Toward the beginning of Philip K. Dick’s jaunty sci-fi novel *Do Androids Dream of Electric Sheep?* the bounty-hunter hero, Rick Deckard, corners one of the rogue Nexus-6 androids in her dressing room at the opera. He has been tasked with “retiring” this group of ersatz humans who killed their overseers on Mars and have returned to the planet of their “birth,” devastated though it is by the legacy of nuclear war. So advanced is the new model of humanoid robot that it may be able to defeat the only known method of distinguishing it from its organic counterpart: the Voigt-Kampff empathy test. Androids, though extraordinarily intelligent, are said to be incapable of feeling for other androids, let alone for animals or human beings.

Before confronting Luba Luft, Rick listened to her sing, “and he found himself surprised at the quality of her voice; it rated with that of the best, even that of notables in his collection of historic tapes. The Rosen Association built her well, he had to admit” (99). By this point in the novel, the bounty hunter has begun to founder in his fundamental convictions. Though driven by the money he will receive for each android he retires—he wants to buy
his society’s ultimate status symbol: a “real,” as opposed to electric, animal—the killing bothers him. It bothers him precisely because the convenient label “android” doesn’t effectively diminish—doesn’t conceal—the dynamic life form that he has encountered and yet must eliminate.

In the sort of coruscating irony for which Dick is known, Rick experiences a full-blown identity crisis. As the term “android” loses its meaning, so, too, does the term “human.” Empathy, that vaunted trait, becomes a kind of semantic quicksand, the “raging, mad wind” (93) of both the bounty hunter’s .38 Magnum and of nuclear war—in short, one’s own retirement party. If only the androids had “remained substandard, like the ancient q-40s made by Derain Associates” (99), there would be no need for such nastiness, Rick laments. But ever the man for the job, ever the man to fall morally to the occasion, he bucks up. “The better she functions,” he tells himself in the opera house, “the better a singer she is, the more I am needed” (99), for the line between human and android must be preserved.

The scene in Luft’s dressing room is extraordinary. Before Rick can legally kill her, he must administer the Voigt-Kampff empathy test, and she must fail it. Almost immediately, he begins to set up his equipment.

“Do you think I’m an android? Is that it?” Her voice had faded almost to extinction. “I’m not an android. I haven’t even been on Mars; I’ve never even seen an android!” . . . “Do you have information that there’s an android in the cast? I’d be glad to help you, and if I were an android would I be glad to help you?”

“An android,” [Rick] said, “doesn’t care what happens to any other android. That’s one of the indications we look for.”

“Then,” Miss Luft said, “you must be an android.”

That stopped him; he stared at her. (101)

Luft’s clever, yet frantic, maneuvering continues when she asks Rick if he’s ever taken the test himself, and then proposes to take it but only after he does. “Wouldn’t that be more fair?” she says. “Then I could be sure of you. I don’t know; you seem so peculiar and hard and strange” (102). Although fairness is anything but a prevailing value in this society, Rick appears, in fact, to be more of an imposter than Luft. It’s his first week as chief bounty hunter, and he’s a bit edgy—his predecessor was shot by a Nexus-6. Who’s to say that Rick isn’t an android? Like some sort of haughty doctor, Deckard tells Luft she wouldn’t be able to administer the test, as it requires “considerable experience” (102).
She then tries to pick at his questions, pretending not to understand certain words or taking them in wildly nonsensical directions. The questions are designed to elicit a physiological response. Desperate to escape, she manages to dislodge an electrode by pretending to scratch her cheek. After he retrieves it from the floor, Rick finds himself on the wrong end of a laser tube. Yet to his surprise—she ought to kill him—Luft calls the police, leading him to conclude mournfully, “She must think she’s human” (106). In some Nexus-6 models a synthetic memory system has been laid down so as to deceive even the android herself. With this additional turn of the screw, Dick hopelessly confuses the distinction between the real and the fake, the caring and the uncaring. The latter has improved—has evolved. It is now indisputably, in Marvin Minsky’s words, one of our children.

Rediscovering the novel—I was emptying a box of books after a move when it fell to the floor and opened to this scene—I decided instantly to use it in my project. Tito’s allegorical reading of Moby-Dick had obviously primed me for any narrative involving a merciless hunt. But this one, because it hinged explicitly on the issue of empathy, seemed even more relevant to autism. Perhaps the most destructive and defining idea about autism spectrum disorders (ASD) to emerge from the scientific community is that autistics lack empathy. Despite research to the contrary, the notion persists, and it is very much responsible for the stereotype of unfeeling aloneness. Dick’s ironic reversals—Who lacks empathy? Who is inhuman?—might resonate with an autistic reader who feels aggressively misunderstood.

So might the issue of testing and the power dynamics at its core. Luft’s verbal sparring with Deckard reminded me of Rachel Rottenberg’s now infamous, online scrap with Simon Baron-Cohen, who for years has promoted the theory of an empathy deficit in autism. With only the slingshot of reason and the meager pebbles of disability studies, the self-advocate David slayed the Goliath autism researcher. Ignoring her substantive points about testing procedures, he suggested that her feelings were hurt—she simply didn’t like what the research found. Though careful to appear both sympathetic and respectful and “hop[ing] that dialogue between researchers and people with autism will lead to greater mutual understanding,” he came off worse than Deckard, who at least admits to his prejudice: “A rough, cold android, hoping to undergo an experience from which, due to a deliberately built-in defect, it remained excluded” (185).
In *The Wounded Storyteller*, Arthur Frank likens medical and scientific subjects to colonized peoples: the former’s bodies have been conquered and their indigenous, which is to say personal, experience of illness or disability has been disregarded. In its place an official narrative, in something like a foreign language, prevails, leaving them to feel both alienated and disempowered. Over the last thirty years, however, such subjects have begun to rebel. Not only has the subaltern learned to speak, but it has also learned to organize, as groups like the Autistic Self-Advocacy Network make clear. Insisting on the right to self-determination, ASAN has agitated for progress in a range of areas: from better education, employment, and housing opportunities to better, more respectful medical care and scientific research.

Here, too, I thought, might be a point of connection. While the novel doesn’t give us much of the backstory on Mars, it more than hints at the idea of a slave rebellion: “Do androids dream? Rick asked himself. Evidently; that’s why they occasionally kill their employers and flee here. A better life, without servitude. Like Luba Luft; singing *Don Giovanni* and *Le Nozze* instead of toiling across the face of a barren rock-strewn field. On a fundamentally uninhabitable colony world” (184). One of the androids, Roy Baty, is said to have “proposed the group escape attempt, underwriting it ideologically with a pretentious fiction as to the sacredness of so-called android ‘life’” (185). We might label Baty’s belief “silico-diversity” (and hear in our minds the often knee-jerk and snide dismissals of its neuro variety). As Arthur C. Clarke once wrote, “Whether we are based on carbon or on silicon makes no fundamental difference; we should each be treated with appropriate respect.”

In choosing *Do Androids Dream of Electric Sheep?* I had a sense, a strong sense really, that autism and sci-fi went together. They were like two astronaut peas in a spaceship pod. Ray Bradbury’s remark—“I have never listened to anyone who criticized my taste in space travel, sideshows or gorillas. When this occurs, I pack up my dinosaurs and leave the room”—had autism all over it. Or perhaps I should say, all under it. The attraction to space travel and to animals, the collection of toy dinosaurs, no doubt arranged meticulously according to genus and species—these were signs of an autistic sensibility.

I knew that Dawn Prince had published a well-regarded memoir of autism, *Songs of the Gorilla Nation*, which recounted her lifelong engagement with these primates who not only brought her out of her shell but also taught her how to relate to her fellow humans. Prince followed up that book
with another one, *Circus of Souls*, in which she told the story of the first monkey in space, who cruelly suffocated, and of the physiologically distinctive people who had to parade themselves in front of late nineteenth- and early twentieth-century freak-show audiences.

Yet the link between science fiction and autism wasn’t simply implicit or uncanny. The conceit of the autist-as-extraterrestrial runs through both the professional and the autobiographical literature. For example, the British psychiatrist John Wing compared autistic children to the offspring of earthling mothers and an alien force in the sci-fi novel *The Midwich Cuckoos*. His wife, Lorna Wing, would rediscover the work of Hans Asperger and coin the term “Asperger syndrome.” In relating her struggle to understand complex social behavior, Temple Grandin told Oliver Sacks that she was akin to “an anthropologist on Mars”: an alien stranded on an unfamiliar planet who must somehow learn its cryptic culture. (Matt Damon, by comparison, has it easy in *The Martian*. Sacks, as I noted in the introduction, would later use the analogy as the title of both his *New Yorker* profile of Grandin and the book in which the profile appears.

In “Dating Data,” a chapter from her 1995 memoir *Thinking in Pictures*, Grandin revealed that many autistics were “fans of the television show *Star Trek.*” They loved the technology—all of those widgets and gizmos that allowed the crew to do futuristic things. They especially loved the animated objects. But for her, the series, with its emotionless Vulcan character, Mr. Spock, and its android character, Data, explained the fundamental difference between autistics and neurotypicals. Spock, of course, was repeatedly perplexed by illogical behavior, and Data failed miserably at love. “When he tried to be romantic,” Grandin wrote, “he complimented his date by using scientific terminology.” “Even very able adults with autism have such problems,” she commented. As just such an adult herself, she had decided to remain celibate “because doing so helps me to avoid the many complicated social situations that are too difficult for me to handle.”

