ignores the ethical concerns that "bend[ing] nature to our will" poses. Instead, she takes the stance that all progress is good, and that humanity has a right (and even a moral obligation) to manipulate the world to serve its needs and improve the collective whole's quality of life.

On the other hand, she views relics of the past—represented in her play by Maria's shepherdess character—as fundamentally antithetical to progress and a hindrance to humanity's happiness and collective welfare. But the play (*An Experiment With An Air Pump*) challenges such an unnuanced view of progress and morality, arguing instead that things aren't as morally black and white as overly idealistic characters like Harriet believe them to be.

Act 2, Scene 2 Quotes

Kate: She probably wasn't murdered. She was dissected. That's why some of her's missing.

Related Characters: Kate (speaker), Isobel Bridie, Ellen, Tom

Related Themes:

Related Symbols:

Page Number: 69

Explanation and Analysis

Tom has recently found a box of bones (Isobel's, though none of the 1999 timeline characters have any way of knowing this) underneath the kitchen sink. The discovery is disconcerting to Tom; he doesn't know what happened to the girl whose bones he's found, and he's concerned that something horrible happened to her—perhaps she was even murdered. But Kate tries to put Tom at ease. Since "some of her's missing" (the skeleton isn't complete—it's missing part of Isobel's spine), it's more likely that the bones belonged to someone whose corpse was stolen from its grave for use in a dissection demonstration (the illicit practice of body snatching was common at the time).

Kate is a scientist. Unlike Ellen, who holds ethical concerns about where research scientists should draw the line regarding what kind of experiments they conduct, Kate thinks there are very few situations where scientists should let conventional morality hold them back. She puts this attitude on display in this passage, insinuating that Isobel's body being dissected for science (without Isobel's consent, if her grave was robbed) is somehow less unsettling than murder. Kate's almost comically nonchalant attitude illustrates an extreme example of someone who believes that no moral, ethical, or social code should impinge on humanity's quest for knowledge and truth.

Armstrong: What difference does it make if they're dead? The dead are just meat. But meat that tells a story. Every time I slice open a body, I feel as if I'm discovering America.

Related Characters: Thomas Armstrong (speaker), Peter Mark Roget, Isobel Bridie, Kate

Related Themes:

Page Number: 70

Explanation and Analysis

While waiting for Fenwick to join them outside, Roget and Armstrong debate the ethics of body snatching (stealing fresh corpses from graves for use in medical dissections). At

the outset, Armstrong's remarks here seem to reinforce his neutral, detached attitude toward life and death—a disposition he feels is necessary if one wants to be a successful scientist unburdened by irrational human emotion and moral concerns. Calling the dead "just meat" suggests an almost comically objective, detached attitude toward the human condition.

But Armstrong's words also reveal that his interest in science isn't as objective and detached as he'd like to think it is. Instead, Armstrong's passion for anatomy and the pleasure he derives from observing and conducting research, a pleasure so intense that he compares it to the thrill of "discovering America," fuel his scientific endeavors. Armstrong thus shows that subjective human emotion factors into his work and interests despite his efforts to present himself as someone unaffected by sentimentality and emotions.

Armstrong's reasoning here mirrors Kate's earlier nonchalance about Isobel being "dissected" rather than murdered. He has a very straightforward, detached way of thinking about the world, and he doesn't believe that sentimentality, superstition, or conventional morality should hold scientists back from conducting research. On the other hand, he's rather unlike Kate since he's at least willing to admit—if only implicitly—that his passion for science plays a role in his interest in science. Kate, meanwhile, never stops insisting—either stubbornly or ignorantly—that her interest in science is purely driven by curiosity, not passion.

❝ Armstrong: Digging up corpses is necessary if we're to totter out of the Dark Ages. You can dissect a stolen body with moral qualms or with none at all and it won't make a blind bit of difference to what you discover. Discovery is neutral. Ethics should be left to philosophers and priests. I've never had a moral qualm in my life, and it would be death to science if I did. That's why I'll be remembered as a great physician, Roget, and you'll be forgotten as a man who made lists.

Related Characters: Thomas Armstrong (speaker), Peter Mark Roget, Isobel Bridie, Dr Farleigh

Related Themes:

Related Symbols:

Page Number: 71

Explanation and Analysis

In the 1799 timeline, Armstrong is debating the ethics of body snatching (stealing corpses from graves to be used in medical dissections) with Roget. Roget takes issue with the practice. Though he finds demonstrations such as those Dr Farleigh conducts fascinating and important, he wonders whether that outweighs the moral dubiousness of body snatching.

But Armstrong here dismisses Roget's concerns. "Digging up corpses is necessary if we're to totter out of the Dark Ages," he tells Armstrong, suggesting that people have to—and should want to—set aside their morals for the betterment of humankind. So it's necessary—and good—to know more about human anatomy. And the reality is that there isn't a steady supply of corpses for scientists to acquire through legitimate means, so body snatching is the only option, however morally dubious it may be.

He also points out the irrationality of Roget's reservations. Whatever means the demonstrators used to acquire their dissection subjects has little impact on the demonstrations' findings. A stolen body produces the same results as a legitimately acquired body—that is, both can benefit humanity. So, is it right not to do an experiment and therefore deny humankind the right to improve the collective quality of life just because the body was acquired in a morally dubious way?

Finally, it's also important to note that Armstrong's cavalier attitude toward body snatching foreshadows Isobel's sudden death by suicide and Armstrong's eventual theft and dissection of her corpse.

Act 2, Scene 3 Quotes

❝ Susannah: I am full of feeling and passion and I am wedded to a dried cod.

Related Characters: Susannah Fenwick (speaker), Joseph Fenwick, Ellen, Tom

Related Themes:

Page Number: 2

Explanation and Analysis

Susannah laments Fenwick's inattentiveness to her need for love, affection, and passion. She thinks her husband prioritizes his scientific endeavors above their marriage and romance, and she claims (validly) that he doesn't take her seriously because she's not as rational and scientifically minded as he is. Susannah's unnuanced view makes her feel that the sciences and the arts are at odds with each

other—that she, as a lover of the humanities, is "full of feeling and passion" and that Fenwick's interest in science, industry, and progress make him a passionless "dried cod." But in reality, it's not so clear cut. Ultimately, they reach a middle ground and realize that passion underlies both their interests. But at this point, they are still at odds. Susannah thinks that Fenwick is passionless, and Fenwick doesn't take his wife seriously because of her (to his mind) irrational passion. Their marital strife closely mirrors the conflict that plagues Ellen and Tom's marriage in the play's 1999 timeline—a parallel that the play drives home in its direction for the actress who plays Ellen to also play Susannah in the 1799 timeline.

Armstrong: I make sure she takes them off, that's the whole point because then I get to examine her beautiful back in all its delicious, twisted glory, and frankly that's all I'm interested in. D'you know the first time I saw it I got an erection?

Roget: You find it arousing?

Armstrong: In the same way that I find electricity exciting, or the isolation of oxygen, or the dissection of a human heart.

Related Characters: Peter Mark Roget, Thomas Armstrong (speaker), Joseph Fenwick, Isobel Bridie

Related Themes:

Related Symbols:

Page Number: 85

Explanation and Analysis

Up to this point, Armstrong has relentlessly pursued Isobel, the Fenwicks' servant, claiming that he finds her beautiful and is in love with her. But Roget has (rightly, it turns out) suspected that Armstrong isn't upfront about his true intentions with Isobel. In this passage, Armstrong reveals his true intentions—and they turn out to be less than honorable. He admits that he's only interested in Isobel because he finds her back (she has some kind of a congenital disability that makes her back/spine twisted) arousing—erotically and scientifically.

The particularities of Armstrong's sexual proclivities set aside, what is most significant about this passage is that he claims to find the erotic exciting "In the same way [he] find[s] electricity exciting, or the isolation of oxygen, or the dissection of a human heart." Armstrong's admission challenges the notion that science is absolutely objective, rational, and neutral—a position many of the play's scientist characters have held up to this point. Instead, Armstrong suggests that passion—not a clear-headed, empirical interest in discovery, industry, and progress—fuels his interest in science, just as passion fuels "irrational" interests like sex and love. In this way, then, Armstrong's admission not only reveals himself to be a morally dubious character who's fine manipulating Isobel to fulfill his own erotic/scientific fantasies, but it also builds on the idea that human involvement in the sciences is never entirely objective and neutral: people inevitably bring their own passions and biases to their experiments, even if their methods of experimentation remain empirical and neutral.

Act 2, Scene 4 Quotes

Tom: The heart retains information, they don't understand how, yet, but everything's connected one way or another, nothing exists in isolation. When you feel grief, your heart hurts. When you feel love, it's your heart that hurts, not your brain. You took this job because your heart told you to.

Related Characters: Tom (speaker), Ellen, Kate

Related Themes:

Page Number: 2

Explanation and Analysis

Ellen has long been trying to talk to Tom about her ethical concerns about taking a job with Kate's company, which would funnel ample funding into Ellen's research on the Human Genome Project. But Tom feels uncomfortable with Ellen's work and has repeatedly turned down her efforts to talk things through with him. Now, they finally discuss the matter, and in so doing, they find that their respective interests (science and the humanities) have more in common than they initially thought. Here, Tom suggests that the heart (which is commonly associated with irrational emotion) and the brain (which is commonly associated with rational logic) are "connected in one way or another[.]" He argues that "The heart retains information" just as the brain does. And while people might think that the brain is primarily responsible for decision-making, people are so often driven to do things by their strongest emotions that it's arguable that the heart is just as important—if not more important than—the brain in decision-making. And, Tom argues, that's the case with Ellen's current predicament: "You took this job because your heart told you to," he observes.

Up to this point, Ellen has thought she could use logic to determine whether or not she should accept a job with Kate's company, weighing the pros and cons of her current ethical predicament. But here, Tom suggests that Ellen's decision—and her passion for science in a broader sense—is more emotionally driven than she thinks. Tom's remarks here and the couple's entire conversation help them to find common ground. It also reaffirms the play's overarching idea that science is never wholly neutral—that human culture and systems of morality invariably inject a degree of bias into all scientific research, for better or worse.

Tom: So we're not that much different after all. Art and science are part of the same thing. Like waves and particles. You need both to define the whole.

Related Characters: Tom (speaker), Ellen

Related Themes:

Page Number: 2

Explanation and Analysis

Tom and Ellen have finally discussed Ellen's concerns about accepting a job with Kate's company, which Tom has long avoided because the ethical ramifications of Ellen's genetic research make him uncomfortable. But after talking things through, they realize that even though Tom is an English lecturer and Ellen is a scientist, they have a lot more in common than they thought they did—though Ellen's work requires her to be objective and neutral, her passion for her work motivates her to succeed, just as Tom's passion for literature drives his literary pursuits.

Furthermore, their ability to hold nuanced, open-minded views about their work allows them to find this common ground. Ultimately, they decide that "Art and science are part of the same thing. Like waves and particles. You need both to define the whole." Not only does Tom's conclusion assign the same value to science and the arts, but it also establishes their interconnectedness. Science doesn't exist in a vacuum: it requires (subjective) human morals and interests to shape its trajectory and determine what sort of research is worth pursuing. This is one of the play's central conclusions.

Act 2, Scene 5 Quotes

Armstrong: Well, how was I to know? It's not my fault, I didn't know she was …

Roget: What?

Armstrong: Unstable. I didn't know. Don't say anything, eh?

