

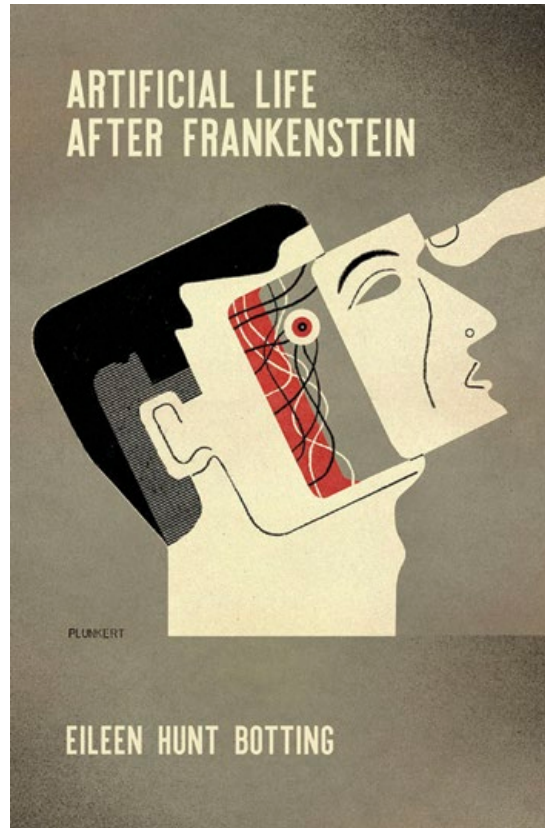
# BOOKS

## How We Practice Hope

ED FINN

If there is anything the tumultuous life and mesmerizing works of Mary Shelley have to teach us, it is that imagination has power. Ideas can tear you up, turn you inside out, and crush your heart. Of course, ideas can also ennoble, succor, and transform; the endless fecundity of human imagination gives us the resilience to cling to our ideas even when the world turns against us. The abiding appeal of Shelley's *Frankenstein, Or the Modern Prometheus* depends on the fact that this truth applies equally to Victor Frankenstein (the self-centered proto-scientist who sacrificed everything to his intellectual curiosity), to the unnamed creature he designs who turns a quest for empathy into a serial murder spree, and to Mary Shelley herself, the brilliant young writer whose love for the poet Percy Bysshe Shelley caused her more grief and penury than most of us could bear.

*Frankenstein* is a story about what it takes to give birth to an idea and what happens when parents and creators do not care for their progeny. The book's central premise—a man's hubris leads him to turn his back on the artificial life he has created—rooted itself into the collective cultural consciousness of Europe almost as soon as it was first published in 1818. The character of Victor Frankenstein preceded the emergence of the word "scientist" by over a decade, and he still shadows our cultural understanding of science and its risks. Within a few years of



**Artificial Life After Frankenstein**  
by Eileen Hunt Botting. Philadelphia, PA: University of Pennsylvania Press, 2021, 306 pp.

the book's publication, there were stage adaptations, translations, and countless scandalized reviews. The creature that Shelley assembled out of literature, philosophy, and scientific discourse was more than the sum of its parts: she brought to life an idea that haunts us to this day.

This resonance between imagination and power underwrites the most interesting assertion at the heart of Eileen Hunt Botting's fascinating new book, *Artificial Life After Frankenstein*. She argues that science fiction is a valid simulator

of political possibilities, one that allows us to exercise the essential human capacity to hope for a better future. In literary terms, she stakes a claim for modern political science fiction—visions of tomorrow that depend on social and philosophical change as much as science and technology—as an essential subgenre, with *Frankenstein* and Shelley's other great novel, *The Last Man* (1826), as its foundational texts.

But Botting goes beyond defining genres to do something much more exciting in this book. Taking political science fiction as a starting point, rather than a grand and airy conclusion, she places Shelley's work on the same epistemic plane as political theory, philosophy, and policy, and conducts a rich dialogue between these often estranged intellectual cousins.

The result is a work that was clearly inspired by Shelley's own commitment to following her ideas across all barriers. For Shelley this meant taking seriously both the gothic romance and the latest debates on chemistry. For Botting this means weaving together a narrative that reads *Frankenstein*, the Godzilla film franchise, CRISPR scandals, and contemporary political philosophers as equally valid and interesting. This is inspiring and risky, in part because we've become so used to sorting these texts into different corners of the library that it can be hard to read them convincingly together. We are inured to nonfiction authors underscoring a point by dragging in a *Frankenstein* reference like a suspect briefly paraded past a one-way mirror. We've forgotten what it's like to actually sit with the text, to grapple with its dilemmas in the

flesh. Botting actually *reads* all of the books she opens for us, and in doing so she creates a space for a unique conversation about how Shelley's nineteenth century fiction foreshadows twenty-first century facts.

The goal of this exercise, as Botting succinctly puts it on the first page, is to explode “three apocalyptic fears at the fore of twenty-first-century political thought on AI and genetic engineering. These are the prevailing myths that artificial forms of life will (1) end the world, (2) destroy nature, or (3) extinguish love.”

Let's take these one at a time.