Here, we can see the stereotype of autism that Grandin helped to crystallize: the socially inept and exceedingly logical sister-from-another-planet who prefers to be alone. It would take at least another decade for nonautistics to begin to acknowledge that they were just as ignorant of autistic behavior as autistics were of theirs. In an important article, the philosopher Ian Hacking argued that each group was simply a “form of life.” Expecting either to be different was as absurd as expecting to see the ocean in Iowa. Other autistics objected to the stereotype itself, claiming on the one hand that they
improve at conventional sociality—their brains are just as plastic as neurotypical brains—and on the other that social intuition and performance are extremely variable in autism. The condition is heterogeneous, and from day to day (or even hour to hour), any given autistic person might succeed or fail in a particular situation.

Nothing was as static or as fixed as Grandin suggested. Whereas she believed that “marriages work out best when two people with autism marry or when a person with autism marries a handicapped or eccentric spouse,” other less prominent autistics believed just the opposite. The very show that highlighted stark differences between humans and nonhumans presented plots in which Kirk and Spock had to discover the limitations of their own cognitive processing and, as a result, began to appreciate the other. Their interaction, which leads to friendship, changes them. In a way, Star Trek was all about inclusion—both on the ship and off. As the Enterprise “boldly went where no man had gone before,” it encountered other creatures and cultures in what can only be called a kind of galactic cosmopolitanism or, better, a galactic neurocosmopolitanism.

If I had any doubts about the autism–science fiction connection, they evaporated when I read Steve Silberman’s NeuroTribes, the genesis of which was a 2001 article in Wired magazine titled “The Geek Syndrome.” “Autism—and its milder cousin Asperger syndrome—is surging among the children of Silicon Valley,” the subheading screamed. “Are math-and-tech-genes to blame?” Silberman would come to understand that autism was on the rise everywhere, but that in offering both a natural outlet for geeklike gifts and a more congenial and forgiving employment space, the high-tech industry had carved out an early neurodiverse refuge.

The same might be said of science fiction. According to Silberman, the emergence of sci-fi can be traced back to writers, editors, and fans who would likely have received an Asperger diagnosis had it been available at the time. “A genre of popular storytelling that blended hard science and speculative fiction, with a strong emphasis on gadgetry” almost seemed to require the kind of biocultural estrangement that is born of neurological difference and an inhospitable society.

One particular fan, Claude Degler, who was nearly sterilized in the Eastern Indiana Hospital for the Insane, appropriated the plot of a 1940 serial, in which genetically engineered humans are hunted by their typical peers, to make the point that Grandin would make some fifty years later. Like the characters in Slan, Degler and his fellow fen were “superintelligent, supersensitive,
and profoundly misunderstood mutants struggling to survive in a world not built for them.” Gary Westfahl, a historian of science fiction, put the matter of autistic otherworldliness and sci-fi like this: “To a teenager in the 1930s with Asperger syndrome, a story about an astronaut encountering aliens on Mars might have had an air of comforting familiarity, in contrast to stories set in the bizarre, inexplicable, and thoroughly socialized worlds of Andy Hardy and the Bobbsey Twins.”

And yet it doesn’t take autism to feel culturally alienated. As William Gibson explains, “One of the liberating effects of science fiction when I was a teenager was precisely its ability to tune me into all sorts of strange data and make me realize that I wasn’t as totally isolated in perceiving the world as being monstrous and crazy.” This overlap of the countercultural and neurodivergent also characterized cyberpunk, the subgenre for which Gibson became famous and which, despite its dystopic vision, still carried within it an oppositional politics, however jaded and ghostly. “Science fiction isn’t just thinking about the world out there,” wrote Samuel Delany. “It’s also thinking about how that world might be—a particularly important exercise for those who are oppressed.”

The fact that sci-fi was often marginalized as “genre fiction” seemed perversely appropriate, even symmetrical, because it reflected the social status of many of its readers. As important, it contributed to a sense of unacknowledged urgency: “Individual science fiction stories may seem as trivial as ever to the blinder critics and philosophers of today,” warned Isaac Asimov, “but the core of science fiction—its essence—has become crucial to our salvation, if we are to be saved at all.”

• • •

The more I read about the history of science fiction, the more convinced I was of the decision to include Dick’s android novel in my project. But with whom would I discuss it?

I remembered a woman with a hip sci-fi name—Dora Raymaker—who had appeared in Loving Lampposts, Living Autistic, a documentary about the neurodiversity movement. With her kinky, red hair, she looked like a cross between Bernadette Peters and Nicole Kidman. I had been impressed by some of the things she had to say. For instance, when asked about functioning labels—experts like to speak of “low-” or “high-functioning” autism—she remarked, “Is functioning related to speech, to IQ, to scholastic achievement, to how well someone can appear nonautistic, to adaptive functioning?” Even
if people could agree on what that term means, there would still be the problem, she said, of variability.

Another self-advocate, Kassiane Asasumasu, made the same point: “Functioning? Low-functioning? What are you measuring? Everybody bases it on two things: speaking and self-care skills. And that can fluctuate for those of us on the spectrum so much in the course of one day; I’m talking great now, but tomorrow? Who knows?”

In the documentary Dora did her talking with an augmentative communication device. Unlike Tito, who types with one finger, or Jamie, who types with two, she used all ten quite expertly. “I have difficulty with the motor planning involved in producing speech,” she explained. “I also don’t access words and put them together the way others do.” She thought “in visual spatial landscapes and need[ed] to consciously translate [her] thinking into language.” These landscapes weren’t so much representational, I would later learn, as filled with complex, 3D shapes, at once abstract and extraordinarily colorful. Thought involved bringing these shapes together, fitting them according to a felt logic of synesthetic transformation. “I find the spot where it belongs. And then I plug it in and it goes purple,” she would say. Both visual and auditory, this process “shimmered” and “swooshed.” Call it pliant puzzling, where the pieces themselves, as if floating in the air in front of her, actively seek relation.

The transition from landscape to words depended, she would tell me, on “a lot of things”:

how much do I know about the topic, how interested I am in the topic, how “close” is it to the landscapes I have loaded into my thinking at the time, how often I have recited words about the topic in the past / told the same story, whether I’ve written about the topic, sensory load, who I’m speaking with and whether I can key off of / mimic their vocal patterns, how comfortable I am with their communication patterns, my general stress levels, my functional capacity that day.

Although Dora has a diagnosis of apraxia of speech, it “doesn’t really cover the word-finding issues, which are sometimes more of a barrier than the speech production bit.”

Of course, I knew plenty of people who danced on the page and yet stumbled in the mouth or brain. Why privilege speech? In *Wretches and Jabberers*, a documentary about autistics who type to communicate, the latter term wryly refers to those of us who can move our mouths but who sadly have little to say. And anyway, my book was all about how writers use
printed words to paint evocative tableaus on the 3D canvas of our sensing bodies. While obviously a verbal medium, literature was akin to what the nonspeaking autistic artist Larry Bissonette calls “a muralistic, lettered view of life.” It, too, begins, we might say, with “the movement of fingers on sopping, great malleable gobs of paint.”

Dora’s relationship to speech was complicated—as with any disability, it was more than just a matter of impaired physiology. She worried that her speech “sounded funny” and that, as a result, people thought she was “stupid.” Her difficulties were not at the level of Tito’s or Jamie’s—on good days, when she was comfortable, she was as articulate as any of my silver-tongued colleagues in the English department. In our initial email exchange, she’d warn me about her changeable relationship to speech. “Sometimes I have needed to communicate by typing only; other times I mostly speak,” she’d write, adding, “I can’t speak for a few hours when I first wake up ever, but at this point in time I am in a phase where I ‘remember’ and ‘warm up’ and get quite fluent, particularly with people/topics that I’m familiar with.”

In Loving Lampposts, she had made clear just how protean were all of her abilities: “There have been times in my adult life when I’ve had little problem getting up and getting dressed and going to a job and other times in my adult life when I have sat in a mostly catatonic state and been too confused to find the rooms in my own house.” She was like a tree whose cycle of leafing was mysterious. It could be autumn one month and spring the next. The very idea of reliable seasons made little sense. The body deciduous—sometimes, when the leaves of cognition fell, they even fell upward.

Most experts don’t have an adequate grasp of fluctuating performance in autism, and I think this failing affects their research. Imagine capturing a bad day and believing it constituted the norm. Nor do they fully appreciate the significance of support, accommodation, and routine, which can make someone appear much less disabled than they are. This, of course, is the fundamental insight of disability studies: provide an enabling environment, and impairment has a much better chance of becoming difference, not dysfunction.

Because people frequently “talked down to her” or found communication “so difficult that they got hostile,” Dora preferred to use augmentative communication even when she felt she could speak—especially if she was communicating with strangers or in an alien environment. “Sometimes I turn off speech to conserve resources so I don’t fully crash out,” she would tell me. “Sometimes I turn off speech because it makes navigating the world
easier, either by giving me more resources to manage other things, or because it plays into people’s stereotypes of disability and enables them to accommodate me properly without a ton of explanation and hassle (e.g., when I travel I turn off speech because the airline people cope with interacting with my assistant much better if I appear completely nonverbal).”

The irony of appearing at times insufficiently disabled as to command basic accommodations was a common problem for Dora. Instead of trying to “pass” as neurotypical, she purposefully marked herself as “autistic.” This struck me as interesting and certainly a departure from the plot of *Androids.* “Alternative and augmentative communication have changed the way others relate to me and for the better,” she observed in *Loving Lampposts.*

While Tito, Jamie, and Dora obviously shared certain challenges with speech, the precise nature of those challenges was different—as different as the way their sensory systems worked or the way they thought. At the risk of repeating myself, let me say again (and again) that there’s much diversity in autism. The concept of a spectrum, as Ian Hacking has argued, though of some value, is unfortunately linear and static. In a period of relative fluency in her thirties, Dora, I would learn, received an Asperger diagnosis; in a period of little to no speech, an autism one. (Before that, she was considered, among other things, “emotionally disturbed.”) The point of a book like this, which engages in qualitative ethnographical research, was to capture distinction—across both people and time.