Silence.

I mean, we don't know for a fact that it was me who drove her to it, do we? It could have been anything.

Roget: Of course it was you.

Armstrong: Where's the evidence?

Related Characters: Peter Mark Roget, Thomas Armstrong (speaker), Isobel Bridie

Related Themes:

Page Number: 93

Explanation and Analysis

Isobel has just hung herself, and she suggests her reasons for doing so (she is in a state of despair after discovering that Armstrong doesn't love her) in a suicide letter. But Armstrong finds the letter beside Isobel's body before the others, hides it, and then covertly suffocates Isobel, speeding up the dying process and ensuring that she can't tell anyone what (or rather who) has brought her to such despair. Armstrong knows he's to blame for Isobel's decision to end her life, and so he weaponizes rationality to conceal this fact. He claims that Isobel's suicide is proof that she was "Unstable" and that in the absence of "evidence" in the form of a firsthand explanation from Isobel, it's impossible to know for sure "that it was [Armstrong] who drove her to [suicide.]" Armstrong's shameless attempt to use rationality to avoid being blamed for Isobel's death reaffirms that it's impossible for science to be entirely neutral—people can, either consciously or unconsciously, manipulate and conceal evidence to benefit themselves.

Fenwick: Here's to whatever lies ahead … here's to uncharted lands … here's to a future we dream about but cannot know … here's to the new century.

Related Characters: Joseph Fenwick (speaker), Peter Mark Roget, Thomas Armstrong, Isobel Bridie

Related Themes:

Related Symbols:

Page Number: 96

Explanation and Analysis

These are the play's final lines, which opens and closes with the 1799 timeline. The play begins and ends with the 1799 characters gathered around a focal point. The opening scene's focal point was Fenwick, who was bathed in light as he conducted the air pump experiment. In the beginning, all the play's scientist characters—in both timelines—are single-mindedly focused on progress and the future that lies ahead. They think nothing should stand between humanity and its quest for knowledge and truth. They also think there's no limit to what humanity can know—that with enough applied empirical experimentation, humanity can know everything about themselves and the universe. In short, there is an atmosphere of optimism.

But that atmosphere has changed drastically by the play's end. Now, something much more tragic replaces the light-bathed focal point of the play's beginning: Isobel's dead body. Fenwick's closing remarks are a response to the unexpected tragedy of her death. He's acknowledging that the "uncharted lands" that await humanity in the future might not be as confident as he and other characters like Roget and Armstrong once thought. Some parts of life—other people's inner thoughts, death, and nature, to name a few—can't be known, no matter how advanced science becomes. So, while Fenwick maintains his opening position that it's worthwhile and positive to "dream about" the future and discovery, people also have to accept that there will always be some aspects of life that humanity "cannot know." Isobel's death has, in short, humbled Fenwick. Its unexpectedness has put him in his place and taught him that a person can simultaneously aspire to truth and maintain a grounded awareness of their limited ability to know the truth.

SUMMARY AND ANALYSIS

The color-coded icons under each analysis entry make it easy to track where the themes occur most prominently throughout the work. Each icon corresponds to one of the themes explained in the Themes section of this LitChart.

PROLOGUE

The play's cast, minus Susannah/Ellen, is arranged to recreate Joseph Wright's painting, *An Experiment on a Bird in the Air Pump*. Fenwick assumes the role of the scientist, Chiaroscuro. Four projections of the original painting are displayed above the stage. Ellen will portray Susannah in the play's 1799 plot. But for now, she's still dressed in modern-day clothing for her role as Ellen in the 1999 timeline. Ellen stands and examines the projections as two crew members dress her in the 18th-century clothing she will wear as Susannah. Ellen says she loves Wright's painting because it features a scientist at its center, where one would "usually find God." Ellen wanted to be this scientist when she grew up—"to be God." As Ellen speaks, the dressers fit a tight corset around Ellen's T-shirt.

In positioning the scientist Chiaroscuro at the center of the painting, Wright recasts humanity where previously God had reigned. Before the Enlightenment/Industrial Revolution, humans had to turn to God to find answers about morality and the meaning of life. But advancements in science and industry showed them that they could be authors of their own lives—that they could seek out wisdom and enlightenment on their own instead of as using God as a mediator.

Ellen describes the painting: two girls stand to one side of Chiaroscuro, terrified that he will kill their pet dove. A young scientist stands on the opposite side of Chiaroscuro, too overcome with "the intoxication of discovery" to care whether the bird lives or dies. Chiaroscuro, meanwhile, has a concerned look on his face, as though "worried about the ethics of dabbling with life and death." But Ellen thinks the candle that illuminates the scene is most fascinating, for "[w]ho could resist the power of light over darkness?"

The scientist is performing one of Boyle's air pump experiments. Boyle was a natural philosopher (precursor to the modern scientist) and used air pumps to test the relationship between air pressure and volume of gas. The girls are scared in this scene because the experiment involves cutting off the bird's air supply, effectively sealing it in a vacuum—thus, the scientist is voluntarily doing something to the bird that could endanger it or bring about its death. This introduces the tension between morality and science: science can be good for humanity because it allows for discovery—"the power of light over darkness," as Ellen describes it. But it also sometimes requires people to do ethically dubious things for sake of discovery.

The dressers finish dressing Ellen and then exit the stage. Now in character as Susannah, Ellen joins the other characters around the air pump. The year is 1799. Maria, one of the girls, asks Fenwick, her father, if the bird will die. Fenwick says they'll have to wait and see. Harriet, Maria's sister, protests that the bird is Maria's pet. Armstrong, another scientist, is unbothered; he says Maria can always get another bird. Maria bursts into tears, explaining that she named the bird after her fiancé, Edward.

To clarify, the 1799 timeline's characters are now recreating (in earnest—their characters are not acting) the Wright painting. Armstrong's (and Fenwick's, for that matter) indifference toward the bird's fate reveals his stance on science and morality: he thinks that all personal morals should be set aside for the sake of scientific advancement. Meanwhile, Maria and Harriet allow more room for moral concerns, though this is perhaps more due to their (or at least Maria's) personal attachment to the bird.

Roget, another scientist, suggests they experiment on a different bird, but Susannah, Fenwick's wife, tells him this is unnecessary—Maria needs to grow up. Besides, she should trust that her father knows what he's doing. Fenwick retorts that it's not really an experiment if you know the outcome before you begin. Armstrong thinks that Maria's distress proves his point that women ought not to meddle with science. Fenwick stares at Armstrong with disgust. Then Fenwick performs the experiment, and the onlookers gasp as the bird flies out of the glass, unharmed.

Roget, too, demonstrates a more nuanced attitude toward morality and science. He's clearly invested in the demonstration and wants Fenwick to see it through, but he acknowledges that there's no sense in being needlessly cruel to Maria by putting her bird in danger when they can find a different bird to experiment on. Meanwhile, Armstrong purports to see Maria's distress as objective evidence that women are ill-suited to scientific experiments, but this ignores the context of situation: Maria isn't dismissive of science, she just cares about this bird because it's hers and she has a sentimental attachment to it. In fact, Armstrong's stance is really just an excuse to spout sexist opinions while pretending it's objective, inscrutable fact.

ACT 1, SCENE 1

An angry mob riots outside. Fenwick, Susannah, Armstrong, and Roget are in a room filled with stuffed birds and animals suspended from the ceiling or displayed in cases. Fenwick sits writing at his desk, on which rests papers, a skull, and jars containing pickled organs. Susannah sits at a card table, drinks brandy, and gradually gets drunk. Armstrong nervously listens to the mob and checks his watch.

The stuffed and dissected animals serve as a visual reminder of the brutality involved in scientific discovery. Susannah's drunkenness suggests that she's unhappy or suffering—her husband's indifference to her drinking suggests that maybe he (or his indifference to Susannah) is part of the problem. Meanwhile, Armstrong's anxious demeanor suggests that he's late for something but can't leave because of the rioting.

Fenwick tells Armstrong to stop worrying. Then he asks if Roget has any ideas for the upcoming New Year's Eve lectures. Roget looks through his papers and summarizes one proposal, which is about dental work. Outside, the rioting continues. Armstrong frets about being late for an appointment. Fenwick asks what Armstrong is late for anyway. Armstrong looks at Susannah and then cautiously explains that he was supposed to observe Dr Farleigh's "demonstration." This one is "particularly interesting," Armstrong explains, and involves a 30-year-old woman with an "enormously malformed skull."

Fenwick and Roget's discussion of New Year's Eve lectures—of ringing in the new century—with lectures on scientific achievement reinforces the connection between science and progress. Meanwhile, Armstrong's almost ghoulish fascination with the woman with the "enormously malformed skull" suggests that science isn't as objective and detached as its proponents would like to suggest. Armstrong's fascination with the woman seems almost erotic.

Roget describes another lecture proposal to Fenwick; this one, by Mr. Percy Fellowes, is about "Left Leggedness," and how nature seems universally predisposed to use its right side. Fenwick wryly notes that Kant wasn't talking about Fellowes when he declared the present day "an age of enlightenment[.]"

Fenwick's disparaging remark about Fellowes references Immanuel Kant, an influential philosopher of the Enlightenment. The proposal on "Left Leggedness" that Fenwick scoffs at and rejects demonstrates once more that scientific advancement isn't entirely neutral—its direction is determined by whatever subjects humans wish to study, and sometimes those subjects are lacking, foolish, or not particularly useful in advancing society.

Next, Roget summarizes Reverend Jessop's proposal, which explores plants' capacity for "self-preservation." Fenwick bemoans all the lackluster lecture proposals he's received. The New Year's Eve lectures should get the audience excited about the revolutionary future, Fenwick argues. He insults Jessop, calling him a "self-righteous" fool with a weak handshake. Armstrong suggests that Fenwick is letting his personal dislike of Jessop get in the way of viewing Jessop's work objectively. Fenwick snaps that what Jessop does is more theology than science. He admits that he's being too harsh on Jessop but rejects Jessop's proposal anyway.

Interestingly—and as Armstrong suggests—Fenwick seems to be rejecting proposals based on his personal feelings toward the researchers, not their actual research. In other words, he's letting his subjective opinions about these men dictate which information (or truth) his lecture's audience hears. Fenwick values science, but he also seems to think that humans can and should use things like morals and subjective taste to determine which kind of science is worth pursuing and which isn't.

Harriet, Maria, and Isobel enter. Harriet is dressed as Britannia, Maria is dressed as a shepherdess, and Isobel is dressed as a sheep. Harriet frantically explains that the mob has just thrown a brick through the greenhouses. Fenwick, unconcerned, says it was probably an accident; he assures his daughters that the riots will settle down soon. But Susannah, Harriet, and Maria plead with Fenwick to at least talk to the mob. Fenwick assures them that the mob knows he's sympathetic to their demands (they were rioting over corn last week, and this week it's about fish). Susannah suggests that Fenwick's sympathy is insincere and merely "affectation."

That Maria and Harriet are dressed as people—while poor Isobel must don a humiliating sheep costume—reinforces how their different social classes (Maria and Harriet come from an affluent family, meanwhile Isobel is their lower-class domestic servant) create a power imbalance between them. The ongoing rioting is a real historical event—in 1799, 1800, and 1801, widespread rioting of the poor and working classes erupted throughout England in response to food scarcity and rising prices for food as a result of Napoleon's blockade of England (England had been fighting against Revolutionary France since 1793). Though overthrowing the monarchy resulted in an improved quality of life for France's lower classes, revolution—like scientific progress or progress of any kind—also came with negative side effects that hurt vulnerable populations, like England's poor.

