

the COVID-19 crisis and more generally also deserves attention. In terms of international comparisons, it might be intriguing to compare Jacinda Ardern's leadership with that of another unusually youthful and charismatic female social democratic prime minister, Sanna Marin, who became the fourth woman prime minister of Finland in 2019.

It would also be useful to analyze whether MMP systems can facilitate women leaders (especially given Angela Merkel's long leadership history in Germany), or whether New Zealand's record of women prime ministers indicates something relatively distinctive about New Zealand's political culture. After all, New Zealand has long been one of the gender pathbreakers, being the first country in the world to give women the vote in national elections (in 1893). New Zealand politics deserves greater international attention by gender scholars, among others, and this excellent book is a good introduction.

*Carol Johnson is Emerita Professor of Politics and International Relations at the University of Adelaide, Australia: [carol.johnson@adelaide.edu.au](mailto:carol.johnson@adelaide.edu.au)*

#### REFERENCES

- Johnson, Carol, and Blair Williams. 2020. "Gender and Political Leadership in a Time of COVID." *Politics & Gender* 16 (4): 943–50.
- Peters, Winston 2003. "New Zealand's Identity Crisis — Colony or Nation." Scoop, May 23. <https://www.scoop.co.nz/stories/PA0305/S00614/new-zealands-identity-crisis-colony-or-nation.htm> (accessed December 28, 2020).

***Artificial Life after Frankenstein.* By Eileen Hunt Botting. Philadelphia: University of Pennsylvania Press, 2020. 306 pp. \$34.95 (cloth).**

doi:10.1017/S1743923X21000295, e5

*James Paul Old*  
Valparaiso University

In Mary Shelley's famous novel *Frankenstein* (1818), Dr. Victor Frankenstein discovers the secret of life, but instead of triumph, his discovery leads to disaster. The nameless creature he brings to life comes

to hate him and murders many of his loved ones. Readers usually understand this outcome to confirm a fear that has existed throughout history: that the consequences of the human quest to create life will be dangerous to human life itself. In *Artificial Life after Frankenstein*, Eileen Hunt Botting argues that Dr. Frankenstein's tragic mistake rested not in the decision to create life, but in his subsequent failures to take responsibility for his creation. Botting further argues that in *Frankenstein* and her other writings, Shelley offers perhaps the most significant treatment of human anxieties about artificial life in modern literature.

According to Botting, Shelley was the defining figure in the emergence of "modern political science fiction," a transmedia genre that includes works such as Jules Verne's *Twenty Thousand Leagues under the Seas* (1870), Philip K. Dick's *Do Androids Dream of Electric Sheep?* (1968) and its film version *Blade Runner* (1982), and Octavia Butler's novella *Bloodchild* (1984). These are imaginative works, both futuristic and political, that speculate on the potential consequences of using technology "to create, alter, or transform humanity and its experience of the world" (2). Botting identifies three main fears about technology, all of which are expressed in our earliest myths, including Adam and Eve and Prometheus. First, will technological advancement lead to the end of the world? Second, will it destroy nature and human nature in particular? Finally, will it undermine human love and community? Botting argues that Shelley reworked these ancient stories and their fears to create new myths appropriate for the post-Scientific Revolution world. *Frankenstein* in particular provided a basic set of images and ideas — a sort of early literary meme — that would shape later writers' works.

Modern political science fiction thus builds on Shelley's writings by considering the dangers of modern technological developments, but it also follows Shelley by suggesting how humanity might adapt to the changes these technologies will bring. In *Frankenstein*, the creation of life leads to disaster, but the story also suggests that things might have turned out differently if the scientist had recognized his creation as a being possessing rights to be cared for and loved. Even in her far more apocalyptic novel *The Last Man* (1826), Shelley focuses on humanity's capacity for adaptation. The protagonist is apparently the sole survivor of a human-induced plague. Instead of descending into despair, he seeks out solidarity with non-human beings and demonstrates hope that "life will go on, albeit in unknown, even unknowable, ways and forms" (Botting, 51).