If her use of augmentative and alternative communication (AAC) had caught my attention, I was especially intrigued by the organization Dora had helped to found in 2006 with Christina Nicolaidis, a doctor and researcher whose son is autistic—Nicolaidis is also featured in the film. Called the Academic Autism Spectrum Partnership in Research and Education (or AASPire), the organization “brings together the academic community and the autistic community to develop ... research projects relevant to the needs of adults on the autism spectrum.” A number of these projects, especially at the beginning, concerned access to quality healthcare. Consider, for example, that autistics are three times more likely to visit the emergency room than non-autistics. So alienating has been their interactions with doctors that they tend to seek help only when they absolutely have to. The idea was to forge informed solutions together, taking advantage of each other’s experience. “Our partnership,” Dora and Nicolaidis write on the organization’s website,
“adheres to the principles of Community Based Participatory Research (CBPR), whereby academics and community members serve as equal partners throughout the research process.”

At the time I knew next to nothing about CBPR, yet I found myself fancying an equivalent partnership with Dick’s androids! A kind of empathy corrective—not slick, professional paternalism, with pity at its core, but a genuine attempt at understanding. Alive for only a short time and constantly on the run, the andys, I thought to myself, must need both technological and psychological care. Of the humanoid robot named Pris, who hides in a dilapidated apartment building, the narrator tells us, “Fear made her seem ill; it distorted her body lines, made her appear as if someone had broken her and then, with malice, patched her together badly” (62). Who could live with such anxiety? The androids have no friends, no allies, and little hope of survival. The only character who sympathizes with them is John Isidore, a man rendered intellectually disabled by nuclear fallout.

The idea, ridiculous to be sure, of participatory research with robots presupposed the end of silico-eugenics. Access to better care, like the more egalitarian social science investigations that could yield it, was of a piece with recognizing and valuing difference. Although the novel doesn’t develop the silico-diversity theme, the androids clearly want to define themselves—to break away from the damaging, because pejorative, notion of artificial intelligence. Whatever their humanlike features, they are distinctive organisms: creatures that not only have crossed some Turing threshold but also have undergone an inconceivable metamorphosis. They aren’t so much caterpillars that have become butterflies as caterpillars that have become winged gazelles (with their cheetah predators behind them). “Beings of wonder,” Dora would call them. “I don’t like it when people take the magic out of something simply because it’s technology,” she’d say. “Just because it’s made up of 1s and 0s doesn’t mean it’s stupid.”

The morning I chanced upon Dick’s novel, I had been reading an article about caterpillars in *Scientific American*—specifically, about how they become butterflies:

First, the caterpillar digests itself, releasing enzymes to dissolve all of its tissues. If you were to cut open a cocoon or chrysalis at just the right time, caterpillar soup would ooze out. But the contents of the pupa are not entirely an amorphous mess. Certain highly organized groups of cells known as imaginal discs survive the digestive process. Before
hatching, when a caterpillar is still developing inside its egg, it grows an imaginal disc for each of the adult body parts it will need as a mature butterfly or moth—discs for its eyes, for its wings, its legs and so on.

Digesting the scene with Luba Luft, I pictured something like imaginal discs hidden in the android’s software code. Instead of body parts, these discs gave rise to consciousness—to full-blown introspection. Literature, it occurred to me, was itself a kind of caterpillar soup, whereby the words become, in the reader’s mind, something else entirely. “I wanted to crawl in between those black lines of print, the way you crawl through a fence, and go to sleep under that beautiful big green fig-tree,” wrote Sylvia Plath in *The Bell Jar*.

I had conceived of my project as roughly akin to AASPIRE’s: an effort, in a particular domain, by people of different neurotypes. As my collaborators and I chatted, we showed what they could contribute to discussions of literature. This, too, was a kind of research, though far from perfectly egalitarian or easily managed. My job was to be honest about the difficulties and, in particular, my own inadequacies. What Chris Martin has said of the poet Brandon Brown comes close to capturing my aim: “He is constantly (and humorously) articulating his own lapses in judgement, intelligence, foresight, etc., if only to end up demonstrating how much more labor and care we need to fully realize ourselves as ethical thinkers/writers. In that way, the lapses are what finally fill out the sketch of an ethical future and direct the reader toward it.”

Dora would recount just such a lapse early in the life of AASPIRE, a lapse that has relevance for my project and that shows how genuine understanding among different peoples actually emerges. The autistic members, some of whom do not reside in Portland, Oregon, where the organization is based, requested that meetings take place via “text-based Internet chat”—essentially Skype, but with no speaking. “The autistic people were used to conversing with each other on-line,” Dora would recall. “But the neurotypicals couldn’t cope. They couldn’t keep up. They didn’t know any of the conventions for this kind of thing. Christina told me that for the first time in her life she knew what it was like to have a communication disability because all of a sudden we were communicating in a way that was comfortable for us and was very difficult for her.”

With considerable irony, the team reported in an early paper:

We have learned to provide accommodations (e.g., telephone calls) for some of our non-autistic team members. Autistic partners have at times assisted non-autistic partners with learning how to use remote
collaboration tools and become comfortable with basic “netiquette” (online rules for interaction). We have an e-mail list-serv for communication between meetings and for individuals who find real-time discussion insufficient for getting their ideas across. Given the team’s diverse communication preferences, AASPIRE offers all partners—both autistic and non-autistic—the option to review and provide feedback to materials and contribute to decision making via e-mail, text-based chat, telephone, or, for those in Portland, in-person meetings.

The moral? For people with traditional advantages, whether physiological, economic, or cultural, goodwill only gets you so far. As in a winter storm, you must abandon your blithe reliance on your car, the smug simplicity of depressing the gas pedal. You must get out and traipse through heavy snow, often in darkness, for miles. The freeway—your freeway—must become impassable.

As neurocosmopolitan as Dora appeared, I nevertheless fretted about contacting her. For some self-advocates, the old disability rights adage “Nothing about us without us” had become starkly and unreservedly “Nothing about us.” I understood this position and almost agreed with it. (After being relentlessly demonized and hunted, what android would want to hear about itself from a human?) So nervous was I about contacting Dora that I remembered an email a friend had forwarded about the horrors of cold-calling people—he was an investment guy who made his living that way: “I was cold calling today and an older woman picked up and I gave my introduction, followed by a bit of silence. Very politely she asks me if like carpet, I say, ‘Yes,’ which she promptly follows up with, ‘Well then why don’t you eat mine.’ I am completely dumbfounded and say, ‘Excuse me,’ and she follows up with ‘You heard me, you turd, eat it,’ then the ubiquitous click.”

To my great relief, when I sent an email describing the project and introducing myself, Dora said yes—in fact, she was thrilled to participate. I had proposed reading Androids and had mentioned that we could also watch Blade Runner, which is, of course, based on the novel. Blade Runner, it turns out, was her favorite movie. “I’ve seen it a zillion times,” she replied. “I even use a Blade Runner light-up umbrella—and use it often because it rains almost as much in Portland as it does in the film. I am over-the-top excited by anyone who wants to discuss that movie with me. Wow.” I had forgotten about those iconic umbrellas, which eerily illuminate the sinister rain-city of Ridley Scott’s film.
That Dora was not only an aspiring cyberpunk writer—she had already completed a series of novels with a sleuthing, autistic heroine—but also a computer programmer with a background in robotics who was currently writing her doctoral dissertation at Portland State University seemed like the sort of coincidence that makes one buy a lottery ticket. Or believe in a scribbling god. The dissertation involved, as she put it, “applying the emancipatory promise of CBPR to critical systems thinking.” Through the creation of an informational website and a healthcare toolkit for doctors and their autistic patients, it addressed power imbalances in the “learning organization concept,” a term made famous by Peter Senge. In the last chapter of her dissertation, titled “Reflections of a Community Based Participatory Researcher from the Intersection of Disability Advocacy, Engineering, and the Academy,” I would come across passages like this one about her early teenage years, prediagnosis, when she was enamored of her first computer and being bullied at school:

Winter, 1986. It’s Maine, so it’s cold. The ground is so frozen they have to stash the dead in crypts until the spring thaw… The Underground Railroad. Segregation in the 60s. I thread through the story of oppression and resistance as though it were my own. Which is ridiculous. I’m a white, Italian-American from a recently immigrated family; there’s no reason for it to resonate. Yet in my bedroom a half-assembled robot and a Commodore 64 coexist with the Civil Rights movement. Cool mathematics and flaming social justice. Private rebellions and mental malfunctions.

And this one, about her graduate school years, postdiagnosis, when she was still very much interested in robots and working on her dissertation:

Winter, 2014. It’s Oregon, so it’s raining. The ground is so wet it can steal your boot. I’m on the floor again, knees tucked under me as I try to extract the book I want without toppling the stack. Power/Knowledge (Foucault 1980). Disability and the Internet (Jaeger 2011). Critical Systems Thinking (Flood and Jackson 1991). Social justice stacked besides books on programming languages, dynamical systems, and fuzzy logic—plus a healthy collection of robot parts. My passion for narratives of oppression and resistance makes sense to me now.