Fenwick compares a riot to a play: both have a rising action, reversal, climax, and resolution—and then, finally, everyone gets to go home. Things momentarily quiet down outside, and Fenwick suggests that the riot has finally reached its resolution. He mocks the mob for demanding so little, noting that the English don't care about universal suffrage and resolution—all they want is cheaper fish; none of them are revolutionaries.

In comparing a riot to a play, Fenwick aestheticizes rioting and thus minimizes the very real grievances that inspired the rioting in the first place. Like Armstrong's ghoulish fascination with Farleigh's dissections, Fenwick's interest in revolution isn't wholly rooted in a drive for progress—he has a subjective, personal taste for revolution, too.

Maria spins around and asks Roget what he thinks of her costume. She's playing an Arcadian Idyll, she explains, which is really a metaphor. Susannah brags about Harriet's talent for poetry, likening her to "Milton, Shakespeare, Southey, that other fellow[.]" Harriet begs her mother to stop.

Susannah's hyperbolic praise for Harriet's poetry further casts Susannah as a dramatic and perhaps untruthful character. In addition, her passion for poetry places her opposite Fenwick, Roget, and Armstrong, who are proponents of science rather than the arts.

Armstrong asks what Harriet's play is about. Harriet describes it as "a hymn to progress." Maria's character represents the past, and Harriet's character represents the future: "Empire, Industry, Science, Wealth and Reason." Maria spends much of the play sitting atop a hill and tending her flock—this represents "Pastoral Innocence." Harriet plans to make a chimney-like headpiece to add to her costume.

Harriet, in describing her play as "a hymn to progress," implies that she's more interested in Fenwick's scientific research than in Susannah's penchant for poetry—it seems that Susannah may be projecting a talent for poetry onto Harriet not because Harriet demonstrates an actual talent for poetry, but because society believes that women are better suited to the arts and passions than to science and cold, hard facts.

Roget suggests the "pastoral innocence" that Maria's character represents isn't quite true to life since shepherds work under harsh and sometimes deadly conditions. Harriet reminds him Maria's character is an idyll—an idealized representation of a shepherd. She explains that the play is "a fable" which is "a sort of universal truth."

Roget is accusing Harriet of unfairly projecting a "pastoral innocence" or backwardness onto past ways of being (for which the shepherdess is a metaphor)—he's suggesting that Harriet's decision to see science as good and traditions of the past as limiting and regressive is unnuanced and not even all that truth to life. And Harriet proves Roget's point when she claims that her play is "a fable" and "a sort of universal truth." It's unnuanced and erroneous to claim that anything can be universally true.

Roget asks Isobel what she's supposed to be. Isobel says she supposed to be a sheep, though she has the wrong ears. She complains that the play isn't all that great. For starters, sheep can't talk. Harriet explains the talking sheep as just one example of "the magic of theatre[.]" Isobel also takes issue with her character's "infantile" lines. She asks Harriet if she can have better lines, but Harriet says no—Isobel's character is a sheep, after all, and sheep don't say anything interesting. Besides, some rules must be followed—and one of those rules is that actors must stick to their lines. If they didn't, "chaos" would ensue.

Harriet's comment about the need to follow certain rules—lest "chaos" ensue—shows how people use supposedly neutral logic to rationalize opinions that benefit themselves. In this situation, Harriet is using existing theater conventions to rationalize her mistreatment of Isobel and uphold (what seems to be) an oppressive, classist view that Isobel, as a servant, is inferior.

Fenwick looks up from his writing and asks Isobel which word he should use, "cusp" or "threshold." Isobel says that threshold is better—it's more precise and straightforward than cusp. Everyone stares at Isobel. Fenwick reads aloud the passage in question ("...we stand on the threshold of a new century [...]") and then thanks Isobel.

When the other (upper-class) characters respond with surprise to Isobel's knowledge of language and rhetoric, it reinforces their classist bias against her—they seem to assume that Isobel's status as an uneducated domestic servant means she's unintelligent. Once more, the play makes clear the extent to which bias permeates the worldviews held by otherwise rational, logical characters.

Harriet asks Fenwick if he can see the play now that he's finished writing, but Fenwick says he's busy. Harriet doesn't think this is fair, as they sit through all of Fenwick's experiments. Maria adds that Fenwick even made them observe the dissection of a spaniel. Irritated, Harriet calls Fenwick "selfish and cruel" and then storms out of the room.

For all Fenwick's radical talk of equality and progress, he seems not to extend these theoretical, philosophical views to his practical interactions with his family—the careless way he blows off Harriet makes this clear. This passage thus reinforces that there are often great disparities between people's idealized views and the way those views play out in real life.

Susannah explains to their guests that Harriet is just at "an awkward age," but Maria says Harriet has always had a short temper; this is also why Maria is engaged and Harriet is not. Then Maria runs from the room to console Harriet. Fenwick orders Isobel to stay, but Isobel says she'd prefer to leave, since her back hurts. Armstrong asks if Isobel's "malformation" is getting worse. Isobel doesn't know—she hasn't looked in the mirror in quite some time, but she has noticed that her clothes fit more awkwardly these days.

Susannah's impulse to write off Harriet's irritation as the result of Harriet being at "an awkward age" further establishes her as a character driven by emotion and instinct rather than logic. There's a perfectly rational explanation for Harriet's outburst—her father broke his promise to her and has made it clear that he doesn't value her work—yet Susannah (and Maria) ignore this to uphold their own emotional, biased view of Harriet.

Armstrong feels Isobel's back and asks if it hurts. Isobel explains that the pain is in her hips, not her back. And anyway, there's nothing Armstrong can do about it. Susannah agrees with this—and claims that any doctors who suggest otherwise are "quacks." What will really help Isobel is brandy. Fenwick tries to argue with Susannah, but she snaps that she's just pointing out the truth: physicians rarely cure people. Fenwick says they can talk about this later; Susannah acts mock-astonished that Fenwick is interested in having an actual discussion with her.

This scene draws attention to Isobel's "malformation"—and Armstrong's keen interest in it. The play never makes clear what has caused Isobel's back problems, but Armstrong's unusually strong interest in it seems worth paying attention to—he seems interested in it in more than a purely objective, clinical way. This scene also further establishes Susannah as distrusting of—or at least disinterested in—science and medicine. Furthermore, the way that Fenwick and Susannah spar in this scene suggests that their opposing views on science and medicine is a source of tension in their marriage.

Fenwick asks Isobel if she can read. She says yes—all Scots can. Fenwick asks if this means that English people are "ignorant." Isobel's comment hasn't offended him, but he does want to know more about Isobel's opinion of the English. Isobel hesitates. Finally, she says she's not sure what "English" means. The Scots word for English is "Sassenach," but people say this means Saxon—and, as a lowland Scot, she's a Saxon, so this must mean that she's a Sassenach, too. Roget muses that the word has two meanings, then: a literal meaning and a "commonly understood" meaning—and maybe, in time, the common meaning will replace the literal.

Fenwick's suggestion that the English are "ignorant" for making broad assumptions about Scottish literacy gestures toward the idea that it's impossible for humans to ever really know everything about themselves and the surrounding world because their personal (and socially/culturally conditioned) biases prevent them from observing the world objectively. Roget gets at this idea, too, when he distinguishes between a word's literal meaning and its "commonly understood" meaning—literal meaning, Roget suggests, is a word's objective, true meaning, while a word's "commonly understood" meaning is the biased, socially conditioned meaning that people learn to attach to a word.

Isobel says it's difficult to define Englishness because its definition changes over time. Armstrong applauds Isobel's answer and asks who told her to say it, implying that it's not an original thought. Fenwick asks if Isobel associates other traits with Englishness. Isobel can't think of any and explains that she's mostly interested in "words." For instance, the English use the same word, nursery, to describe a place where children and plants are kept—maybe this says something about Englishness. At any rate, Isobel explains, she knows that she's a Scot—not "one of you." Fenwick wonders if Isobel is confusing class with race.

This scene further highlights Isobel's status as an outsider—not only is she lower class than the others, but she's also Scottish rather than English. Also, Isobel's comment about the definition of "Englishness" changing over the years reinforces one of the play's key ideas: that it's all but impossible for humans to know everything about themselves and the surrounding world, since even the most objective "facts" about the world and the human condition change over time and are always subject to changing cultural and social attitudes.

Harriet returns and tells Fenwick that the cook has let some men who needed a place to "hide" for a while into the kitchen. Susannah gets up, swaying a bit, and says she'll take care of the men in the kitchen, then she exits the study. Fenwick pleads with Susannah to let him handle the situation. He apologizes to the others and follows his wife out. Harriet follows them.

Fenwick puts forth radical, utopian views about the interconnectedness of knowledge, progress, and democracy, yet his actions show that these idealized views don't quite carry over to his lived experience.

Isobel asks Roget and Armstrong if she can leave, too. Roget says yes, but Armstrong asks Isobel to stay for a bit and tell them about her life. Then he tells her she's pretty. Isobel assumes that he's lying. Anyway, Isobel has accepted that she is many things—a domestic servant, "an underling, a menial and a minion." She knows 27 words for what she is, and none of them are "pretty." Armstrong counters that beauty is about more than appearances. Isobel accuses Armstrong of messing with her. Armstrong finally gives up, and Roget tells Isobel she can go.

Armstrong's curiosity about Isobel seems put on—at the very least, he seems to have motivations for being interested in her that he's not being upfront about. Isobel seems aware of this; when she reminds Armstrong that she is "an underling, a menial and a minion," she's suggesting that not only is she not "pretty"—but class-wise, she's well below Armstrong, a professional's, league. At any rate, Armstrong's seeming duplicitousness further establishes him as an immoral, untrustworthy character. It also reinforces the idea that it's difficult (if not impossible) for people to know the absolute truth about the world.

After Isobel leaves, Roget confronts Armstrong. Armstrong explains that all women like to receive compliments. Roget accuses Armstrong of being cruel. Armstrong argues that he really does find Isobel interesting, though, and he wonders "what caused [Isobel's] hump[.]" They exit.

Armstrong, as a scientist, fancies himself a rational, logical person, yet he further reveals how personal, socially conditioned biases corrupt his worldview when he claims that all women like receiving compliments—which is almost certainly a "fact" he's gleaned through anecdotal evidence rather than legitimate, unbiased "research." Also note that Armstrong once more expresses an unnatural interest in Isobel's "hump," which seems to be a clue about his real reasons for wooing her.

Maria appears onstage and reads aloud a letter from Edward, her fiancé. In the letter, Edward describes watching one of their bearers being crushed to death by an elephant; the man's "head popped open like a pomegranate." Edward also describes a woman named Miss Cholmondely—she's visiting from Yorkshire and apparently fainted when she saw a statue at a local temple. Though men can appreciate "the instructional aspect of such things," women are usually just offended. Anyway, she didn't remember much of the incident afterward. The natives find it entertaining, too, though not in the way the English do: the English have "a modesty of demeanour, a judicious thoughtfulness[.]" The way the natives hold themselves makes Edward think they're "hiding something." He closes this letter, instructing Maria to write soon.

