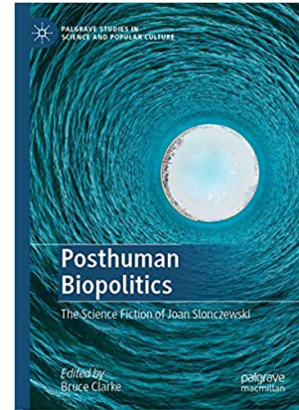


Posthuman Biopolitics: The Science Fiction of Joan Slonczewski, edited by Bruce Clarke



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The Preface to this collection of essays on the work and significance of the novels and other texts by Joan Slonczewski nicely sums up its purpose as addressing the "sustained output of major science fiction by a working scientist" that is "a fairly rare phenomenon" (v). The novels under discussion include the foundational *A Door into Ocean* (1986), its three successor novels in the same universe—*Daughter of Elysium* (1993), *The Children Star* (1998), and *Brain Plague* (2000)—and *The Highest Frontier* (2011). There is also discussion of Slonczewski's textbook *Microbiology: An Evolving Science*, co-authored with John W. Foster and Erik R. Zinzer, now in its fifth edition (Norton 2020), her pedagogy as a Professor of Biology integrating sf into her teaching, and her blog <https://ultraphyte.com/>. Clarke says that the purpose of the volume is to "ratify and consolidate the professional literature on Slonczewski's creative accomplishment and to suggest further lines of engagement" while noting that "our need for the reflective ethical practice" of her work has "never been greater" (vi).

The collection of essays, some previously published, begins with a "virtual group conversation" (1) between Slonczewski and the contributors to the text about the themes that inform her work, such as her interest in microbes and the possibility of an arsenic based ecosystem which she portrays with the planet Prokaryon in *The Children Star*. Stating "My entire writing career has focused on the question, 'What does it mean to be human?'" (7), Slonczewski wants "to expand our traditional view of 'human' to include simians (gorilla hybrids), sentients (human-like machines), and intelligent microbes" (8). Her interests include "fact denialism" as portrayed by the Centrist Party in *The Highest Frontier*, molecular biology, religion, tolerance, the invention of creationism by 20th century Christian revivalists, symbiosis and complexity, and nonviolence.

The conversation sets the stage for seven essays that explore these themes in her work in detail: "Posthuman Narration in the Elysium Cycle," by Bruce Clarke; "*A Door into Ocean* as a Model for Feminist Science," by Christy Tidwell; "'Then Came Pantropy': Grotesque Bodies, Multispecies Flourishing, and Human-Animal Relationships in *A Door into Ocean*," by Chris Pak; "Bodies That

Remember: History and Age in *The Children Star* and *Brain Plague*," by Derek J. Thiess; "Microbial Life and Posthuman Ethics from *The Children Star* to *The Highest Frontier*," by Sherryl Vint; "The Future at Stake: Modes of Speculation in *The Highest Frontier* and *Microbiology: An Evolving Science*," by Colin Milburn; and "Wisdom is an Odd Number: Community and the Anthropocene in *The Highest Frontier*" by Alexa T. Dodd.

Collectively, these essays provide a comprehensive overview of the plots, characters, ideas and conflicts presented in Slonczewski's deeply thought-through fictional universe, spread out in time and space as reflected in the first four of these novels. Implicit back stories unfold and provide lessons for the role of empathy and sharing as the question of what is human or posthuman are explored in each volume. Clarke points out in his comprehensive overview that the Elysium cycle is enormous: 4 books, 1600 pages of text, covering over 1000 years, and exploring a variety of species, some that live a normal human life span, some practically immortal, some with silicone circuits that think in microseconds, and microbes whose lives are over in hours or weeks. The diversity of size and time scale permits Slonczewski to explore "social organization, political praxis and personal autonomy in a posthuman world" (18). *A Door into Ocean* explores the conflict between the patriarchal planet Valedon and the "sharers" of the Moon Shora, who possess "life shaping" techniques the Patriarch of Torr wants (21-22). Clarke argues that *Door* is a "deep critique of modern humanity" (23): "Composed in the final years of the Cold War amidst the nuclear brinkmanship of the Reagan era [it] [. . .] brilliantly transposes the threat of human self-destruction from the nuclear to the genetic arena. An all-female society is invisibly armed with weapons 'too deadly to be used' other than as planetary applications of their preserved powers over the forms of life" (26).