“Coincidences are spiritual puns,” wrote G. K. Chesterton: random occurrences *bent to me*. They are little, acoustic knots descending like helicopter
seeds from the mouth of a maple tree. In “Esthetique du Mal,” the poet Wallace Stevens casually declares, “At dawn / The paratroopers fall and as they fall / They mow the lawn.” One after another, these soldiers, these seeds, would drop during the course of our discussions. As a child, Dora had lived in a house in Deer Isle, Maine, that was owned by a colleague from my high school teaching days. . . . The actress who played Pris in Blade Runner, Daryl Hannah, had been given an autism diagnosis as a young girl. . . .

And yet, while she was ecstatic about Scott’s film, Dora was more than a bit hesitant about Androids. She devoured science fiction, she reported, and knew that Dick was important, but he remained “a huge gap in [her] reading.” “There’s something in his use of language that has kept his books largely inaccessible to me,” she explained. “I’ve tried to read Androids so many times because of my great love for the film and failed. Maybe reading it with someone can get me through it.” When we began our weekly discussions by Skype, she would speak of “personal struggles with language that are part of [her] disability.” “This novel always hit them hard and fast from the start,” she’d say. “It was never poetic enough for me just to gestalt it like a poem.”

Her difficulties typically involved pronouns and what she called “filler words.” “‘Of, ‘around’—they have no meaning for me. I use them correctly in my own writing maybe 90% of the time, though I’m always missing a bunch of ‘of’s and ‘the’s. They’re a sound that gets tacked on; they’re part of the rhythm, but I don’t have a picture for them in my head.” Pronouns were similarly insubstantial, vacant, and for someone who had little concept of gender, even words like “he” and “she,” which seem so basic, eluded her. She had learned how to use them, but pronouns had no natural claim on her attention. They were like substitute teachers in elementary school—hardly a cause for celebration, because she loved Mrs. Johnson who was, well, Mrs. Johnson, which is to say specific and unique.

Syntax sometimes presented challenges as well. In what was hardly an auspicious beginning to our partnership, the very first sentence of the novel stumped her. The sentence goes like this: “A merry little surge of electricity piped by the automatic alarm from the mood organ beside his bed awakened Rick Deckard” (3). “I see electricity,” Dora wrote, then an alarm, then a piece of tech, then a bed, then a man, all jumbled and out-of-order, each new element forcing me to retrace the sentence and rebuild it, only to find that I still didn’t get it right because more
jumble follows. And after getting the picture of the disparate elements glued together into a whole, I still need to figure out how the elements connect—is the mood organ sending current into Deckard’s brain to wake him? I only come to that conclusion now as I analyze the sentence in this note. If only the sentence read something like: “Rick Deckard awoke when the mood organ’s automatic alarm piped a merry little surge of electricity into him.” Which is still awkward, but at least makes a coherent image.

Reading over Dora’s notes before our initial Skype session, I thought, *Maybe I’ve chosen the wrong novel.* She complained that the writing “slows me down, pulls me out of the story, and makes me feel dumb.”

She had a point about that sentence. The passive voice (“piped by the automatic alarm”), followed by the two prepositional phrases (“from the mood organ beside his bed”), interrupts the independent clause: “A merry little surge of electricity awakened Rick Deckard.” Dora’s solution was to make the bounty hunter the subject of a much simpler independent clause (“Rick awoke”), followed by a dependent clause beginning with the subordinate conjunction “when.” This dependent clause had a clear subject (“alarm”), a verb (“piped”), and a direct object (“surge”).

But the new sentence’s clarity, I suggested, came at the expense of Dick’s intention: namely, to invert customary notions of agency and animation. Here, the technological apparatus is active and animate; the human hero, passive and inanimate, despite his bounty-hunter bravado. In a novel so desperately conflicted about the effects of technology, including nuclear war and the rise of robots, we need something like an artificial or convoluted syntax. Before we can get to Rick in that first sentence, we must swim through an oil spill of technological mediation. Even his feelings aren’t strictly organic.

In another Skype session, I would go so far as to propose that the narrator might be an android. The sentences are purposefully robotic, tonally off, withholding judgment as well as sympathy. Or, rather, they reflect the prejudicial stereotype of androids. The narrator in a sense gleefully mocks the human need to distinguish itself from the world it has made—to remain superior.

Dora, however, wasn’t buying it, at least not at first. I had gone into flamboyant professor mode: words came out of me like water from a fire hose. (“Interpretation,” quipped Susan Sontag, “is the revenge of the intellectual upon art.”) We had agreed to speak at first and then move to typing if necessary. I remember Dora rhythmically bouncing in front of her computer—only
later, when I visited her in Portland, did I see that she sits on a purple physio ball chair! From her office window, on a cloudless day, you can spot Mount St. Helens. Her head would regularly rise above it.

Yet, her objections to Dick’s prose were also aesthetic. “Along with the jumbled sentences,” she had written in her notes, “I find my inner editor babbling too much. Deleting unnecessary words, streamlining cumbersome prose and clunky dialogue. The characters all have the same voice so far, and none of it flows like human speech.” “I am aware,” she said, “that Dick is writing at a time when speculative fiction is dragging its way out of the soup of the pulp periodicals and into mainstream literature.” She wanted me to understand that she could handle experimental prose; two of her favorite sci-fi authors were Jeff Noon and Harlan Ellison, who “fall over into poetry.” “I do not read/hear words,” she stressed. “I see the images and hear the sounds that the words symbolize, processing words-as-wholes into imaginary landscapes.” Dick insufficiently rewarded “the way [her] brain processes text.”

Her all-time favorite sci-fi author, William Gibson—we would later read his novel *Neuromancer* together—once remarked, “I can’t do fiction unless I visualize what’s going on. When I began to write science fiction, one of the things I found lacking in it was visual specificity. It seemed there was a lot of lazy imagining, a lot of shorthand.” Whether or not he had Dick in mind, it seems a fair criticism of the novel, but visual specificity isn’t Dick’s strength. Ambiguity and irony are—wildly proliferating ambiguity and irony. He sows a kind of manic doubt, whose tonal strangeness flowers, you might say, only in winter—nuclear winter. He specializes in incommensurability: “It really seems to me that in the midst of great tragedy, there is always the possibility that something terribly funny will happen.”

Again, Dora would have none of it. “One good thing about Dick’s writing,” she said, “is that it makes me feel like my prose is so much better by comparison. Someone’s got to want to publish it someday! Usually when I read well-known fiction, I feel like I’ll never be good enough.” She had tagged the comment with a smiley face—☺—to let me know she was joking, but even if she’d been completely serious, I’d have loved it. She didn’t care that I was an English professor; she had her opinions and she was going to voice them.

At Grinnell, my students sometimes fear disagreement. They don’t want to stand out or “be mean.” The seminar table becomes a Thanksgiving one: too accommodating and amenable. “Don’t provoke Aunt Bertha!” Or it’s like
a hostage situation: as quiet as a gun yet to go off. Aristotle must have been especially irritated with his students when he said, “Criticism is something we can avoid . . . by saying nothing, doing nothing, and being nothing.”

Dora wanted “to put the characters on and become them,” but the prose in the first four chapters made it difficult. Referring to Deckard; his wife, Iran; Isidore; and Inspector Bryant, Deckard’s boss, she said, “I’ve had a hard time feeling for these characters because I’m so removed from them. I feel for the sheep most.” After Rick is awakened by the mood organ, which allows people to “dial up” any feeling they want, he heads to work, though not before tending to his electric sheep—it “grazes” on the roof of his apartment building. With most of the Earth’s animals dead from radioactive poisoning, people dream of owning an actual animal, the rarer the better, and, in a kind of keeping up with the Joneses, pretend they do.

As Rick “reached his sheep, . . . it lay ruminating,” we learn, “its alert eyes fixed on him in case he had brought any rolled oats. . . . The alleged sheep contained an oat-tropic circuit; at the sight of such cereals it would scramble up convincingly and amble over” (9). But Rick is angered by imitation, however plausible it may be. “Owning and maintaining a fraud had a way of gradually demoralizing one” (9), the narrator tells us. “And yet from a social standpoint it had to be done, given the absence of the real article” (9). After all, people needed to demonstrate empathic abilities—their superior humanity depended on it.

So demoralized is Rick that he purposefully exposes the fraud to his neighbor: “[He] bent down, searching in the thick white wool—the fleece at least was genuine—until he found what he was looking for: the concealed control panel of the mechanism. . . . After an interval Barbour said, ‘You poor guy. Has it always been this way?’” (11). Later, spotting what he thinks is a real owl, Rick once again feels hatred for his sheep, “which he had to tend, had to care about, as if it lived. The tyranny of an object, he thought. It doesn’t know I exist. Like the androids, it had no ability to appreciate the existence of another” (42). Rick, of course, has no ability to appreciate the existence of another. He is stuck in a binary: difference must be less.

In a remark that I didn’t pay enough attention to at the time, Dora said, “I can make the sheep’s perspective richer than what I’ve been given.” She then added, “I want to rescue the electric sheep and cuddle it and love it and care for it, poor thing!” It wasn’t just that she had an active imagination; she identified with the sheep, whom most readers wouldn’t even accord the
status of a minor character. “On a personal/emotional level,” Dora reported, “I pretty much invariably identify with anything that can’t fight back, so the electric sheep being the recipient of such abuse is pretty disturbing to me because it has no recourse. . . . That is baggage I come in with. I don’t know whether other readers who haven’t had similar experiences in their own lives would feel this way.”

