

Sina Farzin, Susan M. Gaines and Roslynn D. Haynes (eds.), *Under the Literary Microscope: Science and Society in the Contemporary Novel*. University Park, PA: Pennsylvania State University Press, 2021, 260 pp. \$99.95 hardback.

In a 1990 essay a leading scholar of literature and science opined,

We shall not find in literature widespread reference to the ordinary doings of the sciences reference to science in fiction...is nearly always to the scientist as a magical, isolated individual....So when we look for the “scientist in literature” we shall not find him or her so much at the level of social description as at that of myth.¹

That may well have been an accurate characterization of then-extant work, but it decidedly has *not* held up well as a prediction of things to come. A substantial body of fiction engaging directly with those missing elements began to appear at just about that time, as the editors of *Under the Literary Microscope* observe in their Introduction:

In the last decade of the [20th] century, we also began to see a proliferation of novels with explicit, in-depth depictions and explorations of actual scientific research practices — both contemporary and historical — and of the lives and work-worlds of scientist characters (p. 1).

That “new wave” is in large part the impetus for this book, initiated by members of the “Fiction Meets Science” program at the University of Bremen. Its main focus is on the consequences of interactions between science and society *in both directions*: how science and its findings are perceived by and influence society, and how scientific work is affected by society. As expressed (around the midpoint of this new trend) by Richard Powers, *six* of whose books cited in this study:

What we can only think of in terms of science fiction is about to become social fact, and none of our institutions are ready for the transformation. Perhaps fiction can provide a way of thinking about the revolution in life that other disciplines are bringing about but are not yet equipped or permitted to evaluate.²

Accordingly, the editors decided that such a project should not be left to literary scholars alone, but would be best pursued *via* a collaboration with sociologists. The body of the work, following the Introduction, consists of ten

¹ Gillian Beer, “Forging the Missing Link: Interdisciplinary Stories.” In *Companion to the History of Modern Science*, edited by Robert C. Olby, Geoffrey N. Cantor, John R. R. Christie and M. Jonathon S. Hodge (London: Routledge 1990), pp. 783-798.

² Stephen J. Burn, “An Interview with Richard Powers,” *Contemporary Literature* 49 (Summer 2008), pp.163-79.

chapters representing contributions from the two fields — some of them joint efforts — organized into three sections. Part 1, “Background and Context,” contains three articles: an overview of “Science and Society in Recent Fiction” by Natalie Roxburgh and Jay Clayton (both professors of English); a *very* brief summary of the history of sociology of science by Peter Weingart (sociology) and Luz Maria Hernández Nieto (media studies), and an examination (by the same two authors) of the extent to which stereotypical portrayals of scientists in fiction have given way to more realistic depictions.

Part 2 concentrates on “Societal Impacts on Scientific Work and Knowledge,” with essays on several different aspects of that topic. In “Scientists at Risk,” Rosslynn D. Haynes and Raymond Haynes (literary scholar and astronomer, respectively) discuss challenges to the physical, mental and ethical well-being of scientists — some real (von Humboldt, Wegener), some fictional — as portrayed in recent novels. Carol Colatrella turns the lens of feminist science studies on six books (Gilbert’s *The Signature of All Things*, Byatt’s *A Whistling Woman*, Boyd’s *Brazzaville Beach*, Gaines’s *Carbon Dreams*, Goodman’s *Intuition*, Patchett’s *State of Wonder*) featuring women scientists as protagonists. And in what is perhaps the central chapter (the editors call it “pivotal;” it is the one most cross-referenced by the other contributors) sociologist Uwe Schimank considers the “economization” of science — the ever-increasing pressure on scientists to acquire funding from both public and private sectors, and to spin off profit-seeking ventures from academic research programs — as represented in a dozen or so novels. This section also includes a study of the reception in various media of one of the most visible science-themed novels of the 21st century — Atwood’s *Oryx and Crake* — by a team of two sociologists (Ina Farzin, Emanuel Herold) and two literary scholars (Anna Auguscik, Anton Kirchhofer).