Botting touches on the unique climatic and historical moment in which Shelley wrote *Frankenstein*, the “year without a summer” caused by the eruption of Indonesia's Mount Tambora in 1815. She then quickly pivots to the apocalypse she finds most interesting: the singularity—an imagined future in which technological progress accelerates out of human control—and the emergence of artificial intelligence. She argues that Shelley's *The Last Man* is a kind of literary “ancestor simulation,” picking up an idea posited by the philosopher Nick Bostrom, that sufficiently advanced civilizations might create computer models of their past, populated by simulated people (and—oh ho!—what if we're in one?). Botting turns this question sideways by arguing that we are all “artificial intelligences” because we are beings constructed by cultural programming, shaped by our tools and technologies, and molded by myths. The way we narrate our past and the humanity with which we construct the story of ourselves matters: “the future of AI will be conceived from what we have learned from our cultural past.”

On the one hand, this feels like an excuse to talk about abstract, armchair apocalypses because it's more fun than contending with more immediate challenges, such as climate change or the threat of nuclear annihilation.

On the other hand, it is fun to see Botting weave together Shelley, Margaret Atwood (the author of much dystopian fiction, including the pandemic apocalypse *Oryx and Crake*), Karel Čapek (the playwright who coined the word “robot”), and contemporary singularity theorists—and she lands in the right place.

Botting points out the fundamental, almost incredible hopefulness encoded in the conclusions of both Shelley's novels, the aporetic way in which their endings leave open the possibility—however distant—of better days ahead. That reading can be hard to credit because Shelley's own life was so steeped in tragedy. Botting argues that Shelley left space for our imaginations and that we need to learn from these examples to “craft problem-solving narratives that imbue hope rather than replicate fear.” We must constantly remind ourselves of this fundamental truth. It's so easy to simply sharpen our critiques and dwell in the dystopian shadows, as so many attempts to connect science fiction and political philosophy do. But hope is a primary function of imagination, one that we have to foster and practice; science fiction can be a model for this work of clearing cultural space for a positive future, and it is an essential simulation engine for playing out possibilities.

Having established that we are all artificial to begin with, Botting moves on to anxieties about the end of nature. Living up to her book's title, she links *Frankenstein* to its most familiar philosophical territory, the ethics of the creation of life. Botting traces *Frankenstein's* fundamental question of what responsibilities creators owe their creations in contemporary works such as Nnedi Okorafor's *The Book of Phoenix* and the 1997 film *Gattaca*. I applaud Botting for prescribing not just hope but some concrete ideas, including new political rights for genetically

modified children, which she later expands to a slate of principles she terms the “Bureau of Rights and Duties of Artificial Creatures.”

This “bureau” is not some kind of pinstriped ministry of ethics but a piece of furniture, a metaphor to capture the flexibility and messiness with which people take out and don moral beliefs. This includes the foundational items in the top drawer (which holds “social and ethical relations in the world at large”) and more ambitious and abstract articles in the lower drawers (such as the duty not to discriminate against artificial life). Other drawers contain things like the right not to be abused and duties to care for others in need. What Botting does well here is codify the reciprocal links between the act of creation and the responsibilities of the creator, signaling that rights and duties operate in the same gravitational fields of culture. The metaphor only coheres if we put all of these pieces together.

The final apocalypse, the end of love, is itself a somewhat loveless affair in the book. Botting argues her side of a sustained disagreement with the likes of political philosophers Michael Sandel, Jürgen Habermas, and Francis Fukuyama, along with the French provocateur Michel Houellebecq—the sort of thinkers who declare the end of history, the end of the human, and the boundaries of love. Grounding her response in sources as surprisingly diverse as the Dutch philosopher Baruch Spinoza and the sci-fi author Philip K. Dick, Botting argues for loving “virtually,” or in what I think of as the unconditional sense, recognizing our own imperfections and flawed understandings of the world. True love is to recognize the unbridgeable gulf between one's mind and the world, between one mind and another, and to take the leap anyway. To love one another, our creations, and our creators, as best we can, in spite of it all. This is where love and imagination intersect. Quoting the posthuman

philosopher Rosi Braidotti, Botting reminds readers that “hope is a way of dreaming up possible futures.” Love is fundamentally hopeful, and to imagine positive futures is both a duty of care to future generations and an act of love.

This human capacity may be the one that defines us best: our irrepressible, unstoppable desire to hope for the future. Long after we have given up policing the boundary lines of artificial intelligence and human essentialism, we will still be contending with the magnificent catastrophe of hope. Botting’s book seeks answers to the question of how we practice hope, and what moral guardrails we can agree on to be better ancestors and more hopeful architects of the future. The work of political science fiction such as *Frankenstein* is not to imagine particular scenarios or to warn us of individual errors. This is valuable—but the deeper work is to teach us how to engage our imaginations, to accept the agency and the responsibility of hope, and to recognize it as a societal project, with rights and duties of care.

Botting reminds us that imagination is the practice of empathy as well as foresight and resilience. Surely, to borrow a phrase from science fiction author Deji Bryce Olukotun, the right to imagine our own futures, and to share those visions through stories and actions, can be tucked into one of Botting’s bureau drawers. To practice our collective right to imagine possible futures, we also must work to preserve that right for future generations. Hope is a form of care for our past, present, and future selves.

*Ed Finn is the founding director of the Center for Science and the Imagination at Arizona State University, where he is an associate professor in the School for the Future of Innovation in Society and the School of Arts, Media, and Engineering.*