When at the end of our first session we began to talk about her life—invariably we would move to typing for such discussions because she found them so stressful—Dora related a string of humiliating events: the bullying from peers I previously mentioned (at times so scary she feared for her life), encounters with misogynistic doctors (one prescribed additional housework for her problems), running away from home with a friend (they made it all the way to Montana, after crossing into and out of Canada, before being caught); near institutionalization at seventeen (her mother struck a deal with her: she could live in an apartment in another town if she agreed to family therapy); dicey employment (for years she worked at night so as not to have to interact with people), sustained unemployment (homelessness seemed a real possibility). Struggles with speech and periods of decompensation only exacerbated her sense of powerlessness. While this account of the “baggage she comes with” helped to explain her fondness for the sheep, I wondered if something else was drawing her to the nonhuman.

Primed by the film, Dora also identified intensely with Rachael Rosen, the niece of the Rosen Association director, Eldon Rosen, to whom we’re introduced at the beginning of chapter 5 and who at the end of the chapter discovers that she is an android. In the novel, as in Blade Runner, this “tyrannous object” serves as a foil to, and eventual love interest of, Deckard. Unlike the electric sheep, however, she learns to fight back—Dora would call the pair “twin tornadoes which tangle in each other”—but at this point Rachael is simply reeling from the news:

“Don’t be afraid of him,” Eldon Rosen told her. “You’re not an escaped android on Earth illegally; you’re the property of the Rosen Association, used as a sales device for prospective emigrants.” He walked to the girl, put his hand comfortably on her shoulder; at the touch the girl flinched.

“He’s right,” Rick said. “I’m not going to retire you, Miss Rosen.” (60)
Here, too, Dora was appalled. She described the exchange, “so cold, so oblivious to its effect on Rachael,” as “horrific.” “More-so I think to me,” she commented, “to anyone, who has had the experience of others saying heartless, dehumanizing things about them while they stand there knowing they have no power to make it stop.” This included things people said about autism—both online and to her face.

Bryant had sent Deckard to Seattle to consult with Eldon Rosen about the continued viability of the Voigt-Kampff empathy test—if it couldn’t detect the Nexus-6, they’d have big problems. The plan had been to run a controlled experiment using a mix of androids and a “carefully selected group of schizoid and schizophrenic human patients” (37) who show a “flattening of affect” (37) and who have always been vulnerable in the early stages of their disease, before they’ve been institutionalized, to misrecognition. “If you tested them in line with police work you’d assess them as humanoid robots” (38), Bryant had noted. “You’d be wrong, but by then they’d be dead” (38). Both groups suffer, according to scientists, from a “role-taking blockage” (38).

I had forgotten about these passages. I remember being flabbergasted as I encountered them again. The apparent lack of emotion, the failure to understand the intentions of another—Dick was talking about the adult version of autism! When he wrote Androids in 1966, it hadn’t yet been differentiated from schizophrenia, except with respect to age of onset. This would only happen in 1971, after the publication of Israel Kolvin’s seminal study, though not until 1980, with the appearance of the Diagnostic and Statistical Manual of Mental Disorders III, would the conditions be considered formally distinct. The connection between autistics and androids was thus literal in the novel—not my own allegorical imposition, as I had thought. The latter had developed to the point of a certain class of “deficient” human beings. According to the novel, the two groups were like ships passing in the night: one taking on water and about to go down, the other morphing quickly from wooden raft to schooner to stealthy nuclear sub.

Eager to protect their product, the Rosens had conspired to trap Rick by having him mistake Rachael for an android. If such a mistake ever got out, it would be a public relations disaster because the police can’t be going around retiring “authentic humans” (54). When Rick measured her body’s response to statements about the mistreatment or killing of animals, he had concluded that she was an android—she had been insufficiently disturbed by the prospect of eating oysters or spotting a mounted deer’s head. (As Dora noted, it was apparently okay to mistreat electric animals.)
Rosen, according to plan, had informed him he was wrong—though understandably so. Rachael had spent fourteen of her eighteen years on a spaceship, “living off its tape library” (52), and possessed an inadequate grasp of culture and an underdeveloped sense of empathy. In effect, she was artificially schizoid. Because she’d been given these memories in production, she had believed the story about herself. Rick, they made clear, would have to tell Bryant that the Voigt-Kampff empathy test had failed. It was too perilous, both legally and morally, to retire androids. As a result, he wouldn’t be getting his bounty-hunter bonuses.

But then, quickly recovering, he had asked a final question—about his briefcase, which he described as “one hundred percent genuine babyhide” (59). If this interstellar wild child, this corporate Caspar Hauser, didn’t understand the cultural aversion to killing animals, surely she would understand the biological one to killing small children. “[Rick] saw the two dial indicators gyrate frantically,” the narrator reports. “But only after a pause. The reaction had come, but too late” (59). He had been right after all: she wasn’t human.

Although focused on the psychological injury to Rachael, Dora was impressed by Deckard’s “slippery, sharp intelligence.” “Babyhide? Babyhide? He comes up with babyhide? But, wow, oh-so clever,” she said. Beginning to get into the novel, she called the duel between Deckard and Rosen “brilliant”—“icy and deadly and well-played on both ends.” For the first time, Rick “had more than one dimension to him,” she claimed.

We spent a great deal of time talking about the fact that the Nexus-6 androids cannot really be said to lack empathy. The text was clear: Rachael’s body had produced the necessary response; it had just produced it at a slower rate. The issue of organic feeling might still obtain, but the novel makes it impossible to believe in the distinctions for which Rick fights. Toward the end, we are told that Isidore experienced a “momentary, strange hallucination; he saw briefly a frame of metal, a platform of pulleys and circuits and batteries and turrets and gears—and then the slovenly shape of [the android] Roy Baty faded back into view” (159). This outdated vision of artificial intelligence, however, cannot compete with the lived reality of robot life.

Described as remote and detached and extremely cerebral, “as if a peculiar and malign abstractness pervaded their mental processes” (156), the androids, like some autistics, may simply have trouble displaying emotion in a recognizable fashion. As Dora put it, “What if what’s happening with the schizoid humans is the same thing that’s happening with the androids? That empathy exists in the absence of display. What if there is no difference
between the schizoid humans and the androids?” Put simply, the appearance of low affect is deeply misleading. After all, the androids experience fear. They are introspective and aspirational. When Isidore, who hasn’t yet figured out that Pris is a robot, asks about Mars and she tells him that “all Mars is lonely. Much worse than this” (150), he says, “I understood that the androids helped” (150). To which she replies, “The androids . . . are lonely, too” (150). Affixed to the passage in Dora’s notes appeared the pithy comment: “Saddest. Line. Ever.”

The whole point of conducting the Voigt-Kampff was to move beneath outward manifestation to more ostensibly reliable neurobiological markers. This is precisely what R. J. R. Blair did in his study from 2005, which showed that empathy is not a “unitary system,” but rather “a loose collection of partially dissociable . . . systems.” Comparing and contrasting psychopaths with autistics, it found that psychopaths excelled at cognitive and motor empathy—the former is the ability to make abstract propositions about the mental states of others; the latter is the ability to perform an appropriate gesture with your body—but lacked emotional empathy or what Simone Shama-Tsoory terms “the capacity to experience affective reactions to the observed experiences of others.” To be a psychopath, in other words, you must understand how people think and feel, you must be able to take their perspective and assume the posture of compassionate comprehension, but only so that you can manipulate them and later enjoy their pain.

In contrast, autistics struggled with cognitive and motor, but not emotional, empathy. This result was confirmed by a study from 2008, which found that subjects with Asperger syndrome had difficulty with cognitive empathy but did not “differ from controls in emotional empathy.” The following year, the Scottish researcher Adam Smith went even further in overturning the scientific applecart by proposing the “Empathy Imbalance Hypothesis,” which holds that autistics possess a “surfeit of emotional empathy,” making them “susceptib[le] to empathic overarousal.” Such overarousal has the effect of exacerbating difficulties with cognitive and motor empathy and of making the autist appear much less empathetic than he or she actually is. Describing autism as a difficulty attaching words to emotional states and motorically executing an expected response is very different from describing it as a lack of feeling for other people.

In our discussion of Rachael’s empathy test, Dora made it clear just how pivotal are the motor and timing aspects of autism; everything that neurotypicals take for granted occurs more slowly: “There’s the physical initiating
of movements that must occur and the processing time of realizing what just happened. Sometimes it takes me a really long time to realize what happened. I’m always feeling a few steps—or days—behind. If you don’t do things in the moment when you’re interacting with people, you kind of miss the window.” She then linked the issue of processing speed to the central challenge of AASPIRE: “getting the incredibly high-powered, senior researcher PI [principal investigator] people to slow down.” “It makes the research always take substantially longer,” she said, “which is a problem because then you no longer fit your normal grant schedule.”

Increasingly the central theme of Dick’s novel appeared to be the tension between what people had been taught to believe about androids and what the androids were actually capable of. We’re told that they lack sufficient warmth to care for animals, let alone for humans or for their own kind. Of Rachael, Rick says, “An android can’t be appealed to; there’s nothing in there to reach” (182). (Dora and I noted how much this remark sounded like what a number of prominent experts have casually said about autistics.) To Inspector Garland, who was just revealed to be a robot, he comments, “You androids don’t exactly cover for each other in times of stress” (124). Baty himself makes this point when he, Pris, and his wife, Irmgard, are huddled together in Isidore’s apartment building. The “chickenhead” has finally figured out that they are androids—“Actually you’re not alive,” he says. “. . . But what does it matter to me? I mean, I’m a special; they don’t treat me very well either” (163)—and the group must decide whether to let him live. “If he were an android,” Baty insists, “he’d turn us in about ten tomorrow” (164).