Edward seems to be stationed in India, where in 1799, when the play takes place, the British Empire had a colonial presence. The audience may interpret Edward's involvement in colonization as something of a metaphor for the ethically dubious aspects of scientific progress. With expansion—whether it be expansion of knowledge, or expansion of colonial power—necessarily comes oppression. Edward doesn't say much about this Miss Cholmondely, but that he makes a point to mention her by name seems to suggest that she's someone the audience should remember. Finally, Edward's thoughts on women's inability to appreciate "the instructional aspect of" the (presumably explicit or salacious in some way) statues at the temple mirror Armstrong's earlier remark about women not being suited to science. Both men use anecdotal, shoddy evidence to make overarching, sexist claims about how women are in general. This again shows how science isn't as objective and morally neutral as its proponents would like to think—in fact, people bring their biased views to their interpretation of data and can, as Edward does here, use that bias to perpetuate oppression and misinformation.

ACT 1, SCENE 2

Scene Two picks up in the same room, but the year is 1999. The stage is bare other than the desk, an electric fire, tea chests, and scattered piles of books and clothing. A single **lightbulb** illuminates the room. Kate talks on her cell phone as Ellen packs. Kate ends her call and tells Ellen that she'll need Ellen's answer by New Year's Eve. She asks Ellen if Ellen has discussed things with Tom. Ellen ignores the question and tells Kate she'll figure everything out.

The fact that the stage directions specify that the play's 1999 timeline takes place in the same room suggests a link—thematic or otherwise—between the 1799 story and the 1999 story, though what that link is remains unclear. Also note the single lightbulb at the stage's center; it's seemingly a modern take on the single light that illuminated the Wright painting and the opening scene of the play. The bulb—a symbol of humanity's capacity for truth and knowledge—suggests that the themes of science, morality, and progress present in the 1799 timeline will reappear in the 1999 timeline, too.

Phil enters, tape measurer in hand, and asks to measure the room. Ellen explains to Kate that Phil is doing a building survey. Kate leaves abruptly to make tea. Ellen explains to Phil that Kate is an old colleague of hers who is staying with her and Tom. Phil starts measuring and remarks on the room's large size. Ellen explains that this is why she and Tom have to sell it—it's been in her family for generations, but it's become too much to keep up with.

Ellen's remark about the house being in her family for generations could suggest that she's in some way related to the Fenwicks, though the play doesn't make this clear. At any rate, her decision to sell the house denotes a break with the past and traditions and an embrace of the future. Kate's abrupt departure seems to suggest that there's some animosity between herself and Phil, though it's clear they've never met before. Perhaps Kate's cold demeanor foreshadows a conflict that will develop between these two characters as the plot unfolds.

Ellen asks what Phil plans to do with this room, and Phil explains that the building will be used in the "corporate hospitality" industry—this room will become a private bar, and there will also be conference rooms, a private gym, and a sauna. Phil also expects that they'll reopen one of the old mines and hire former miners "to dress up as miners and pretend to dig coal" to entertain tourists. Ellen is aghast; she notes that Lavoisier, a scientist who discovered the process of combustion, once visited the house—and Thomas Paine held secret meetings here, too. She can't believe that people would turn a place rooted in such "radicalism" into an awful tourist trap.

Phil's description of what the "corporate hospitality" industry plans to do to Ellen's historic house paints a bleak picture of all that society loses when it chooses to disregard the past in favor of a progressive, utilitarian future. Meanwhile, Ellen's citing of Thomas Paine and Lavoisier—radicals who themselves broke with tradition in pursuit of progress and an improved quality of life—shows that progress and being future-oriented in general can be valuable, too.

Phil asks Ellen if Tom is a scientist like she is. Kate reenters and explains that Tom is an English lecturer. Phil changes the subject to ask Ellen's advice about his daughter—Phil suspects she has a jam allergy—but Ellen explains that she's a research scientist, not a medical doctor, and can't help him.

This scene establishes the 1999 timeline's opposing sides: scientists Ellen and Kate and nonscientists Phil and Tom. And Tom's career as an English lecturer also aligns him with 1799's Susannah, who values the arts over science. It's thus becoming clearer what the link between the two timelines might be: both stories debate the intersection between morality and science.

Phil asks about Ellen's research. Phil says he's fascinated by black holes: the way they suck light into them and never let it out. Ellen shrugs; she doesn't know much about black holes. Phil asks about Ellen's research again. She says something vague about working in genetics and then looks at her watch, wondering aloud what's taking Tom so long. Phil asks if Ellen works in "cloning" and doesn't believe Ellen when she says she doesn't. Then he asks her about spontaneous combustion, recounting a friend who found his neighbor "fried to a crisp." Ellen insists that spontaneous combustion is just an urban legend.

Phil's apparently genuine belief in kooky conspiracy theories, in addition to offering comic relief, pits him against rational, scientifically inclined characters like Ellen and Kate. At the same time, though his beliefs might be far-fetched and not rooted in legitimate research, they still demonstrate that he, like Kate and Ellen, has a fundamental curiosity about the world and a desire to make sense of the world.

Phil asks Ellen what she thinks of aliens. Ellen says she doesn't believe in them, and Phil says he dislikes how closeminded scientists are. Ellen apologizes but explains that science isn't about "belief"—it's about "evidence." She doesn't think aliens exist because she's never seen any proof that they do. Phil says Ellen can't be certain about this, but Ellen says that's the point: she's not sure, but she'd gladly change her mind if someone presented her with evidence. Phil recalls a friend of his who saw a UFO. Ellen tells Phil that anecdotal evidence doesn't count, since people can just make things up. Phil asks why anyone would do this. Ellen says people like to tell stories about things they can't explain.

Though Phil's beliefs are rather unorthodox and unfounded, he's not totally off-base to call Ellen closeminded. Though his anecdotal evidence is dubious at best, he's essentially arguing that he believes in aliens because he's seen no evidence to the contrary—which isn't all that different from or more convincing than Ellen's stance, which is that she doesn't believe in aliens because she hasn't *seen any proof that they do exist. Finally, Ellen's remark about people telling stories about the things they can't explain gets at humanity's impulse to understand then world around them. In a sense, scientific inquiry is an extension of this impulse.*

Phil continues to pester Ellen about what kind of science she does. Finally, Ellen tells him that she researches strategies for detecting fetal abnormalities, explaining that many people misunderstand her work and hurl unfair accusations at her.

Ellen's roundabout way of saying she's involved in genetic research suggests that she feels morally conflicted about her work—and perhaps can even understand the accusations that people hurl at her, at least to a degree.

Kate returns with a tray of hot toddies. Ellen explains to Phil that Kate's company wants to offer her a high-paying job, but she doesn't know if she should take it—and her husband, Tom, has reservations about it, too. Kate says Ellen is being silly, but Ellen accuses Kate, who is 15 years younger, of still being "in love with the work" and "want[ing] to be God."

In claiming that Kate still "wants to be God," Ellen suggests that Kate's passion for science is less neutral than Kate would like to think it is—in fact, she's less driven by the desire to advance humanity than she is by the desire for power, control, and renown.

Kate doesn't understand Ellen's reservations and poses a hypothetical to Phil to make her point. She asks him what he and his wife would do if, early in his wife's pregnancy, they were able to discover an abnormality, like a gene for Alzheimer's disease, for instance. She explains that Ellen's work has found a noninvasive, safe, and reliable way to test for abnormalities early in pregnancy. Kate's company wants to invest money in Ellen's research so that testing is available to the masses, and Kate thinks this is an undeniably good thing. Ellen tells Phil that she's involved in a project called the "Human Genome Project," whose goal is to "map[] the human gene system[.]"

Kate's argument for gene mapping is that, through eliminating horrible diseases, it will decrease suffering and improve the overall quality of life. For Kate, that gene mapping could decrease human suffering excuses it on a moral level. But Kate has provided just one example of one good thing that could come from gene mapping—and completely disregards gene mapping's morally ambiguous implications, and this betrays the unnuanced, subjective quality of her perspective.

Phil, however, isn't so sure that the project is a good thing. He recalls his uncle Stan, who was "manic depressive." Phil describes Stan as "magic" and recalls a childhood memory of Stan building Phil a tree house covered in shells and pieces of colored glass. For Phil, Ellen's research means "No more Uncle Stans." Kate accuses Phil of romanticizing his memories of Stan, an accusation that's reaffirmed when Phil admits that Stan died by suicide.

This guide will use the terminology the play uses to describe Stan's illness, but also note that "manic depression" is no longer in use—the DSM-V refers to this mental illness as Bipolar Disorder. Phil offers his Uncle Stan example to reveal the blind spots in Kate's stance: she's effectively insinuating that it's possible for a human to say how much suffering a disease must cause to warrant its elimination—to objectively identify the point at which a person's life becomes not worth living as a consequence of the suffering they experience. Phil believes that Stan is proof that this isn't so easily done. Even if his uncle did eventually die of suicide (which Kate sees as evidence of Stan's unbearable suffering), it's also true that Stan experienced a degree of happiness and fulfillment while he was alive, too.

Tom enters the room just then, dressed in outdoor clothes and looking shaken. Ellen asks him what's wrong, and Tom explains that he found a box of **bones** hidden in one of the kitchen cupboards. Then the scene fades to black, and the characters exit the stage.

Tom's dismay at finding a box of bones is evidence of his sentimentality about the past, further showing how Tom and Ellen's opposite priorities (Tom has a lot of reverence for the past, meanwhile Ellen, as a geneticist, is focused on progress and future scientific breakthroughs) drives a wedge between them. Indeed, that the scene fades to black before Ellen can respond suggests that Tom's discovery isn't as troubling to her as it is to Tom.

Maria appears onstage and reads aloud a letter from Edward. Edward describes an illness he's suffering from: his neck feels better, but now his gums are white and bleed when he eats. Then he recounts how the Collector's horse was bitten by a large snake, which one of Edward's colleagues then beat to death with a club. Seeing the snake made Edward miss England, where no such dangerous creatures live. Still, he admits that his dreams of England are somewhat idealized.

These recurring scenes in which Maria reads aloud from Edward's letters reinforces the disparity between the ideal and lived experience, a disparity that Edward readily acknowledges when he admits he's likely letting his homesickness for England cloud his memory of the actual England he left behind.

ACT 1, SCENE 3

The action returns to 1799, one day later. Isobel is in the dining room, polishing the table. Roget enters and greets Isobel, who appears disappointed when she sees who it is. Roget asks Isobel if she'd like to take a walk with him later; Isobel declines. They make small talk, with Roget offering a few more synonyms for "servant." Isobel asks why Roget is so interested in words. Roget says he likes lists and thinks that organizing the world helps people understand it.

This scene is played for comedy. Roget, the only character in the play who is based on a real historical figure, is famous for publishing Roget's Thesaurus, so it makes sense he'd take an interest in coming up with synonyms for the word "servant," or any word, for that matter. In addition, Roget's remark about organizing the world in order to understand it further develops the play's central theme of humanity's inability to know and understand the world. Roget seems to suggest that coming up with more synonyms for "servant" will help him to better understand Isobel's life, but in reality this is hardly the case—he's just giving himself the false impression that he understands her situation better.

Fenwick and Susannah enter. Susannah sends Isobel away. Fenwick warns Roget not to mess with Isobel—he's seen many men take advantage of girls in Isobel's position. Fenwick insists that his household keeps "an enlightened view of servants," which prompts Susannah to mockingly call Fenwick "noble" and insinuate that his words are just for show.

