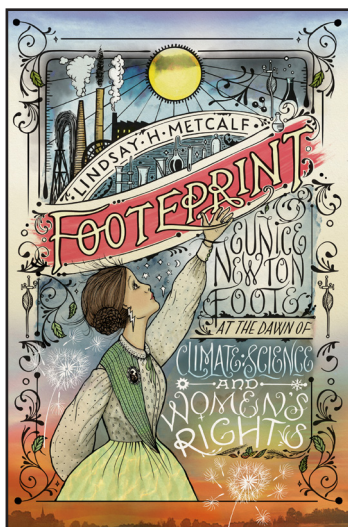


FOOTEPRINT

DISCUSSION GUIDE



978-1-62354-633-5 HC

ABOUT THE BOOK

Discover the extraordinary life and work of Eunice Newton Foote, the woman who discovered the atmospheric warming properties of carbon dioxide in 1856 (!) when most people preferred that women be seen rather than heard. This lightly fictionalized novel-in-verse account finally gives her the credit she deserves for her groundbreaking work.

Eunice's most important discovery was recognizing the effect of excess carbon dioxide in the atmosphere: a warming planet. But in a society driven by coal, kerosene, and crude oil, Eunice's warnings went unheeded. After all, who would listen to a woman—especially a woman known to consort with suffragists?

From the Seneca Falls Convention to the halls of the US Patent Office in Washington, DC, Eunice Newton Foote blazed a trail for independence and inquiry. Today Eunice's discoveries feel ever more prescient. Perfect for teenagers interested in STEM and the Age of Steam.



ABOUT THE AUTHOR

Lindsay H. Metcalf grew up on a Kansas farm and is the coeditor of the poetry anthologies *No Voice Too Small* and *No World Too Big*, as well as author of *Outdoor Farm, Indoor Farm*; *Beatrix Potter, Scientist*; and *Farmers Unite! Planting a Protest for Fair Prices*. An experienced journalist, Lindsay has covered a variety of changemakers as a reporter, editor, and columnist for the *Kansas City Star* and other news outlets.

DISCUSSION GUIDE

Use these questions to kick off classroom discussion, guide pre-thinking and post-reading responses, or inspire a writing assignment!

- This book is categorized as fiction, although it is closely based on history. Read the author's note in the back and discuss: Where does this book depart from nonfiction? Would you categorize it differently? When writing about history, where is the line between fiction and nonfiction? What kind of sources do historians draw on when writing history?
- In the foreword, author and historian Leif HerrGesell writes "We are all educators in this world, whether we share our knowledge in a classroom or through the pages of a book or in impassioned conversations." Do you agree? How are you an educator in this world? What do you teach and how?
- What kind of challenges did Eunice Newton Foote face in her pursuit of scientific inquiry? Are there people who face similar challenges today?
- Discuss the images in the center of the book (pages 152–163): Why do you think the author selected these images? What additional context do these portraits, diagrams, and photographs give to Eunice's story? Read "Could This Be Eunice?" (page 268) and discuss: Do you think this is Eunice? What "incontrovertible evidence" do you think a historian would accept to confirm that this portrait shows Eunice? What is the significance of finding an image of a person whose face has otherwise been lost to time?
- This book is divided into three parts, each prefaced with an epigraph by Mary Foote Henderson, Eunice's eldest daughter. Do you have a favorite of these epigraphs? Read "Mary's Full Letter" (page 271) and consider whether and how your understanding of these epigraphs changes once you have read them in context.
- Why do you think the author chose to write *Footeprint* as a novel in verse? How would this biography be different as a work of prose?
- The refrain "be it known" appears throughout this book (pages 6, 28, 31, 109, 125, 209, 244, 261). What does this refrain mean? Why do you think the author chose these words to characterize so many moments in Eunice Newton Foote's life? If you could select a refrain for a biography of your favorite historical figure, what would you choose?
- The word "excelsior" also appears frequently in this book. What does "excelsior" mean? What do the appearances of this word have in common (pages 36, 50, 101, 239, 259)? What is your state's motto? Is there a motto of a school or organization you belong to that you find personally meaningful?
- Many of the poems in this story are concrete or have concrete elements; that is, the words are intentionally arranged and styled on the page to convey meaning beyond the words. Why do you think the author chose to use these visual elements? Do you have a favorite of the concrete poems in this book?
- What is the origin of the phrase "glass ceiling," invoked in the first poem of this book?

DISCUSSION GUIDE

Use these questions to kick off classroom discussion, guide pre-thinking and post-reading responses, or inspire a writing assignment!