And yet, as Dora pointed out, “The androids are clearly helping each other; they’re not turning each other in. They even have their own underground railroad going.” When Luba Luft temporarily gets the best of him and Rick is taken to Garland’s fake police station, the narrator reports, “Rick saw what the androids, working together, had achieved” (110). He must swim through the mud of his own thinking—of human ideology—to reach the shore of what he experientially knows. The androids and Isidore must do the same. “Isidore’s told that he’s stupid,” Dora explained, “so he thinks he’s stupid. Though he hasn’t really done anything stupid. And I feel the same way about the androids. Because they’ve been told certain things, they believe them.”

Dick doesn’t entirely tip the scales in the androids’ favor, however. His genius as a storyteller, as a lover of ambiguity, is to pit an inadequate understanding of android life against some credible evidence of lack, as in the scene
where Pris and Roy sadistically torture a spider that Isidore has found. One by one, they cut off its legs, driving Isidore to great distress. Although the reader senses that the androids may be working out their own fear of being hunted, a stereotype is confirmed: they cannot care for animals. Even Isidore, who looks up to the androids and considers them superior, thinks, “Something ailed the . . . androids, something terrible” (211). Dick is mostly on their side, but he also seeks to capture the culture’s anxiety about technology—in particular, the collapse of the real through proliferating forms of electronic mediation. And anyway, he’s too fine a novelist to want to contain the Frankensteinian question he has birthed and, like Eldon Rosen, pushed into life.

Everything comes to a head when Rick, having found the androids and killed Pris, turns his gun on Irmgard: “‘I’m sorry, Mrs. Baty,’ Rick said, and shot her” (223). Her husband, the narrator tells us, “let out a cry of anguish” (223), which prompts the most remarkable admission from Deckard just before he kills Roy: “Okay, you loved her . . . and I loved Rachael. And the special loved the other Rachael” (223). (Though possessing distinct personalities and wearing different clothing, Pris and Rachael are the same android model.)

“There’s a time bomb for every oppression,” wrote Aniekee Tochukwu Ezekiel, and at this moment it goes off. Dora found Rick’s remark “incredibly tragic yet perversely freeing.” “On the one hand, Deckard’s running the program, doing his job,” she said, “though by this point, he doesn’t agree with it. On the other, he plainly concedes that this sort of love exists. There’s this weird hope and weird breakdown of social norms. An acknowledgment we’re all the same. But then, kaboom!” In The Fire Next Time, James Baldwin skewers “the collection of myths to which white Americans cling: that their ancestors were all freedom-loving heroes, that they were born in the greatest country the world has ever seen, or that Americans are invincible in battle and wise in peace, that Americans have always dealt honorably with Mexicans and Indians and all other neighbors or inferiors.” Rick, too, is a “slightly mad victim[ ] of [his] own brainwashing.” As he discovers his love for Rachael, he discovers Roy’s love for Irmgard: the androids are anything but emotionless ciphers.

It is precisely Deckard’s brainwashing that Rachael fails to undo in a preceding chapter. She has been sent by her “uncle” to seduce Rick and thereby inhibit his willingness to retire androids. Eldon wants to save his product; Rachael, her fellow robots. The only weapon at her disposal, besides her trim girlish figure, is parody—what Rick mistakes as an android tendency to address “topic[s] of worldshaking importance . . . facetiously. . . . [with] no emotional awareness . . . of the actual meaning of what [is] said. Only the
hollow, formal, intellectual definitions of the separate terms” (190). Think of Rachael’s wit as a piece of malicious Halloween candy, but with the razor on the outside and a vulnerable, pining sweetness within.

“I’m not alive! You’re not going to bed with a woman. Don’t be disappointed; okay? Have you ever made love to an android before?” (194). Rachael asks him. When he says no, she responds, “I understand... it’s convincing if you don’t think too much about it. But if you think too much, if you reflect on what you’re doing—then you can’t go on. For ahhhh physiological reasons” (194). As he bends down to kiss her, she repeats the injunction: “Don’t think about it, just do it. Don’t pause and be philosophical, because from a philosophical standpoint it’s dreary. For us both” (194). The android-human distinction, one of those “hollow, formal, intellectual definitions,” threatens to forestall pleasure—whereas the mind will get stuck, the body doesn’t care.

“Ooo I love how Rachael has played Deckard, how she has turned the knife of the sex-object the other way and landed it in his gut instead of her own,” Dora said. “For a supposed not-alive, unempathic, intellectual android, and an exhausted stone-cold bounty hunter, the scene with Deckard and Rachael is on freakin’ fire. Sexual, dangerous, passions on both sides, loud and complicated and messy. Everything promised by Rachael’s portrayal so far. She is vibrant.”

After the sex concludes, Rachael says, with sublime irony, “I love you, Rick, if I entered a room and found a sofa covered in your hide, I’d score very high on the empathy test” (194). “I laughed and slapped the book when I read that,” Dora exclaimed. By this point, she was really enjoying the novel: “It’s gotten horrible and clever. Every thing is so ugly and at the same time so sad. I love that duality. I want it to be ugly and petty, but it’s so sad.”

We spoke of Rachael as a kind of robot self-advocate and debated her feelings for Rick. She does seem, at least in part, to fall for him—or maybe that’s just in the film. Their relationship prompted me to ask about Dora’s own love life. She’s been with the same nonautistic man, a theatrical lighting designer and set builder (whose email address cleverly reads “sparkenter...”), for over two decades. Before that she was with a woman. She said she is more attracted to women physically, but, again, she doesn’t really understand gender. Her partner joked that they share an abiding fondness for “boobies.” (Not a hundred yards from their house is a strip club shaped like a breast or, rather, a breastlike jug of rum. Scoffing at liberal, pandrogynous Portland, the club’s sign reads, “Buns Packed with Gluten.”)

Unlike Deckard, Jason is an especially thoughtful man: warm, imperturbable, comfortably in love with Dora. They’re both able to laugh at themselves.
and, echoing Tim Burton, would likely say, tongue-in-silico-cheek, of their relationship, “We all know interspecies romance is weird.”

Although I had published a scholarly article about the deep connection to nonhuman entities, including inanimate objects, in autism, I had not thought much about its implications for literature. The point of the article was to note a species bias, or privileging of the human, in neurotypical accounts of empathy. This bias shows up, interestingly enough, in research about the salutary effects of reading fiction on empathy’s cognitive component.

A recent study by Italian researchers found that literary, but not science, fiction improved mentalizing abilities. Whereas the former genre involves “understanding characters,” the latter, the authors claim, involves “imagining different realities.” By “different realities” they mean, among other things, artificial intelligence or talking objects. “Perhaps for this reason,” they propose, “science fiction . . . is preferred by individuals with autism, and does not affect social skills.” One can object to all sorts of things in this statement: (1) the distinction between literary and science fiction, as if the latter can’t be “literary”; (2) the claim that science fiction isn’t character-based—Dora yelled, “What?????????” when I told her about the study; and (3) the very narrow conception of the social, as if the social were something that only humans did with each other.

The reference to autism is anything but gratuitous. As the authors note, “A more nuanced understanding of the effects of reading is necessary to inform potential rehabilitation treatments for disorders in which a deficit of empathy is central, such as Autism Spectrum Disorders (ASDs) and schizophrenia.” Sadly, the article lacks a more nuanced understanding of literature itself, which resists reductive templates. Dick’s novel cleverly exploits the confusion of the human and the robot, which is to say, that as the latter becomes more human to Deckard, the reader finds himself in an equivalent predicament. At first, Rick worries that he is sexually attracted to androids. It was “an odd sensation, knowing intellectually that they were machines but emotionally reacting anyhow” (95). Then he is plagued by moral concerns, feelings for his prey—what he calls “empathy toward an artificial construct” (141).

To treat Rachael as something other than an object whose “life” doesn’t matter is akin to treating her as a complex character. Dick ensures that we do. It’s an open question as to whether autistic readers would identify more with her than with Deckard, just as it is an open question as to whether
neurotypical readers would identify more with Deckard than with her. But it seemed a possibility. Again and again, Dora commented, “Rachael remains the only character who feels alive.” Of course, the business of identification is complicated. Which aspect of a reader’s personhood customarily prevails? Maybe autistic men would identify with Rick. For Dora, gender itself was less decisive than the experience of belittlement and discrimination, which often come with being a woman. And yet something else appeared to be at play. Increasingly, what seemed an aesthetic judgment about Dick’s authorial skill took on neurological significance.

In saying this, I’m not reducing Dora to her neurology; rather, I’m trying to account for the intensity of her feelings for Rachael. Sci-fi regularly relies on the human-robot inversion; autistic readers may be especially primed to embrace it. Consider, for example, the “weirdly poignant scene” in Stanley Kubrick’s *2001: A Space Odyssey*. In Nicholas Carr’s retelling, the astronaut Dave Bowman “calmly, coldly disconnect[s] the memory circuits that control [HAL’s] brain.” “Dave, stop . . . My mind is going. I can feel it, I can feel it,” the computer cries. According to Carr, “HAL’s outpouring of feeling contrasts with the emotionlessness that characterizes the human figures in the film, who go about their business with an almost robot efficiency. In the world of *2001*, people have become so machinelike that the most human character turns out to be a machine.”