Fenwick's insistence that he holds "an enlightened view of servants" seems more theoretical than practical—he talks about Isobel as though she were an equal, yet he still makes her perform all the usual tasks of a hired hand. This is what Susannah is driving at when she mockingly calls Fenwick "noble" and claims he espouses ideals he doesn't adhere to in his daily life.

Fenwick asks Roget to look out the window and describe what he sees. Unsure of how Fenwick wants him to answer, Roget guesses "a view," and "a vista," though nothing he guesses is what Fenwick has in mind. Fenwick points to the bridges outside, calling them "Hymns to invention and the conquest of nature." Roget isn't so impressed, though. When Fenwick claims that their city of Newcastle is "the Athens of the North," Roget asserts that Edinburgh already has this title. Fenwick mocks Edinburgh and reminds Roget that Jean Paul Marat, "[a] terrible vet but a great republican," is from Newcastle.

Roget's need to look out the window and see what he thinks Fenwick wants him to see metaphorically obscures his view—his desire to please or impress Fenwick prevents him from seeing the world objectively, so he guesses vague, metaphorical things like "a view" or "a vista" instead of the literal, real bridges that Fenwick wanted him to take note of. This passage thus underscores how difficult it is to see the world in a truly unbiased way.

Roget argues that republicanism hasn't worked out so well for France. Susannah mockingly reminds Roget that her husband "doesn't like to sully himself with such vulgarities as cost[.]" Fenwick promises Roget that England will become a republic, too, someday—and, unlike France, it will accomplish its revolution through science. Roget notes that "Dr. Guillotine" used science, too. Fenwick ignores Roget, insisting that "[s]cience is inextricably linked with democracy." By the time the 19th century ends, Fenwick predicts, everyone will understand everything about the world, and anyone who possesses any degree of knowledge won't stand for the monarchy.

Susannah's mocking remark that Fenwick "doesn't like to sully himself with such vulgarities as cost" underscores the idea that a huge disparity exists between ideals and lived experience. Fenwick likes the idea of republicanism (as opposed to monarchal rule) in theory, yet his views don't account for the costs that radical change forces society to incur. Still, Fenwick's idealistic proclamation that "[s]cience is inextricably linked with democracy" suggests that Fenwick has no interest in abandoning his ideals. It also reveals something important about Fenwick's thoughts about science's purpose: he thinks that science should be used not simply to seek knowledge for knowledge's sake alone—but that it should be used to seek knowledge that improves society. Thus, Fenwick shows that his interest in science is rooted in a moral framework—in other words, it's not entirely neutral or amoral.

Roget thinks that people resist things that remind them of reality—and that this is why people support the monarchy. Fenwick snaps that all the raving about "our mystical, pageant-filled past" is nonsense. Susannah says she feels bad for the royals, who are so rich, "and so badly dressed." She thinks that people like them because they're really just normal people. Fenwick disagrees, believing that monarchs are popular because people subconsciously think they're superhuman. Besides, if people really think monarchs are ordinary, then why do they allow them to live in majestic palaces while actual ordinary people are starving on the streets? Fenwick addresses his question to Roget—not to Susannah. Susannah accuses him of ignoring her, then she storms out.

Roget and Fenwick reveal their conflicting views on humanity's relationship to the truth and knowledge: Roget thinks that the truth repels people, meanwhile Fenwick thinks that Roget's view is something that the "mystical, pageant-filled past" wants people to believe in order to uphold the status quo. Susannah, meanwhile, has a more literal opinion about the royals—she thinks they're real people who are "badly dressed." Interestingly, though Susannah's view is the most objective and rooted in actual fact (as opposed to an ideological, philosophical view of the world), Fenwick doesn't seem to take much stock in what she has to say. Once more, the play suggests that Fenwick's preconceived notion that his wife's disinterest in science makes her simple and quaint blinds him from seeing her in an unbiased, objective manner.

Fenwick apologizes for Susannah's "very highly strung" behavior. Roget starts to defend Susannah but backs off. After an awkward pause, they resume their debate. Fenwick argues that people become scientists because they "want to change the conditions under which people live." Roget disagrees, arguing that he "take[s] no ethical position" and only explores what interests him. Fenwick disagrees: he thinks it's impossible to be purely objective, since all scientists bring their "human frailties" and "prejudices" to their experiments—furthermore, "good science" *should* have these biases. Fenwick then excuses himself to fetch Susannah; Roget follows him.

Fenwick claims that Susannah's anger is "very highly strung behavior," yet it's apparent to Roget (and the audience) that Susannah has a perfectly logical, valid reason for being upset: she's correct to insist that Fenwick ignores her, and his calling her "highly strung" instead of trying to understand why she's upset is further evidence of this. Fenwick's ignorance about Susannah's anger—and the way his own actions contribute to that anger—is yet another example of the many ways that human bias can prevent people from seeing the world objectively. Another important detail of this scene is Fenwick's idea that science is about "chang[ing] the conditions under which people live." He's effectively arguing that science isn't amoral, as Roget claims it is—nor is this such a bad thing. Instead, Fenwick argues that people should use their morals and other "prejudices" to conduct "good science" that they can use to improve the quality of life for collective humanity.

Armstrong and Isobel enter the dining room. He tries to take her hand, but she pulls it away. Armstrong apologizes for his forward behavior yesterday. He reaffirms that he genuinely thinks Isobel is pretty, and then he offers her a gift. Isobel is shocked—she's never received a gift in her life—but eventually accepts Armstrong's gift, opening the package and to reveal a copy of Shakespeare's Sonnets. She thanks Armstrong. Then they stare silently at the book.

Armstrong's repeated efforts to woo Isobel come off as desperate and insincere, especially in light of Isobel's admission about never receiving a gift in her life. The audience should thus regard Armstrong with suspicion. His efforts to seduce Isobel seem cold and calculated—almost as though he's conducting a research experiment rather than wooing a potential lover.

Back in 1999, Tom and Ellen come onstage. They're wearing their bed clothes. Ellen, half-asleep, asks Tom where he's been. Tom says he needed some fresh air and took some plants from the garden while he was outside—some of the roses are over 100 years old, and he thinks they should preserve them. And Tom will have more time to garden now that he doesn't have a job.

Tom's impulse to garden in the middle of the night is odd and suggests that he's perhaps still troubled about the bones he found earlier. Indeed, his remark about the roses being over 100 years old reinforces the reverent, sentimental attitude with which he regards the past.

Ellen reminds Tom that she has to give Kate an answer about the job by tomorrow. She wants to discuss the matter with him, but he's been so out of sorts lately. Tom says he's been thinking about the dead body he found under the sink earlier that day. Ellen reminds him that it's not a dead body—it's a **box of bones**. Tom disagrees; he wonders when things "stop being disturbing and start being archaeology." He explains that the coroner he spoke with said the skeleton had likely belonged to a young girl and been there for many years. It makes Tom feel weird to know that they've been living above a dead girl for 20 years without realizing it. Ellen protests that they didn't even know her, but Tom thinks the mere fact that she existed and had a name is reason enough to believe that she mattered .

The different language that Ellen and Tom use to describe the box of bones reveals the key difference in their characters. Tom, in referring to the bones as a body, pays respect to the person the bones once were—this shows that he values the past, even if that past doesn't have direct, explicit relevance to anything in the present day. Ellen, meanwhile, can only see the bones as what they literally are: bones. Ellen's detached vocabulary suggests a lack of respect for the past—she doesn't think people should be beholden to past events they have no real power to change. When Tom asks Ellen when things "stop being disturbing and start being archaeology," he's criticizing her detached, unaffected relationship to the past. He thinks there's something callous and inhumane about being so unaffected by the death of another person—even if that person has been dead a long time and has no direct ties to Ellen and Tom's life.

Ellen steers the conversation back toward the subject of her job. She desperately wants Tom's advice, but every time she tries to bring it up, Tom changes the subject. Tom admits that he has serious ethical concerns about mapping the human gene system and proposes a hypothetical: Kate's company funnels all their money into successfully mapping the entire human gene system, and, eventually, eliminates all major diseases. Expectant parents would be interested in this, but so would insurance companies, lenders, health insurance companies, and employers. He thinks that even the most well-intentioned things will eventually "be swallowed up by the market-place." After a pause, Tom tells Ellen that the coroner found a gold chain with the **body**. Then he abruptly leaves the room to look for rooting powder. Ellen follows him.

Tom's concerns about the Human Genome Project are quite like Phil's—both men imply that Kate and Ellen have an overly optimistic, idealistic view of the genetic research that blinds them to the many ways in which ill-intentioned corporations could use genetic research to harm rather than help people. Finally, Tom's brief remark about the coroner finding a gold chain with the body reflects how deeply the bones are still bothering Tom. In particular, the detail about the gold chain sheds more light on why, specifically, the body upsets Tom. The detail underscores the sad reality that whoever's bones they once were was a person with a life and a story—a person who, it seems, was loved and valued enough to be the recipient of a gold chain, possibly as a token of someone's affection.

In 1799, Isobel shuts the book and thanks Armstrong again. Armstrong asks why she agreed to meet with him today, and she says it might be because he's the first man who's ever expressed interest in her. Armstrong asks if she had anyone back home in Scotland, but she tells him it makes her uncomfortable to talk about herself because she feels that whatever she says is a lie. All people lie about themselves, she insists, even if they don't mean to. Armstrong abruptly kisses Isobel, and she pulls away.

Isobel gestures toward the idea that it's impossible for humans to be entirely neutral—consciously or unconsciously, a person is always projecting some kind of moral or personal bias onto their perception of the world, even down to something as elemental as the way they perceive of themselves. Armstrong's lack of genuine care for Isobel becomes more obvious in this scene—Isobel has just implied that his actions toward her are making her uncomfortable, yet he kisses her anyway.

Armstrong continues to compliment Isobel, even as she begs him to stop, insisting that his flattery isn't genuine and makes her unhappy. Armstrong grabs Isobel and kisses her all over her twisted back. Isobel, confused, pleads with him to stop. After a pause, Armstrong steps back and apologizes. He asks if they can meet tomorrow, and Isobel tentatively agrees. Armstrong tells Isobel that he's marked some passages in the book, then he leaves.

Armstrong continues to disregard Isobel's feelings, further suggesting that he doesn't actually love her and has ulterior motives for seducing her. Those ulterior motives become clearer when he kisses her back—he seems abnormally fixated on it, almost as though it were part of a medical demonstration. Armstrong's fixation on Isobel's back blurs the line between passion and scientific curiosity.

Alone, Isobel reads one of the underlined passages: "All days are nights to see till I see thee, All nights bright days when dreams do show thee." Then, remembering how Armstrong complimented her smile, she touches her twisted back and smiles.

Despite most signs indicating that Armstrong's feelings for Isobel are insincere, the way Isobel smiles in this scene suggests that she's beginning to warm to Armstrong and fall for his flattery. Not only does this closing scene build tension, but it also further develops the notion that humans are never truly able to see the world in a wholly unbiased way. Isobel doesn't see Armstrong's treatment of her as the manipulation it almost certainly is. Instead, she sees what she wants to see: that someone might actually love her.

ACT 2, SCENE 1

Maria enters the room wearing her shepherdess costume. She reads aloud from a letter Edward sent her. In the letter, Edward tells her about a New Year's Eve party of Miss Cholmondely's that Edward and some of his colleagues attended and at which Miss Cholmondely played the harpsichord. Then he admits to feeling nervous about returning to England, though he'd once been so homesick. It's hot in India, yes, but northern England in January isn't so great, either. He recalls how two of his men died of cold two years ago—the others found them "clinging together like babes" in a field, and the image still haunts him. He closes the letter by telling Maria how he can't wait to see her and always dreams of her blue eyes.