Daughter of Elysium, the next novel in the Elysium cycle, tells of the fall of Torr (which turns out to be Earth) and the emergence of a planetary community called the Free Fold. On Shora mechanical servos are "cleansed" on "suspicion of sentience," but one servo is given refuge on a Sharer raft under a Sharer treaty with the long-lived Elysians who have come to live on Shora, paving the way for recognition of machine intelligence as sentient (31-35). Clarke concludes with a summary of the first contact discovery of intelligent microbes and their role in preventing the terraforming of the arsenic based planet Prokaryon in *The Children Star*, and the conflict over competing communities of microbes that lead to human fear of being controlled by them in *Brain Plague*.

Each of the succeeding essays grapples with Slonczewski's texts in distinct ways, adding to the complexity and insights found in her work. Tidwell focuses on the relative lack of women among STEM students, faculty and scientists, and the role of Slonczewski's novels in providing a corrective to this situation. Tidwell proposes that three competing approaches to feminist views of science are reflected in SF of the 1970s and 1980s: "rejecting science, attempting to control it, and embracing it" (49). Examples of the first kind of writers she cites include Sally Miller Gearhart, Dorothy Bryant, and Judy Grahn. Examples of the second kind of feminist SF, exploring how women can do science differently or even better than men, include Joanna Russ's *The Female Man*

(1975) and Sherri S. Tepper's *The Gate to Women's Country* (1988). Tidwell's "third significant approach" to feminist science accepts science but rejects it as male "without simply reversing the terms of an unequal power structure" (51). Examples she cites include Kate Wilhelm's *The Clewiston Test* (1976), Anne McCaffrey's *Dinosaur Planet* (1978), Janet Kagan's *Mirabile* (1991), and Mary Robinette Kowal's *The Calculating Stars* (2018).

Tidwell argues that there are problems with each of these often overlapping approaches, and that Slonczewski's *A Door into Ocean* "neither rejects science [. . .] nor ignores feminist critiques of science. The novel illustrates the possibility of a feminist science that is not built on femaleness or femininity, does not simply invert the power structure or leave the structures of science unchanged" (52). Instead, it shows a "realistic feminist science" that acknowledges women's past and present contributions, "challenges dichotomies and hierarchies," and makes explicit "the political and ethical ramifications of its choices" (52). Tidwell argues that the narrative illustrates scientific principles but with an "emphasis on the organic" that "recognizes the importance of the natural world and places the scientist within that world rather than above or outside it" (56). One goal of "feminist intervention in the sciences [. . .] must involve critique of the narratives and metaphors we already rely upon. [. . .] The Sharers' use of metaphor illustrates this kind of responsibility" (60).

Pak argues that Slonczewski uses pantropy to "question the values and assumptions that underlie the pursuit of terraforming. [. . .] The grotesque imagery [. . .] is fundamental to the text's challenge to colonialist domination embodied in industrial approaches to terraforming. The pantropic subjects and ecology of the planet Shora offer an alternative conception of habitation centered on responsiveness to other lives" (65-66). Through a close textual reading of *A Door into Ocean*, Pak "explores what it means to be an amborg subject made up of individuals whose relationships are predicated on both response and respect" (81).

Thiess focuses on *The Children Star* and *Brain Plague* to examine issues in the meaning of history and bodily aging, comparing a near immortal Elysian who wants to terraform Prokaryon with both the life shaped children who have relatively normal human life spans that are brought to colonize the planet, and the short-lived microbial life forms that already inhabit the planet. Thiess argues that in Slonczewski's "ecofeminist Elysium novels, matters of embodiment highlight the displacements of the history that is to be rewritten by the powerful. Moreover, in paying special attention to bodies for which a range of ages is important, this novel [. . .] can be read as drawing attention to the shortcomings of cultural theorizations of embodiment that exclude age in discussions of intersectional gender, race, sex, and orientation" (86). The Elysium Cycle "presents a biological narrative in which naturally aging bodies [. . .] call attention to the biological limitations of the human" (87).