The last part, titled “Cause and Effect? Science and its Societal Outcomes,” includes two pieces that focus on recent science fiction. Sherryl Vint argues that SF has evolved substantially from its earlier fascination with topics like space exploration to those more immediately relevant to contemporary society: artificial intelligence, genomics, and climate change. Karin Hoepker and Antje Kley (both professors of North American studies in Germany) investigate how “bio-objects” — things (they always seem to be called “things,” as the authors note!) that blur the boundaries between animate and inanimate, active and passive — play an important role in the process of scientific knowledge production in Crichton’s *Jurassic Park* and *Prey*, and Bear’s *Darwin’s Radio*. This section also includes a second reception study, here of Kingsolver’s *Flight Behavior*, by three contributors to previous articles (Auguscik, Kirchhofer, Schimank) along with sociologist Sonja Fücker.

Both individually and collectively, these ten essays comprise an excellent introduction and valuable analytical framework for the forty novels — some will be familiar to SLSA members, some perhaps less so — that are treated in at least some length. (Another twenty-five novels are just mentioned; a handful of short stories,

movies, TV shows, *etc.* are also examined — despite the book's subtitle. Not all of the examples belong to the post-1990 trend towards books portraying realist scientific practice; many of them (as the previous paragraph indicates) seem to fit more comfortably within a much older SF tradition. Indeed, of the (five) works that receive attention in more than two pieces (Gaines's *Carbon Dreams*, Goodman's *Intuition*, Mawer's *Mendel's Dwarf*, Atwood's *Oryx and Crake*, Robinson's *Science in the Capital* trilogy), the last two arguably (more on this below) fall into the latter category.

A detailed discussion of all the chapters would be far too lengthy, but I will take note of a couple that I found relevant to works that appeared after this volume was completed (they surely would have been included otherwise). One is Ishiguro's *Klara and the Sun*, a novel narrated by an "Artificial Friend." That corresponds to a main theme addressed in Vint's chapter: how (if at all) can we identify with the thought processes of an AI, and how can that help us to understand human cognition? (*Klara* also features a genomics subtheme — another of Vint's topics — in that parents are offered the choice of having their children "lifted" —genetically modified to enhance their chance of success in Ishiguro's version of society — at the risk of a significant probability of early death.) Labatut's *When We Cease to Understand the World* consists of highly fictionalized portrayals suggesting that some scientists — most notably Schrödinger and Heisenberg — must have come close to going mad in order to reach their highly counter-intuitive interpretations; a number of similar cases are treated in the section on "Risks to Intellectual Identity and Mental Health" of the chapter by Haynes and Haynes.

I did have a few minor quibbles (none of which detracts in any significant degree from the value of the book. The logic of the organization by sections is not entirely convincing, particularly the placement of the two reception studies — which take approaches much more similar than not — in different ones. The almost complete restriction to Anglophone literature (there are only two exceptions, both German) seems rather surprising, especially in light of the fact that well over half the contributors are German and/or based in Germany. The editors do suggest that this accurately reflects the "wave of contemporary novels about science" (p. 15), but does that also apply to recent SF, which is the main topic of at least a couple of chapters?

Which brings me to my last point: the long-running and vexatious question of just what does constitute SF, and whether (and how) it should (or could) be distinguished from "mainstream" fiction; *Oryx and Crake* has been mentioned particularly frequently in this context. Perhaps the goals of this book could have been best served by avoiding this debate altogether; but most of the authors seem to have felt obliged to address it, even while observing that the streams — if they are separate — have been converging of late (p. 177). Hoepker and Kley comment that *Darwin's Radio* (winner of a Nebula Award for best SF novel, as they note) "focuses on the social sphere of scientific practice and engage[s] with the sociology of scientific knowledge production (pp. 210-211), while Vint observes that "Simply to

write of the contemporary world ... compels mainstream novelists to move into topics already charted by SF" (p. 195).

While I wouldn't dream of trying to come up with a rationale for separating SF from fiction in general, I offer a possible distinction between SF and the new wave of realist, science-themed novels. Vint quotes Fredric Jameson's argument that "the function of SF is to defamiliarize and restructure our experience of our own *present*" (p. 194); Hoepker and Kley also refer to the "defamiliarizing effect" of SF (p. 199). Conversely, the editors characterize the "recent turn in the way that fiction is dealing with science and technology" as "humaniz[ing] both the work of science and its potential repercussions" (p. 11). Might we propose, then, that a work of fiction be classified as SF vs. what has been called (among other descriptors) "Lablit"³ according to whether it is primarily interested in defamiliarization or familiarization, respectively?

³ Lablit.com: The Culture of Science in Fiction and Fact. <https://lablit.com>