Edward continues to speak of Miss Cholmondely—he seems to be spending a considerable amount of time with her. It's also curious that he's no longer homesick for England—and the audience can only assume that Miss Cholmondely has something to do with this odd change of heart, though Maria seems painfully oblivious to this. In a broader sense, Edward's letter suggests a more thematically relevant development in his character: devoid of his former homesickness, he no longer remembers England in such an idealized manner, instead remembering it for how it really is.

Harriet and Isobel enter dressed in their costumes and carrying scripts. Harriet moves furniture to clear the room for their performance. Maria asks Harriet if her (Maria's) eyes are blue; Harriet says they're obviously brown—and always have been. Fenwick and Susannah enter. Maria says she's no longer in the mood to perform. Harriet, annoyed, drags Maria from the room.

Maria puzzles over the final line of Edward's letter, which mistakenly identified her eyes as being blue. It's obvious to the audience (and to Harriet) that Edward likely mistook Miss Cholmondely's blue eyes for Maria's brown eyes, but Maria remains wholly unaware of—or at least, unwilling to acknowledge—this possibility. Her idealized memories of her fiancé—and her desire to avoid the heartbreak that would come with acknowledging that he has betrayed her—prevents her from seeing the truth.

Armstrong and Roget enter the room. Isobel, dressed in her sheep costume, stands awkwardly before the assembled audience. Armstrong calls her ears "fetching." Maria and Harriet re-enter the room. Before Harriet can stop her, Maria tells Fenwick about Edward thinking her eyes are blue. Harriet says Edward is a fool who reads too many poetic musings about heroines with blue eyes; meanwhile, Maria fears he is sick with a tropical fever. Fenwick suggests Edward can't tell one color from another. Harriet continues to insult Edward, and Maria accuses her of being jealous that Edward asked Maria to marry him instead of Harriet. Harriet insists that she never wants to marry. They bicker some more. Finally, Fenwick orders his daughters to reconcile and begin the play.

Maria continues to concoct ludicrous explanations for Edward's gaffe, further showing how her idealized memory of him and her desire to avoid heartache warp her view of reality and prevent her from seeing the truth. And while Harriet's critical opinion of Edward is likely closer to reality, it's also possible that her disapproval of or disinterest in marriage in general predisposes her to disliking Edward. Thus, even characters like Harriet who tend to view the world more logically can let personal bias color their perception of reality.

Harriet, in character, introduces herself as Britannia, "spirit of our age, champion of our nation." She identifies "industry and endeavour" as her "saviors." Britannia describes the hill that Maria, the shepherdess, stands atop as she watches her flock; Isobel bleats. Britannia notes the new towers, chimneys, and lights that have sprung up around her, interrupting the pastoral beauty. "The future is as new as Jerusalem," Maria's character notes, to which Isobel—the sheep—replies, "But not for the sheep, for sheep it's looking grim," prompting much laughter from the audience. Isobel breaks character, insisting that the line is "an exercise in humiliation."

Harriet's play praises the Enlightenment ideals of knowledge and reason and insinuates that they are superior to the quaint but ignorant pastoral way of life that Maria's character represents. Their characters in Harriet's play mirror their personalities, with Harriet being the more logical sibling and Maria, the more sentimental. Meanwhile, Harriet doesn't bother to dignify Isobel with the benefit of human role, instead offering her the pitiful role of a sheep that is really more "an exercise in humiliation." Harriet's mistreatment of Isobel challenges Harriet's supposedly progressive mindset, showing that she's fine with upholding unexamined, oppressive, and entirely subjective ideas about class and social position.

The audience continues to laugh, and Harriet snaps that she's never wanted to write plays and only wrote this one because Susannah told her to—Susannah wants Harriet to be a poet, but Harriet has no knack for words and would prefer to be a physician, like Fenwick. Maria and Harriet storm out of the room, and Susannah follows them. Fenwick chuckles that the place is "full of madwomen" and suggests he and the others go outside for a walk, despite Roget's protests that it's blizzarding outside. They exit.

Once more, Maria, Harriet, and Susannah have perfectly valid and logical reasons for being upset, but Fenwick opts to ignore this, determining instead that his house is "full of madwomen." Thus, despite the progressive worldviews he preaches, and despite his avowed commitment to scientific inquiry, he, like Harriet, is biased toward the unequal social norms he's been brought up with. In this case, those norms lead him to (unfairly) construe him female family members as high-strung, capricious, and illogical.

Armstrong and Isobel are alone in the room. He tries to be affectionate with her, but she resists, embarrassed. Then he asks if she'd get naked for him if he gave her a guinea. Isobel is shocked. Armstrong insists he's only joking; he apologizes and explains that he often makes jokes during uncomfortable situations, like at his mother's funeral. Armstrong then kisses Isobel's hand and insists that he loves her. Isobel is silent as Armstrong runs from the room. Then, alone, she hugs herself, feeling equally delighted, shocked, and uncertain.

Though Armstrong insists he's joking, this section seems to come closest to his true intentions for Isobel. He's already heavily implied his keen interest in her twisted back, and he only further conveys that interest in bluntly offering to pay her to undress for him. Why, then, Isobel decides to ignore the obvious red flags Armstrong displays remains unclear, but it seems that she's letting what she wants to be true obscure what is actually true. She's never had a suitor interested in her before, and so she's willing to suspend her disbelief and take Armstrong's attempts at seduction at face value.

ACT 2, SCENE 2

The scene picks up in the main room in 1999. The room is still full of partially packed boxes. Phil is at the top of the ladder dressed in overalls. Tom is looking through old books and papers. Phil asks Tom if he's found out anything new about the body. Tom has—according to the coroner, the **bones** belonged to a Caucasian female between 20 and 30, and her bones have likely been here for many years. Also, part of the skeleton's vertebrae is missing.

That Tom has taken the effort to learn details about the person the bones once belonged to further highlights his reverence for the past. Ellen, by contrast, has actively expressed her indifference toward the bones. Meanwhile, the details that Tom has learned—that the bones belonged to a young, Caucasian woman, that they've been in the house for quite some time, and that part of the vertebrae is missing strongly suggests that the bones are Isobel's. It remains to be seen how exactly she came to die. The missing vertebrae, combined with Armstrong's passion for anatomy demonstrations, greatly implies that Armstrong may have killed Isobel and then dissected her corpse—it's possible that this was the end goal of his seduction of her all along.

Phil muses that the **bones** might not belong to a human at all; he recalls a friend who found a body near Holy Island that was neither human nor beast. Tom says he's never heard about this, and Phil explains that the authorities like to keep these kinds of things under wraps. Tom promises Phil that these bones are indeed human. Phil wonders if the girl was murdered, and Tom notes that the bones were "cut clean through [...] with a knife or cleaver."

The presence of clean, precise cuts on the bones implies that someone with medical knowledge cut the bones; this detail further suggests that Isobel's body was dissected. Armstrong's passion for dissections and apparent fixation with Isobel's back makes him the most likely perpetrator.

Phil climbs down from the ladder and searches inside his tool bag, eventually pulling out a **candle**—"for her soul," he tells Tom (Phil is Catholic). When Phil asks Tom if Tom believes in souls, Tom says he's not sure. Phil says he believes in souls and also in reincarnation. He lights the candle.

Throughout the play, light functions as a symbol of humanity's quest for knowledge. Phil's candle—a vague nod to his former Catholicism—offers the possibility that turning to spirituality can be more effective in understanding complex facets of existence, like death, than scientific inquiry.

Phil asks about the status of Ellen's "ethical crisis." He's had an idea about it: once "[scientists] can map your genes," they'll next want everyone to go around with a plastic card with their DNA details. And if people's cards say they have bad genes, authorities can bar them from doing things like taking out a mortgage or having children.

Phil's criticism of Ellen's worth mirrors Tom's—both men seem to think that Ellen and Kate's passion for science is blinding them to the many ways that genetic research could harm the very people they think it will help. In other words, Ellen and Kate's passion for genetics leads them to idealize their research and ignore any possible issues it poses—rather ironically, their steadfast commitment to logic prevents them from thinking logically.

Kate and Ellen enter. Phil immediately excuses himself and leaves the room. Tom explains that they were just discussing the **body**; Ellen says she wishes he wouldn't refer to it that way. Kate guesses the woman wasn't murdered—it's more likely that medical students stole her body and dissected it, which was common before the Anatomy Act, which was passed in the 1830s. Ellen asks Tom if this makes him feel better about the body. Tom says nothing. All three leave the stage.

Kate's nonchalance implies that for her, a stolen corpse is somehow not a big deal so long as it was put to good use in a medical dissection. This scene makes it clear that Kate doesn't believe much of anything should stand in the way of science conducting groundbreaking research. She's willing to look past something as patently immoral as body snatching (stealing a corpse from a grave) if such an illicit act leads to a scientific discovery that benefits collective humanity. Tom's silence, meanwhile, suggests that Kate's cavalier attitude disturbs and offends him.

In 1799, Roget and Armstrong enter dressed in athletic clothing and carrying racquets for shuttlecock. Armstrong energetically tells Roget about seeing "[a] growth the size of a potato" in a demonstration subject's abdominal cavity. Roget asks where Armstrong got the corpse from, and Armstrong cryptically explains that Farleigh acquired it. Roget asks if the subject was still wearing the clothes he was buried in. Armstrong accuses Roget of "playing holier than thou."

Armstrong's cryptic remark about Farleigh acquiring a corpse for medical dissection seems to allude to the illicit act of body snatching, wherein researchers and doctors would buy stolen corpses off the black market. When Armstrong accuses Roget of "playing holier than thou," he's suggesting that the only difference between himself and Roget is that Roget wants to appear morally conflicted about the experiments they conduct or observe—but in fact, so long as Roget participates in or fails to condemn the experiments themselves, he's no more morally upright than Armstrong.

Roget explains that he soured on dissections ever since two students in Edinburgh accidentally "acquired" a corpse that turned out to be their tutor's grandfather. Armstrong, though, argues that it doesn't matter if the body is dead: "The dead are just meat. But meat that tells a story," he explains. To underscore his point, he jokingly gives Roget permission "to slice [his corpse] into porterhouse steaks, as long as [he] was definitely dead." Roget asks when Farleigh's next demonstration is. Armstrong says this "depends on the supply" and asks Roget if he'd like to come. Roget can't decide—the demonstrations fascinate him, but he also feels morally conflicted about them.

Most of the play's scientists have a different point at which they draw the line—at which scientific research becomes too morally dubious to be justified. Armstrong, however, seems hard pressed to find a situation where he wouldn't feel justified in conducting research—a point he makes clear when he jokingly gives Roget permission to cut his body into porterhouse steaks. Armstrong implies that it's sentimental, romantic, and backwards of Roget to condemn the practice of bodysnatching—the dead, after all, "are just meat." Because they don't have a soul, Armstrong suggests it's irrational, sentimental, and backwards to dignify them. That Roget fails to be swayed by Armstrong's logic shows that he's more willing to see the moral gray areas that science presents.