When I interviewed Temple Grandin and asked her if literature or film had ever elicited a strong emotional response, she said that she had cried and cried while watching this scene, though not because she shared Carr’s concern about the triumph of technology. She felt for HAL. In *Loving Lamp-posts*, an autistic woman calls an old General Electric refrigerator, whose cord she cut off, her “friend.” “I want the whole world to know about my Rudy,” she says. “We’ve been together for twenty-eight years now.” She then remarks to the camera, “I met a real live steam locomotive. Union Pacific keeps him as a pet. He’s very friendly. I bet if you tried to interview him, you could get him to talk.”

The very title of the documentary suggests a fondness for the nonhuman—the director’s autistic son exuberantly interacts with what the dictionary defines as a “tall pole with a light at the top” but what a writer might dub “evening’s metallic sentinel.” On the page, the writer, you might say, presents the inanimate world autistically or, put another way, through the figure of personification, he creates a momentary android. “I have named a broken cup at home as Prometheus. I have named a wooden frog on the windowsill as Mr. Voltaire,”
Tito comments in an interview. But for him the gesture is less a conceit than a vibrant reality. Or, rather, because he is a writer himself and can play with his own neurological proclivities, it is both—call it a living conceit.

Much anecdotal evidence points to a rich relationship with things in autism. They are alive and demand our care. Again, Tito: “There is a big sense of extreme connection I feel with a stone or perhaps with a pen on a tabletop or a tree.” On the self-advocate website “Wrong Planet,” the mother of an autistic child posted a message in which she sought guidance for her son’s “obsessive empathy for inanimate objects.” “If he drops a food wrapper he thinks the wrapper will be upset if he doesn’t put it in the bin,” she said. “If a chocolate chip falls off his biscuit then he will put it back with its ‘friends.’” Responding to the mother, a number of people with autism and Asperger syndrome reported that they also treat objects in this manner. Dora, I learned, used to do the same. “I think I told you, that if I stubbed my toe, I would apologize to the furniture,” she said. “And there were books I couldn’t read because I got so upset when a character left mashed potatoes on her plate.”

“We say animism,” writes Dennis Silk. “Then we put it back on the shelf with the other relegated religions.” “Maybe our flight from animism is our flight from madness,” he says. “We’re afraid of the life we’re meagre enough to term inanimate.” He reminds us that the poet Rainer Maria Rilke once had trouble leaving—one might even say breaking up with—a bar of hotel-room soap and that during the confession of the fifteenth-century child serial killer Gilles de Rais, the Bishop of Nantes shielded the wooden crucifix, which hung on a wall. “If a cross is a witness, why not a loaf of bread, or a shoe-tree, or a sugar-tongs or a piece of string?” Silk asks. “We should have an All Souls’ Night for dead objects, and confer on them some hours of the life we deny them.”

Of course, scientists have long known about—and frankly dismissed—such anthropomorphic tendencies. As one researcher writes, “Humans might project personality and character onto a car, based on the powerful mechanisms of social cognition involving... [the] attribution of intentionality and mental states, but the car itself remains a passive object, never initiating any interactions, any ‘relationship’ only exists in the mind of the human.” In this view, anthropomorphism is simply “a side-effect of normal brain development,” a “natural extension[] of the systems of the social brain to the inanimate world.”

And yet there’s more to anthropomorphism than previously thought—and more to think about with respect to auties and andys. Auties appear
less to extend the systems of the social brain to nonhuman agents than to begin with these agents. As Grandin notes in *The Autistic Brain*, “Neuro-imaging studies . . . have repeatedly indicated that the cortex of an autistic doesn’t respond to faces as animatedly as it does to objects.” Andys appear to constitute the perfect fulfillment of anthropomorphic desire: instead of a car, say, whose grill seems to smile, an actually smiling humanoid robot, but one that challenges our commitment to anthropocentrism and, in so doing, causes anxiety.

Researchers have found recently that autistic children “exhibit certain positive social behaviors while interacting with robots that are not observed while interacting with their peers, caregivers, and therapists,” and yet they fear that this kind of therapy may be counterproductive. After all, the point is to shore up the “wise man” Homo sapiens, to protect his perch, to make him distinctively alluring. The normative drive won’t allow an egalitarian diffusion of regard: “I attend to everything the same way with no discrimination, so that the caw of the crow in the tree is as clear and important as the voice of the person I’m walking with,” explains autist Diana Krumins.

It’s tempting here to speak of the “posthuman,” of having moved beyond any stable sense of what the human is or what its values ought to be, but I prefer Erin Manning’s much less linear concept of “the more than human,” which makes room for a host of actors, including traditional human ones, and insists on a field of relation, an inclusive, antihierarchical ecology. In this context the concept has the added benefit of echoing the title of Theodore Sturgeon’s 1953 sci-fi novel *More Than Human*. For Manning, the problem of what Graham Harvey calls the “old usage,” which “constructed animists as people who did not or could not distinguish correctly between things and persons,” fails to matter at the earliest stages of perception when the world hasn’t yet resolved itself into agreed-upon categories.

Although anthropomorphism is thought to be universal, the degree of anthropomorphic engagement varies in the nonautistic population, according to a recent study. The study demonstrated “stable individual differences in anthropomorphism that predict[] . . . important consequences for everyday life.” These consequences include “the degree of moral care and concern afforded to an agent, the amount of responsibility and trust placed on an agent, and the extent to which an agent serves as a social influence on the self.” Anthropomorphism, in other words, isn’t just a narcissistic projection, the tendency, as David Hume put it two hundred years ago, to “find human faces in the moon [or] armies in the clouds.” It can be a measure of ecologi-
cal care, an attentiveness to entities other than ourselves and, just as important, to historically demonized members of “extreme outgroups.”

“Seeing human” when seeing a homeless person on the streets or a non-speaking child with autism in a group home seems to be correlated with a willingness—indeed an eagerness—to anthropomorphize nonhuman agents. The fact that “those who are socially connected are less likely than those who are lonely to anthropomorphize . . . [and] more likely to demonize other humans” should give us pause. It should also prompt us to consider the effect of weaker and stronger anthropomorphizing tendencies on readers of science fiction. What’s at stake is precisely an openness to the genre’s alternative sense of character and a rejection of its frequent disparagement by critics.

It’s worth mentioning that scientists have documented a form of synesthesia in nonautistics that incorporates especially vigorous anthropomorphism. A study from 2007 focused on a woman “for whom inanimate objects . . . are experienced as having rich and detailed personalities” and for whom letters and numbers are experienced as “highly consistent and specific sensory experiences of color,” a condition referred to as “grapheme-color synesthesia.” As the researchers report, “Synesthesia can involve complex semantic personifications, which can influence visual attention”—their subject’s personifying propensities were so vigorous as to be “indiscriminately activated by almost every object.” Previous research had documented a more modest version of the phenomenon called “ordinal linguistic personification” in which individuals “attribute animate-like qualities such as personality and gender to sequential linguistic units (e.g. letters, numerals, days, months).”

The authors of the 2007 study refer to “a personification network . . . [which is] strongly activated by objects that for normal individuals either do not activate, or weakly activate, this network,” and they propose that “object-personality pairings” are “likely due to a greater number of neural connections in the network or reduced inhibition of normally occurring connections.” Such connections probably take place in the parietal and frontal regions, in areas associated with “personification and the self” and with “shifts of covert and overt attention.” Parietal regions, they note, have been associated with “disengaging attention from objects.” The intensity of this sort of anthropomorphism may thus result, in part, from becoming perceptually glued to things that a person would otherwise deem, in a typical “topology of salience,” to be unworthy of sustained attention. If you look long enough at a chair or a light fixture or a lamppost, how can it not appear to be a social partner? (“Mother fork, grandmother fork, ex-father fork . . .”)
While “object-personality pairings” may constitute “an extreme endpoint of a normal mechanism”—that is, a version of anthropomorphic inclinations in nonsynesthetes—they may also be something else entirely, something that disappears through a process of neural pruning as the typical child develops. “When we are born, we are born with everything wired to everything else. There’s a gene [that causes] trimming, and if that gene mutates, then you get deficient trimming,” explains V. S. Ramachandran. The former view, however, deemphasizes the cross-activation of “far-flung brain areas,” holding that synesthesia is “closely related to normal sensory integration going on in everyone below the level of consciousness.” Personifying synesthetes may retain a “heightened awareness” of lower-level input before it has been subjected to—you might even say suppressed by—higher-order categorical analysis. Think, for example, of the motion-detection system in humans, which initially doesn’t distinguish between kinds of movement. If only for a hundredth of a second, there is no difference between the wind-blown limbs of a tree and a person waving her arms.

Although we don’t know if this model can account for extraordinary anthropomorphism in autism, we do know that autistics are three times more likely to be synesthetic than nonautistics—Dora experiences synesthesia—and that autistics possess privileged access to precategorical sensory information. Recall my discussion in chapter 1 of Laurent Mottron’s theory of enhanced perceptual functioning in autism. A penchant for detail and a resistance to abstraction delay the emergence of the ordinary world, which for nonautistics arrives each moment, by comparison, predictably arranged and assembled.