Vint notes that "Rethinking our species beyond the limiting frameworks of the human and into the expanse of the posthuman has become a central focus of scholarship in the humanities, much of it attentive to our entanglement with the lives of other species" (111). After reviewing the

literature of the posthuman in the works of Haraway, Wolfe, and Braidotti, she cites Anna Tsing's argument that becoming posthuman may be necessary for "collaborative survival" (112). This becomes her thesis in a close reading of *The Children Star*, *Brain Plague* and *The Highest Frontier*, which she argues offer "a compelling model of Tsing's ethics of collaborative survival" (113). She includes a section on "Microbial Political Life" that discusses the idea that the human body is a supra-individual because of the microbiome that lives within it, citing the work of Lynn Margulis, Hird and Landecker. This section on the research on horizontal gene transfer in microbial life provides a scientific foundation for the fictional microbial lives portrayed in *The Children Star* and *Brain Plague*, and the concept of the invading Ultraphytes in *The Highest Frontier* (114). Vint continues with a close reading of each text, concluding that "Slonczewski's fiction offers us a posthuman ethics whose transformations aspire far beyond the mere augmented bodies of her characters" (129).

Milburn examines the "self-reflexive" pedagogy sf provides through a reading of *The Highest Frontier* and Slonczewski's co-authored textbook, *Microbiology: An Evolving Science*. He notes that each "suggests that speculation is a double-edged sword, describing both the future-generating and future-confining forces of our world. But the virtue of sf is that it can teach us to see the difference and imagine better" (134). Slonczewski is quoted as suggesting that "My science fiction offers a way out—a way forward" (140), reminiscent of Frederik Pohl's remark to me that one of the purposes of sf is not to predict but to prevent the future. Milburn then does a stimulating deep dive into how Slonczewski uses sf to teach and motivate students, and to promote the practice of creative speculation in doing science. Slonczewski's "praxis: fiction, science, and ethics" is, he argues, essential for the "adventure of education [. . .]. With nothing less than the future at stake" (155). Milburn clearly believes this, reflected in his excellent and comprehensive notes and references.

Dodd pursues a thorough analysis of the role of community, wisdom, humility and a willingness to listen across difference through an insightful and close reading of *The Highest Frontier*. Politics, the meaning of the Anthropocene, religious conservatism, and fear of the invading ultraphyte are all explored in what is also a clever academic and political satire, the first in a projected new trilogy. Dodd provides a solid discussion of the origin, literature and implications of the term Anthropocene, and then examines the plot of the novel through sections on Community, Wisdom and Humility, and Mary the Ultraphyte, before coming to an assessment of Gaia and Human Responsibility: "Mary, as an ultraphyte, can serve as yet another example for humans. Humans, like ultra, have harmed the Earth. But if we can learn to adjust to our new role as the dominant species and become a wise community, maybe we can save the earth" (175). The essay concludes with an exploration of the possibility that there is another solution to human problems, out there in space.

Collectively, these essays provide a marvelous starting point for the continued exploration of the significant work of Joan Slonczewski, in sf, science, education, and as a moral spokesperson for our troubled times. Published in January 2020 just as the novel coronavirus has us all huddling in place, with the science and policy recommendations of public health criticized by ignorant

leaders in several countries, and the challenge of the Anthropocene doubling down on a myriad of challenges facing us all, survival of a human, or posthuman, community remains in doubt. The fiction of Joan Slonczewski addresses this in significant ways and merits continued academic study as well as incorporation into undergraduate and graduate courses. *Posthuman Biopolitics* is an excellent collection. It should be in every academic library, and one can only hope a less expensive paperback version will be available in the near future to kickstart further work.

Bruce Lindsley Rockwood, Emeritus Professor of Legal Studies at Bloomsburg University, Pennsylvania, is a long-time member of SFRA, having served as Vice President (2005-2006), and regularly writes reviews for *SFRA Review* from his retirement home in Midcoast Maine. He has taught and published on law, literature, climate change and science fiction, and attends SFRA and WorldCon with his wife Susan when possible (most recently in Montreal, Spokane, and the June, 2021 virtual SFRA).