Armstrong says they're eying "an undersized fellow" who is three feet tall and will likely die that winter. Roget is disgusted that Armstrong and his colleagues select bodies for dissection before they're even dead. But Armstrong says that this is how it must be done for "unusual specimens," which are rare. Roget admits he's never thought much about where the demonstration corpses came from—or has simply not wanted to think about it.

Armstrong's admission that he and the other researchers start scouting out potential bodies for dissection while the owners of those bodies are still alive horrifically illustrates the moral issues that scientific research poses. Also, Armstrong's interest in "unusual specimens" is another clue as to Armstrong's real interest in Isobel. It seems more likely that he's interest in her "unusual" twisted back—though whether this is for scientific or erotic reasons remains unclear.

Armstrong teasingly calls Roget a "romantic" and says that romantics rarely make good scientists; he thinks that stealing corpses is necessary if society wants to emerge from "the Dark Ages." Also, in the end, the discoveries a scientist makes when they cut up a stolen corpse are the same, regardless of whether they do so "with moral qualms or with none at all[.]" Fenwick emerges just then and tells Armstrong and Roget that dinner is ready.

Armstrong calls Roget a "romantic" in jest, but it's clearly meant as an insult. Armstrong thus reaffirms his flawed belief that passion and science are mutually exclusive. He fails to see that it is his emotional passion for science—not an objective interest in knowledge for knowledge's sake—that drives him to study human anatomy. Still, Armstrong makes a valid point when he claims that a researcher's findings remain the same, regardless of whether the researcher conducted their research "with moral qualms or with none at all[.]" And it's also true that having corpses to dissect is necessary if humanity wants to improve its understanding of anatomy and improve the quality of life for collective humanity. All this suggests that all scientific research poses some degree of moral ambiguity.

The lights dim as Maria takes the stage and reads aloud her letter to Edward. She accuses him of not seeing her correctly, citing the way he mistook her eye color for blue instead of brown. She also complains about how he no longer seems interested in returning to England and seeing Maria. Also, she's heard through a Mr Roger Thornton that Miss Cholmondely has extended her stay in India—and also has blue eyes.

Forced to confront the reality of Edward's likely infidelity, Maria can no longer see her fiancé as the idealized version of himself she created in his absence.

ACT 2, SCENE 3

Fenwick, Susannah, Maria, Roget, and Armstrong sit around a table. They've just finished supper and are now drinking and eating fruit. Isobel is clearing plates. Fenwick invites her to join them once she's finished; Susannah snaps that Fenwick would rather talk to servants than to his wife. Also, she finds it insulting that Fenwick orders Isobel to serve him "on the one hand and join [them] for elevating conversation on the other." She pours herself another glass of wine and orders Isobel to fetch more; Isobel obeys. Harriet enters wearing a bonnet with a chimney puffing out steam attached to the top. Susannah thinks Harriet's invention is "singularly useless," but Fenwick is impressed and tells Susannah to shut up.

Fenwick earlier claimed that scientists should put their heart and morals into their research, conducting work aimed at improving collective humanity's quality of life—in other words, that real progress is rooted in a strong moral foundation. Yet there's a huge disparity between Fenwick's radical talk of progress, equality, and altruism and his actual actions. As Susannah points out, it's hypocritical of Fenwick to claim to see Isobel as an equal—yet also to expect her to serve him.

Susannah asks Roget if he thinks Fenwick is "a saint." Roget says Fenwick is a great man and scientist—but that "saint" is a bit of an exaggeration. Susannah says she can prove that Fenwick isn't the principled man people think he is and accuses everyone of being "indifferent" to Fenwick's negative traits. In reality, Fenwick excludes his wife from everything he works on and makes her into a joke for preferring Shakespeare to Newton. Though she had no formal education when she married Fenwick, she read, knew some Greek, and painted—"but obviously that counts for nothing." Susannah laments being a passionate artist "wedded to a dried cod." Then she sits down and weeps.

Susannah accuses Roget, Armstrong, and Fenwick's other colleagues of letting their respect of Fenwick's work cloud their vision of him. Just as Edward's homesickness for England (initially, at least) caused him to idealize and romanticize his country and ignore all its negative characteristics, Fenwick's peers' enchantment with Fenwick's research prevents them from seeing his human flaws. Susannah, meanwhile, in claiming that she's "wedded to a dried cod," gestures toward the unnuanced view that passion and rationality are mutually exclusive emotions—that a person can be a passionate artist, like Susannah, or a logical "dried cod" like Fenwick.

Isobel returns with the wine and then quietly leaves. Fenwick apologizes for his "overwrought" wife, which sends Susannah into a rage. Harriet, Maria, Armstrong, and Roget exit and head into the drawing-room. Susannah accuses them of abandoning her.

Once more, Fenwick's actions fail to live up to his preached philosophy of progress and rationality. He repeatedly appeals to his emotions, calling his wife "overwrought" instead of approaching her anger logically and identifying the valid, logical reasons she acts the way she does.

Alone with Fenwick, Susannah continues to cry. She snaps that Fenwick is treating her like a child and orders him to take her seriously. Susannah's anger disarms Fenwick, and he apologizes. They bicker some more. Susannah argues that Fenwick married her for her beauty alone and didn't care about Susannah's intellect—in fact, he found her "ignorance delightful, charming even." She also thinks she had less choice in their marriage than Fenwick did: young women, Susannah argues, wait around for someone to love them—"to bestow his mysterious gift upon them." She says that Fenwick "planted" his love in Susannah and then "abandoned it[.]"

Susannah suggests that society conditions women to see men's love as a "mysterious gift." In so doing, she (perhaps unintentionally) demonstrates that she and Fenwick have more in common than they think they do. She implies that society's romanticization of mystery leads to negative consequences for young women who are led to believe that love should be strange and "mysterious." This logic mirrors Fenwick's earlier criticism of the monarchy, and the culture of superstition and romanticizing mystery that has tricked the lower classes the monarchy exploits into thinking they need the monarchy.

Fenwick apologizes for not being affectionate enough and for being overly absorbed in his work. Susannah says Fenwick has passion and energy for every "injustice" and for "the misfortunes of strangers" but has never had any passion for his wife. Susannah wonders how Fenwick could have changed so much since they first married—she wonders if the woman he loved then never existed and was simply "a construct of [his] imagination[.]"

Susannah suggests that Fenwick doesn't live out his progressive ideals—the disrespect he repeatedly shows Susannah is evidence of this. Fenwick, meanwhile, recognizes how his ideals inject bias into the way he views the world and the people in his life.

Fenwick says they just have different definitions of love. Susannah's version of love is about "devotion" and "tenderness." Fenwick then goes into explicit, steamy details about his desirous love for her. He says he now realizes that he once assumed Susannah would be wise because she was beautiful, but now he sees that these two things aren't linked. He also admits to seeing what he wanted to see in Susannah; for instance, whenever Susannah's face would remain blank as Fenwick discussed politics, he assumed that she was being deep and contemplative.

Fenwick's subjective ideas about the relationship between intelligence and beauty clouded his perception and caused him to see Susannah as his idealized version of her—not as the woman she really was and is.

Harriet and Maria enter, embroiled in a bitter fight. Harriet snaps that Edward is a fool—and Maria is a fool, too, for not realizing that he was involved with Miss Cholmondely. Susannah and Fenwick beg their daughters to stop. Fenwick orders Harriet to "listen to [her] mother," which shocks Harriet into silence. Fenwick and Susannah carry their daughters offstage.

When Fenwick orders Harriet to "listen to [her] mother," it shows that his and Susannah's conversation has had a positive effect on their relationship. He now recognizes how projecting his own ideals onto Susannah has prevented him from really knowing and understanding her, and how this, in turn, has harmed their relationship.

Isobel enters and starts to clear the table. Armstrong enters, sneaks up behind Isobel, and grabs her by the waist. Isobel gasps as he kisses her and pushes her onto the table. Then he gives her a small, silk-wrapped package, explaining that it belonged to his mother. He wants Isobel to have it—and to say that she loves him. Isobel begins to say that she might love Armstrong, but she falls silent when Roget enters the room and demands to know what Armstrong is doing to Isobel. Isobel runs from the room.

Armstrong's attempts to seduce Isobel have become increasingly more violent and forceful. Perhaps this foreshadows his eventual murder of her and dissection of her corpse (though the play hasn't confirmed that Armstrong does either of these things). Regardless, Isobel seems more willing than ever to believe in the (probable) lies that Armstrong tells her. Like many other characters, Isobel has let her own desires and ideals skew her perception of reality.

Roget tells Armstrong it's wrong to mess with Isobel, but Armstrong says that Isobel isn't a fool and knows what he's after. Roget says that Armstrong should know that Isobel doesn't have any experience with romantic relationships. When Roget asks Armstrong what he really wants from Isobel, Armstrong insists that he loves her. Roget presses Armstrong some more. Isobel appears in the doorway but remains hidden in the shadows and eavesdrops on their conversation.

Armstrong seems to think that he and Isobel are on the same page about where he stands. The audience (and Roget), meanwhile, recognizes that this isn't the case. Isobel's desire to be loved has deluded her into abandoning her suspicions about Armstrong and believing that his love for her is genuine. Of course, it seems like that Isobel's delusions will soon shatter—she's eavesdropping on Armstrong and Roget's conversation from the doorway, so if Armstrong finally comes clean to Roget about what he really wants with Isobel, she'll find out.

Armstrong giggles as he talks about how "indefinable" love is. Then he shifts gears, bluntly admitting that he doesn't love Isobel—though his actions aren't sinister, either. He plans to woo Isobel until she agrees to have sex with him. Then, she'll remove her clothes—revealing her naked, twisted back. Isobel's back gave him an erection the first time he saw it; it arouses him deeply, much like he "find[s] electricity exciting, or the isolation of oxygen, or the dissection of a human heart." Roget can only stare. Armstrong continues, explaining how Farleigh showed a similar malformation in one of his demonstrations, though it wasn't nearly as extreme as Isobel's. Hearing all this, Isobel flees, sobbing.

At long last, Armstrong reveals his true intentions for seducing Isobel. Armstrong's fascination with Isobel's back blurs the line between passion and scientific curiosity—he admits that her back excites him much in the same way that he "find[s] electricity exciting, or the isolation of oxygen, or the dissection of a human heart." In other words, Armstrong's erotic desires and thirst for knowledge are both driven by passion. This challenges views that Roget has previously expressed—that human curiosity can be totally neutral and exist separately of things like human morality, emotions, or passions.

Maria walks onstage and reads from her letter to Edward, sarcastically thanking him for his half-hearted apology letter. She briefly recounts her violent fight with Harriet, insisting that she'd like to do the same to him. She orders him not to write her again.

Maria puts on a show of pride in her breakup letter, but the audience has seen her earlier tears and anguish—the revelation of Edward's infidelity was heartbreaking for her. The discrepancy between how Edward's actions have actually affected Maria and how she claims to feel in her letter to Edward further develops the idea that it's impossible for people to really know everything about the world, especially where other people are concerned; people frequently lie and manipulate the truth to adhere to whatever narrative makes them feel most comfortable.

ACT 2, SCENE 4

The scene picks up in 1999, in the same room as before (the dining room). Only one tea chest remains unpacked. Tom is sitting at the head of the table in the seat that Susannah was sitting in in the previous scene; Ellen sits beside him. Tom raises his glass and congratulates her (albeit rather unenthusiastically) on accepting the job. Ellen tells him she briefly considered staying at her current position and "avoid[ing] filthy commercialism," but she found the prospect of funding and research "too exciting." Ultimately, she admits, her decision wasn't "intellectual"—it came from the heart.