Throughout the book, Botting engages contemporary arguments about the dangers of recent technological developments, such as those made by political philosophers Francis Fukuyama, Jürgen Habermas, and Michael Sandel. These arguments warn that genetic engineering will undermine our shared understanding of what it means to be human or that artificial intelligence will become a force that humanity cannot control. According to Botting, they share flawed naturalistic assumptions and occasional gender biases. For example, concerns that specific reproductive technologies might lead to a practice of eugenics often reflect the underlying bias that women have no right to medical treatments that extend their natural ability to begin a family. Botting argues that these kinds of “biologically deterministic” attitudes (100) in political philosophy are challenged by modern political science fiction, which is more willing to imagine new possibilities. Works such as H. G. Wells’s novel *The Island of Doctor Moreau* (1896) or Andrew Niccol’s film *Gattaca* (1997) undermine the idea of a fixed human nature distinct from the rest of nature and demonstrate how human life is shaped as much by environment, experiences, and culture as by our genetic inheritance. And since human culture itself is a human fabrication, as we create our culture, we shape ourselves. In this sense, humans already are forms of “artificial intelligence,” and works such as Karel Čapek’s 1921 play *R.U.R. (Rossum’s Universal Robots)* and Dick’s *Do Androids Dream of Electric Sheep?* blur the line between human and artificial intelligence. These changes in our understanding of what it means to be human likely will lead to changes in human relations, and perhaps these changes will be for the better. As examples, Botting identifies several feminist writers — including Octavia Butler and Susan Stryker — whose works explore how technological change could allow a reconstruction of family life that moves beyond the limitations of traditional gender roles.

Botting’s book makes important contributions to our understandings of both Mary Shelley’s writings and the development of modern political science fiction, and it clearly demonstrates why works in this genre should receive greater attention from political theorists. Additionally, Botting makes thoughtful arguments, based on her readings of these works of fiction, that many fears about the potential consequences of these technologies are overblown. This will make the book of great interest to anyone who follows contemporary debates about the ethical implications of technologies such as artificial intelligence, robotics, and gene-editing techniques like CRISPR. Botting is hopeful that the

changes wrought by these technologies will not be disastrous. In fact, she suggests that an increased openness to new forms of humanity and other forms of life could lead us toward a “practice of kinship with the whole world and its multiplicity of life forms” (165).

Botting’s is a compelling vision, but several questions remain. How, for instance, can the transformations that Botting hopes for occur in the context of contemporary neoliberal societies? As Botting reminds us, these kinds of technologies are no longer mere possibilities about which science fiction speculates. Many of them are becoming real at a surprising speed. As *techné*, they are neutral, able to be used for good or ill, depending on the intentions of the user. However, in societies that promote liberal individualism, we can anticipate that many of these intentions will be self-interested and even selfish, a problem that is exacerbated by the reality of severe economic inequalities which will restrict access to these technologies to a small fraction of the population.

Botting shows us what the future *could* look like, but it is far from certain that this is where it will end up. She does offer some specific suggestions about how to begin this transition, such as by amending the 1997 Universal Declaration on the Human Genome and Human Rights to protect the rights of gene-edited persons. Ultimately, she recognizes that a more radical shift in our thinking about artificial life is needed, something along the lines of Mary Wollstonecraft’s *A Vindication of the Rights of Women* (1792). Although Wollstonecraft’s treatise was met with mockery in her day, the rights of women eventually were recognized and human culture did slowly change. The question that we are left with today is whether a similar change in our attitudes and sympathies toward artificial life can happen quickly enough to allow us to adapt to the astonishing rate at which new technologies are redefining what it means to be a human.

*James Paul Old is Associate Professor of Political Science and International Relations at Valparaiso University: [james.old@valpo.edu](mailto:james.old@valpo.edu)*