For Dora, the distinction between animate and inanimate entities didn’t exist until high school—it still doesn’t entirely exist. “The lines between things are fuzzy,” she explained. “The lines between figure and ground are fuzzy; the lines between foreground and background are fuzzy. All of these things have to get threaded out and sorted.” People present particular challenges in that they are especially animated—and often in unpredictable ways. “It’s a lot to take in and process,” Dora said. For this reason, she prefers a book or a movie to “real life” because “the artist who has created it has pulled out the relevant bits.” Just as Tito rendered metrical poetry an unlikely accommodation by using it to calm his anxiety, so Dora rendered fiction an unlikely accommodation by using it to quell the mass of random detail that regularly confronts her. Art’s shapeliness, its intention, acts as a kind of filter—like breadcrumbs in the forest or blinders at the racetrack.
At one point the narrator of *Do Androids Dream of Electric Sheep?* says, “In .45 of a second an android . . . could assume any one of fourteen basic reaction postures” (30). The remark occurs in the context of a discussion of how deceptively realistic are the android’s movements—deceptive enough to require an empathy test to determine its status and yet insufficiently flexible and varied when compared to a human being’s more robust motoric repertoire. Pursuing Dora’s sense of art’s accommodative function and dismissing any and all value judgments about artificial intelligence, we might think of science fiction itself as a Nexus-6 android. What Samuel Taylor Coleridge said of the writer generally may, with some modification, be said of the science fiction writer specifically: he must “transfer from [his] inward nature a [more than] human interest and a [purposeful simplification of sensory] truth sufficient to procure for these shadows of [reality] that willing suspension of disbelief [and ontological preeminence].” By teaching us to see beyond ourselves, by helping us to forge a new “topology of salience,” science fiction can function as an accommodation for neurotypicals as well.

How much did Dora believe in this account of her attachment to Rachael? Not as much as I did. Again and again, she reminded her ethnographer that she was more complicated than any hypothesis I might have about her. She pointed out that her love of androids also derived from the “seamless integration of technology into [her] activities of daily life.” Though all of us are what Donna Haraway termed cyborgs, “fabricated hybrids of machine and organism,” Dora, like many autistics, was a giga-cyborg, for want of a better term. “Technology has been the other piece of my brain my whole life,” she said. “Whatever’s missing I have a device that does it for me. Very early PDA user, gadgets—I’m always reaching for a technology first.” Her study in Portland looked like a cross between a 1980s punk-rock stage and the bridge of *Battlestar Galactica*. Futuristic lights, music, and furniture—all of it pulsating, all of it carving its syncopated signature on the brain. “OMG. The tech is delightful,” she said when encountering Deckard’s “nondirectional Penfield wave transmitter” (88). “In reality, I am a 15-year-old boy who can’t get enough of this stuff.”

She told me that she had spent a lot of time thinking about assistive technology and “how it blurs human/machine lines.” “I don’t believe that these dichotomies exist,” she remarked. “What is AI? Whatever computers can’t do yet. We keep moving the line on what we call AI every time computers do
something new.” Perhaps the “fuzziness” of perceptual distinctions allowed her to see fully the contrivance of philosophical ones and to embrace a robot who, through its own assistive technology, seemed “more human than any of the other humans.”

In her sci-fi novels, assistive technology figures prominently. After we finished with *Androids*, I read and commented on *Hoshi and the Red City Circuit*. “The premise of the world I write in is that only 1% of the population is capable of operating quantum computers due to a genetic condition,” Dora explained—a genetic condition that conspicuously resembled autism even if it didn’t go by that name. “The condition enhances sensory-associative thinking at the expense of verbal-sequential thinking,” she said. “The reason why only 1 percent of the population can program is because the ability to produce complex synesthetic landscapes is restricted to just that group. The whole idea is they have an idioglossia, a language only one person knows, because it’s the only way to do encryption once computers reach a certain level of sophistication.” The link to Dora’s cognitive style, those complex synesthetic landscapes, was unmistakable—in fact, she later joked about this aspect of her novels, “Everybody thinks it’s fiction!”

Implanted beneath the skin of the forehead, the quantum computers function as assistive technology “because verbal-sequential reasoning can be programmed into them.”

However, they also serve as a mark of caste and shame, and have led to a society in which visible displays of technology and the use of (most) implanted tech are taboo. Like Rachel’s short delay before exhibiting a response to the babyhide probe, the results of programmed cognition—speech, physical movement, emotive expressions, actions—never come across as “natural” to normals. A short delay, in fact, is often present while complex programming signals through the nervous system and engages the body.

Dora had pushed the lived reality of assistive technology as far as she could and created a world, not unlike our own, in which neurological difference is begrudgingly, if narrowly, appreciated and yet consistently demonized.

Listen to Hoshi, the novel’s “defective detective,” describe the process by which she thinks:

Between my mind and my machine, information churned as the programs I’d started last night ran, using the meat of my brain as swap and
storage. No matter how advanced material technology gets, nothing
compares to the brain for sheer memory capacity. I’d erected a parti-
tion between my consciousness and the programs, but the parts of me
that think through the system were going a bit slogsy with so many
extra processes running in the background. I rely on my navis’ hard-
ware just as much as it relies on my wet-memory. Symbiosis, in a sense.

Each aspect of Hoshi’s brain plays a role, a blended one, in thought.
The “Operators” in Dora’s novel access a space called the “Mem.” Like the
“digital natives” from Silicon Valley whom Steve Silberman writes about in
NeuroTribes, these autistic-like beings serve as the “architects of our future.”
Hoshi says,

The blank blackness of my mental workspace contained only the win-
dow [of my apartment], the crackling blue spark of a channel out, and a
vague sense of up and down. The window is where I access my memory,
both meat and machine. The spark is the link between my hardware and
the city’s micro and radio networks; through it I access the Mem, informa-
tionspace. Not a “virtual” reality, but an actual reality, one made of
electromagnetic signal, information encoding, and the occasional degrada-
tion of noise. A reality made by centuries of my people’s thoughts.

The Mem is an extraordinary, multidimensional realm, the imaginary creation
of an extraordinary “spatial visualizer.” The novel finds a way of narrating the
different realms or threads of thought as Hoshi occupies the Mem. But in this
world, no two Operators, no two spatial visualizers, are the same.

When I suggested a link to Daniel Tammet, an autistic savant who thinks
in synesthetic landscapes and who once recited, from memory, twenty-two
thousand digits of Pi, Dora told me about her dyscalculia. While she can
do complex math and while she can code, simple arithmetic remains elusive
because numbers mean nothing to her. They are like windblown seeds that
can find no purchase, no foothold, on the rocky cliffs of her brain. When
Tammet looks at a numeric sequence, his “head begins to fill with colors,
shapes and textures that knit together spontaneously to form visual land-
scapes.” “To recall each digit, I simply retrace the different shapes and textures
and read the numbers out of them,” he says. He is also aided by ordinal
linguistic personification: “Numbers are my friends, and they are always
around me. Each one is unique and has its own personality. 11 is friendly and
5 is loud, whereas 4 is both shy and quiet.”
If Tammet “see[s] numbers as shapes, colors, textures and motions,” then Dora sees computer symbols as shapes, colors, texture, and motions, though she doesn’t have his memory. Like many a synesthete, she discovered rather late how uniquely she “apprehend[s] the world,” and it was only at work one day, after being interrupted while programming, that she learned just how uniquely she “writes” code. She was complaining about the interruption to her fellow programmers: “I’ve got my shapes; I’ve got my landscape all set up. It’s really hard to hold the contents of a hash inside your head. It’s so complex. I’ve got that going there, and I’m trying to move this around. And they’re all like what the fuck are you talking about? And I was like, you know the shapes, the code landscape. . . . They didn’t have one.” “I like the landscapes,” she said, “but people don’t seem to understand them. They back away slowly when I talk about how I code.”

Dora had built into her novel the notion of type—autistics tend to possess considerable visuospatial skills—and yet at the same time she had insisted on particularity. Here is Hoshi once again:

Every Operator sees these things differently but we all see them: personal memory, transmission flow, data pools, trace wakes—the underlying architecture of the Mem. Ultimately it’s just information flowing through the airwaves or jammed into memory matrices. We create programs in our own unique idioglossias. Then we encode the programs of our idio with a lingua franca, a bridge language, so others can understand them. . . . I don’t know how Martin, or Luzzie, or any other Operator experiences true-code. We only share the franca.

After retiring the six rogue androids and discovering that Rachael has killed his goat, which he bought with the bounty-hunting bonuses, Deckard retreats to the uninhabited wasteland of Oregon, where he stumbles upon a toad. Out of his mind with grief and self-loathing, he once again thinks that an animal will save him. When he brings home this creature thought long extinct, he sees that it is artificial. “It doesn’t matter. The electric things have their lives, too” (241), Rick says to his wife, before adding, “Paltry as those lives are” (241). Deckard has traveled a great distance, in thought and feeling, with respect to the inorganic, but he hasn’t traveled far enough.

“It would be unrealistic for someone like him to be pro-android,” Dora commented. “When people’s paradigms are changing, there are a lot of qualifiers along the road to that paradigm change. They say something that’s
in the new paradigm, and then they have to go reframe it somehow within the context of their old paradigm.” The “structure of scientific revolutions,” Thomas Kuhn called it. We talked about the current revolution in autism, about analogously weak and strong versions of neurodiversity, and about how our culture seems at last to have embraced the idea of lives for autistics: still “paltry lives,” for the most part, but lives all the same.

Looking back on his work during the 1960s and 1970s, Dick recognized that he, too, had been stuck in a paradigm shift: “There are ‘androids’ or ‘the mantis’ among us which appear human but only simulate humans. . . . Here is where I went wrong: the simulation is . . . not evil (as I thought) and it is not less than what it simulates (as I thought) but more; not clever simulacra-reflex machines, but angelic.” The comedian Stephen Wright once quipped, “When I die, I’m leaving my body to science fiction.” In a sense, that’s what Dora has been doing: leaving her atypical body to collaborative medicine and to an art form that celebrates differences both general and specific. “Write me a creature that thinks as well as a man or better than a man, but not like a man,” implored John W. Campbell Jr., a prominent writer and editor during the golden age of science fiction.