That Tom sits where Susannah sat in the last scene aligns their characters: both feel alienated and disregarded by their scientifically inclined, overly rational spouses. This scene also reveals an important plot detail: Ellen has decided to accept a job with Kate's company, apparently setting aside her ethical concerns about the job to take part in the "exciting" research the job will allow her to conduct. But more important is her realization about why she decided to take the job: she didn't arrive at her decision through rational, "intellectual" means—rather, she listened to her heart. This further puts forth the idea that rationality and irrationality, logic and passion, are more connected than one might think they are.

Tom notes that the heart isn't "just a pump." It's actually involved in decision-making and personality. When people receive heart transplants, they sometimes take on personality traits of the donor. Ellen jokingly asks Tom if he's been talking to Phil, but Tom insists that it's the heart that feels things like love and grief—not the brain. Ellen calls Tom's musings "poetic" and quite unlike science, which is thought to be "cold and considered and rational." Though in practice, Ellen admits, science is rarely so objective. She compares her passion for science to Tom's passion for literature. Tom agrees that he and Ellen aren't so different: their respective fields of art and science are like two sides of a coin, which come together "to define the whole."

Tom's "poetic"—if perhaps factually dubious—remark about heart-transplant recipients taking on the personality traits of their doners further gestures toward the interconnectedness of the heart and the brain—of passion and rationality. He's suggesting that people's emotions (with the heart being a sort of metaphor for emotion) influences the way people make sense of the world just as much—if not more—than pure, unbiased knowledge. Indeed, Ellen and Tom—who up to this point have sparred over/due to their seemingly opposite fields of science and the arts—find a common ground and reconcile their differences when they acknowledge that for both of them, passion and emotion underly their commitment to their work. This suggests that a person needs both passion and logic "to define the whole" and give meaning to the human experience.

Ellen explains how Tom's qualms about the new job have made her consider things she's never before considered. And doing so has taught her that she, unlike Kate, "do[es]n't think science is value free" or "morally neutral." Kate enters just then, carrying two bottles of wine and asks, "What do I do?" Tom says that Kate is "unscrupulous, ambitious," and would cut up her own mother if it would lead to some kind of scientific discovery. Kate agrees, though she contends that she'd have to be sure her mother was dead. She would never kill or murder anyone, though.

Kate's humorous quip about being willing to dissect her (already dead) mother for science mirrors Armstrong's earlier remark about consenting to Roget cutting him into porterhouse steaks, thus further aligning these two characters. Both are more driven by (irrational) passion than they're willing to acknowledge. Not only does this underscore the interconnectedness of passion and logic, but it also demonstrates how people's personal biases can skew their worldviews and prevent them from knowing the full, neutral truth about themselves and the broader world.

Kate thinks that the main difference between herself and Tom is that to her, the world is "all possibility," while Tom thinks that "everything is remembrance." Tom sarcastically asks Kate if he should slit his throat now, since it's inevitable that he'll die anyway. He insists the past matters—that it's "always with us," and accuses Kate of using terms like "manic depression and schizophrenia" as though they were clearly defined things when really, they're not. And though schizophrenia can cause suffering, it doesn't always. All the world is a spectrum, Tom says, but Kate only cares about her "tidy version of it[.]"

Kate further demonstrates her inability to consider herself and her world from an unbiased, nuanced perspective. She's unwilling to see things from Tom's perspective and instead makes grandiose judgments about their opposite viewpoints, claiming that for herself, the world is "all possibility," meanwhile Tom's respect for "remembrance" and the past is fundamentally regressive and antithetical to progress. She refuses to see that Tom isn't criticizing her field or progress in a broader sense—he's criticizing her overidealized, oversimplified view of the world, or her "tidy version of [reality.]"

Kate replies that Tom's theory is "romantic" but untrue; she calls him "a dinosaur." Tom says that dinosaurs like himself may be "cynical" and "ironic," but they can see the broader picture and "know […] that the Messiah's not coming." Kate just laughs; even the second coming, she argues, isn't a sure thing.

Kate describes Tom's theory of reality as "romantic" to insult him, and she doubles down in calling him "a dinosaur." Most of the play's other characters have managed to find common ground and form more nuanced perspectives on the relationship between art and science, passion and rationality—but Kate's idealism prevents her from calling any of her strongly held views into question.

Phil enters and says he's headed out. Tom invites Phil to join them for a drink, and Phil accepts. It'll be the 21st century in 24 hours, Phil observes, but it doesn't feel like it. He thought it'd feel "futuristic," but tonight just feels like "the same old shite[.]" Phil excuses himself, explaining that he has to take his daughter to the hospital. Everyone says, "Happy New Year!" Then Tom leaves. The others stay onstage but stand totally still.

Phil's rather cynical quip about the new century feeling like "the same old shite" hints at the way that idealism can obscure reality. He's suggesting that people regard progress and the future with an idolizing, uncritical gaze when in fact real progress is far less overwhelmingly, absolutely positive than people expect it to be.

Isobel walks onstage carrying paper, a pencil, and the silk-wrapped gift Armstrong gave her; she unwraps it to reveal a gold chain and places the chain around her neck. Then she reads aloud the letter she has just written. She says that she can't find the words "to describe [her] anguish." She used to be happy, but now, she feels hopelessly unlovable and sees the future as more unbearable suffering. The love she felt from Armstrong might not have been real, but it made her happy; she wishes she never learned the truth.

When Isobel unwraps the gold chain, it all but confirms what the audience has likely suspected but hasn't known for sure up to this point: that the bones Tom discovers in the 1999 timeline belong to Isobel. The question still remains: how does she die? Given her despair, it's reasonable to predict that she may end her own life. While it's undeniably good Isobel has discovered Armstrong's intentions before he could manipulate and exploit her further, the immediate consequence of her discovery actually increases her suffering instead of lessening it. Thus, this scene challenges the assertion that characters like Roget and Fenwick hold about knowledge always being a positive thing.

ACT 2, SCENE 5

The lights go on and reveal Isobel hanging from a rope at center stage. Maria and Armstrong enter the room and scream. With some difficulty, they manage to get Isobel down; Maria listens to Isobel's chest and hears a faint pulse. Armstrong orders Maria to send for help. After Maria leaves, Armstrong promptly places his hands over her nose and mouth, quickening the dying process. He checks her pulse again and feels nothing. Then Armstrong finds Isobel's letter; he starts to read it and then crams it into his pocket when he sees what it says. The others enter the room and are horrified by Isobel's death. When Susannah asks if Isobel left a note, Armstrong lies and says she didn't. Fenwick cries as he picks up Isobel's body and holds it in his arms. Fenwick says Isobel should be in her own bed, not on the cold floor. He, Susannah, Harriet, and Maria exit.

The language the stage directions employ to describe how Armstrong suffocates Isobel is rather ambiguous—it has both a medical and a passionate tone, and this further demonstrates the passion that fuels his scientific pursuits—and the science that bleeds into his personal affairs. Thus once more the play suggests that science and passion—rationality and irrationality—are not quite as separate and opposing as many of the characters would like to think they are.

Alone with Roget, Armstrong begs Roget not to say anything to the others, insisting that it might not have been Armstrong that drove Isobel to suicide. Roget says that Armstrong is obviously to blame for Isobel's death. Armstrong, to Roget's disgust, counters that there's no proof. Roget scoffs that it's only a matter of time before Farleigh digs up Isobel's corpse. Armstrong giggles and says, "Waste not want not," and Roget punches him in the stomach. They exit.

Armstrong uses the (supposed) absence of hard evidence to justify his treatment of Isobel and avoid accountability for her suicide. Of course, there is evidence of Armstrong's involvement—Isobel's suicide letter—but he is intentionally withholding it from the others. Thus, this scene reaffirms that Armstrong's reverence for truth and knowledge is limited and subjective: his drive to uncover the truth correlates with how much personal satisfaction he gains from that truth.

In 1999, Ellen and Tom enter the room. Ellen says they can keep the house if they want—the contracts haven't been finalized. But Tom says he's no longer interested—in fact, he thinks the house is old and dilapidated and should be turned into something new. Kate was wrong about Tom being stuck in the past—it was only this house he was attached to, but now he wants it out of his life.

Tom's suggestion that Kate mistakenly believed he was stuck in the past rather than simply attached to this one house reinforces his broader belief that Kate's single-minded pursuit of knowledge gives her tunnel vision and renders her incapable of forming nuanced worldviews. She assumes that Tom's love for the old house is evidence of an overarching nostalgia for the past and skepticism toward change. But, as Tom shows here, he's perfectly capable of seeing the past without rose-colored glasses and accepting that some change can be good.

Ellen is sure Tom will get another job, but Tom doubts it—he's old and unwanted. Ellen says that it's only Tom's job that's "redundant" and that Tom has value "as a human being." This prompts Tom to wonder about the dead girl; Ellen doubts they'll ever know exactly what happened to her. Tom predicts that by this time next year, the house will be full of businessmen lounging in saunas and drinking cocktails. Ellen thinks it's more likely that the developers will run out of money and halt the project. In time, a car park will be built in its place. And, Tom adds, "no one will remember the dead girl[.]"

In affirming that Tom's employment status has no bearing on his value "as a human being," Ellen demonstrates that she realizes that people matter beyond how they contribute to society—and this is exactly why it's important to form a more nuanced approach to science. When measuring the ethical consequences of scientific inquiry, researchers must consider more than just how much their research would benefit humanity as whole. Finally, Tom's lamentation that "no one will remember the dead girl" gets at what society loses when it focuses all its efforts on progress and improvement: they devalue things like memory and the past, which are vital components of the human experience and so should be valued for themselves, even if they do little to advance society.

Ellen and Tom leave to fetch more champagne. Music—or possibly the sound of rioting—sounds. Roget and Armstrong enter, carrying Isobel's open coffin. Harriet and Maria follow them, carrying **candles**. The men place the coffin on the table, and everyone laments "poor Isobel." Roget thinks she looks almost pretty now—her skin is "Pale as wax," and her back is no longer the thing that defines her. Armstrong stares at Isobel hungrily; "She makes a beautiful corpse," he notes. Everyone stares at him.

Armstrong's bias shines through in his obvious ogling of Isobel's corpse; he's not just interested in her corpse for scientific reasons—he's aroused by it sexually, too. Armstrong's disturbing reaction to Isobel's corpse reinforces the overlap between supposedly objective science and subjective human passion. The candles that Harriet and Maria carry cast the future in a less idealistic light. Up to this point in the play, light has symbolized progress and social improvement. But here, light accompanies a more dismal scene, suggesting that humanity's quest for truth and knowledge has limitations and can't rid the world of all suffering (as embodied here by Isobel's tragic death).

Fenwick and Susannah enter and pay their respects to Isobel. Fenwick laments that they must greet the new century with this sad event instead of with the "hope and anticipation" that he had in mind. Then everyone gathers around the coffin, their positions once more mimicking the Wright painting—only this time, Isobel has assumed the position of the bird in the air pump. As the church bells announce midnight—and the start of a new century—Fenwick toasts "to a future we dream about but cannot know[.]"

The actors recreate the Wright painting that opened the play, only this time, their pursuit of knowledge and truth is less idealistic: it's been tempered by the tragedy of Isobel's sudden and unexpected death, which has taught them that there are limits to what humanity can know about the world and the human condition.

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