- Discuss the events in "Panic" (page 17). What do you know about this time in history? What economic and social forces were at play in creating the upheaval of this time? Do you see similarities and differences in current events? How did these big-picture events and trends impact Eunice's life?
- How did Eunice meet her husband Elisha? What was at stake in her choice of a spouse?
- Over the course of Eunice's life, women's legal rights advanced significantly. What are some of the changes that are noted in this book? How did those changes in the legal landscape affect some of Eunice's personal life choices and the choices of her family and friends? Consider the legal changes to the rights of women that have occurred in your lifetime or your parents' lifetime. How did the legal changes of Eunice Newton Foote's era pave the way for later advancements in legal rights?
- What were some of the advances made in fuel technology in the 1800s? Discuss the pros and cons of each.
- What role does the US Patent Office play in Eunice Newton Foote's life? Why is the patent office important to the US economy? How has the operation of the patent office changed or stayed the same since the 1800s?
- What were the risks and rewards of attending the Seneca Falls Convention and signing the Declaration of Sentiments? How did this convention impact the broader cause of women's rights?
- How did the social movements of abolition and women's suffrage affect each other in this era? Do you see similarities to modern social movements?
- What intellectual influences inspired Eunice Newton Foote's inquiry into solar heat and carbon dioxide (then called carbonic acid)? How did she form and test her hypotheses? What are the implications of her discovery? Do you think it would have been possible at that time for industrialists to reduce or replace the use of fossil fuels with alternative power sources?
- How were Eunice Newton Foote's discoveries received by the scientific community? What obstacles did she overcome to present her work to the public? Discuss "If" (page 111): Do you think John Tyndall stole Eunice's discovery or was it a coincidence?
- Eunice Newton Foote made her early inventions and discoveries while giving birth to and raising her daughters. What were some of the challenges of motherhood as a scientist? What form do these challenges take today?
- How does the Civil War impact Eunice Newton Foote's life and family? How did the family's position in society change that impact compared to other Americans?
- How is race and social class portrayed in "Wedding II" (page 144)? Do you agree with what this poem declares is "the biggest gift Eunice can offer her daughters"?

DISCUSSION GUIDE

Use these questions to kick off classroom discussion, guide pre-thinking and post-reading responses, or inspire a writing assignment!

- Discuss the slogan of the newspaper *The Revolution*: “PRINCIPLE, NOT POLICY: / JUSTICE, NOT FAVORS.— / MEN, THEIR RIGHTS / AND NOTHING MORE. / WOMEN, THEIR RIGHTS / AND NOTHING LESS.” (page 149). What priorities does this slogan convey? Do you think it was received differently in the 1800s than it would be today?
- What do you think inspired Eunice’s comment to Elizabeth Cady Stanton in “Illumination” (page 150)? Can you think of other instances in history when people of one class or social group have taken credit for the work of others?
- In “For Years,” (page 167) Elisha Foote institutes equal pay for female copyists at the US Patent Office. What do you know about pay equity in the 1800s and in the modern era?
- What are the three “new eras” that begin in the poems “Confluence,” “Black Men Win the Vote,” and “Eunice’s Beginning”(pages 170–171)? Have major changes in your life ever coincided with a major national or world event?
- What role does Eunice play in the lives of her grandchildren? What are some of the concerns expressed by John Henderson in “John Writes to Mary” (page 189)? How does Eunice balance the tension of being a scientist and a grandmother in the 1800s? Discuss “Has Eunice Failed?” (page 223)—how do these tensions continue to resonate today?
- How do “Carbon Cycle” and “Broken” (page 197) juxtapose the scientific and emotional dimensions of death? How do these and other poems in this book affect your understanding of child mortality in the 1800s?
- What are the stages named in “The Book Cycle” (page 229)? Where do you think the author drew these stages from? Could you describe a cycle or process that happens in your daily life in terms of a cycle of nature?
- What is lost or nearly lost in the fire at the US Patent Office? Why did backup copies not exist of the models and patents on file?
- In “St. Louis Post-Dispatch Revised,” (page 249) the author inserts missing names and details into the obituary of Elisha Foote. Why do you think these details were omitted from the original?
- What epigraph did Mary Foote Henderson select for her second book, *Diet for the Sick*? Do some of the ideas in *Diet for the Sick* seem strange to you? What ideas persist today, either in our understanding of medical and nutritional science or in the world of fad diets?
- Imagery related to heat pervades *Footeprint*. Do you have a favorite instance of this imagery? How is heat related to Eunice’s discoveries, inventions, and life events?
- Discuss the “what ifs” posed by the author in “More About Eunice” (pages 262–265). How does learning about Eunice’s life and discoveries change your understanding of history and science as a whole? What possibilities open up when we imagine a different history or a different future?