

MICHAEL ZISER

Living with Speculative Infrastructures

Reading our present dilemmas in science fiction's past

Science fiction is often charged with naïve technological optimism and historical amnesia. But for present-day Californians struggling with a wide range of environmental and social problems, science fiction might just provide the perspective we need to successfully pivot from the boom times of the twentieth century to the messy prospect of the century ahead. It won't be the techno-futurist elements of science fiction—miraculously clean energy sources, flying cars, off-planet factories—that are going to save us, though. The classic works of science fiction have a different, more fatalistic side that speaks more usefully to our current condition, awash as we are in the environmental and social consequences of the Golden State's postwar boom.

Even as they lived through and contributed to an era of unbridled technological optimism, the giants of postwar science fiction in California brooded not simply over the negative consequences of technology—a common anxiety in the Atomic Age—but also over deeper philosophical questions about what it means to be dependent on and even determined by the technologies that made life in postwar California possible. In the works of three postwar California writers in particular—Ray Bradbury (1940s and 1950s), Robert Heinlein (1950s and 1960s), and Philip K. Dick (1960s and 1970s)—we can watch the rapid development of dams, aqueducts, interstate highways systems, suburban sprawl, and their consequences as they are digested in the speculative cultural form of science fiction. Bradbury dramatizes the personal difficulty of adjusting to the radical novelty of West Coast civilizations carved out of the desert. Heinlein is less haunted by the loss of tradition and more interested in the new political and economic possibilities created by the very artificiality of the postwar environment. And

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Dick—perhaps the most useful guide to our present—gives full expression to the uncanny sense of being lashed to the decrepit infrastructure of the past. It is this complex exposition of how it feels to be a creature of civic infrastructure—and not teleporters, psionic readers, and hyperdrives—that turns out to be the most prescient vision of California science fiction.

Postwar science fiction is to a surprising degree a phenomenon of the western United States. With a few notable exceptions, the major figures in the development of the genre's Golden Age and New Wave eras (together covering the late 1930s through the 1970s) all had significant biographical connections to the West—and this at a time when the western states accounted for a small fraction of the total US population (around 10 percent in 1930, rising to 17 percent in 1970). A.E. Van Vogt, Theodore Sturgeon, Ray Bradbury, Robert Heinlein, Philip K. Dick, Ursula K. Le Guin, and Kim Stanley Robinson are but the most celebrated of the hundreds of significant science fiction writers to live and work in California and the far West during this period.

As the producers of Golden Age sci-fi were lured to the region by the new economic opportunities available to writers in the pulp, television, and film industries of Southern California, they were also drawn into an imaginative relationship with California's physical novelty as a place sprung *de novo* from the plans of hydraulic engineers, road builders, and tract housing developers. Many of the major themes of science fiction in this period—the experience of living in an arid Martian colony, the palpable sense of depending in a very direct way on large technological systems, unease with the scope and direction of the military and aeronautics industries, the navigation of new social rules around gender and race—can be read as barely veiled references to everyday life in California. For sci-fi writers, teasing out the implications of an era in which entire new civilizations could be conjured almost from nothing through astonishing feats of engineering and capital was a form of realism. They were writing an eyewitness account of what was the most radical landscape-scale engineering project in the history of the world.

By the 1940s, Ray Bradbury's set of collected stories, *The Martian Chronicles*, signaled definitively that science fiction had largely moved on from its prewar fixation on interplanetary romance and gee-whiz gizmo stories. While Bradbury drew on an extensive tradition of Mars fiction, the stories

have almost nothing in common with Edgar Rice Burroughs's Barsoom novels of the previous generation. They are better understood as explorations of postwar suburbia: John Cheever rocketed to the deep-space exurbs—or rather the dusty precincts of southern California. Instead of playing heroic roles in traditional planetary romances through the conquest or liberation of alien civilizations, Bradbury's colonists get entangled in far more mundane passions. The first violence arises not from a clash of civilizations but from the jealousy of a Martian husband whose lonely wife dreams of being rescued from her constricted domestic sphere by a space-helmeted courtier from Earth in Bradbury's "Ylla." In "The Earth Men," when human beings first arrive on the red planet in small numbers, they are greeted not by a phalanx of alien troops but rather by the Martian psychiatric bureaucracy, whose flummoxed doctors finally decide that the only way to deal with the peculiar, untreatable aliens who show up claiming to be visitors from another planet is to euthanize them. A subsequent wave of colonists succumbs to a fatal form of mass nostalgic delusion that causes them to mistake the precincts of an alien landscape for their own Midwestern American childhood homes in "The Third Expedition."

The persistent evocation of arid suburbia is one of the first clues that Bradbury is writing about something more historically specific than a lost prewar America. Although his stories sometimes recapitulate the broad terms of North American colonization—the plague that decimates the native Martian population, the travails of pioneer women on an agricultural frontier, the wholesale emigration of African Americans relieved to be free of the racial hierarchies of the South—they all point toward the western culmination of that colonization along the shores of the Pacific. The stories with the greatest detail reflect the infrastructural and environmental dimensions of the postwar colonization of California. "The Green Morning," a brief sketch about a Johnny Appleseed figure who successfully converts the arid landscape of Mars into a lush forest, is easily read as an allusion to the irrigation and conversion to agriculture of the desert Southwest, in particular the orange groves of Southern California. A later tale, "Locusts," follows up this fable of the blooming desert by describing the rapid population of the newly verdant landscape by colonists who arrive, like new Californians stepping off of Santa Fe and Southern Pacific passenger trains, to reshape the landscape into a replica of



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their Midwestern hometowns. No writer of the period takes as many pains as Bradbury in detailing the material and psychological consequences of the explosion of residential construction in California after World War II.

The nascent environmental misgivings expressed throughout *The Martian Chronicles* are particularly salient. In the stories “—And the Moon Be Still as Bright” and “The Settlers,” which are sometimes combined into a single tale; the most sympathetic figure, Jeff Spender, bemoans the reckless destruction of the Martian environment, especially the pollution of its scarce water resources, and foresees further degradation by future waves of colonists. “We Earth men have a talent for ruining big, beautiful things,” he says, before attempting to kill his fellow colonists to prevent the destruction. The most powerful evocations of environmental unease, however, come not in these flashes of direct preservationism, but in the persistently developed motif of unsettling artificiality in the Martian colonies.

“There Will Come Soft Rains” moves the setting back to Earth (specifically Allendale, California, situated along a significant irrigation canal) and to the modern marvel of the automated home that was the promise of the postwar suburb. The catch is that all of this automation is being carried out in the absence of the intended human inhabitants—a nuclear family—because they have been incinerated in a nuclear holocaust. This story calls attention to the degree to which the terraformed civilization of the postwar West is at once minutely tailored to the material needs of its human residents and at the same time utterly indifferent, if not inimical, to the broader terms of their existence. Modern Californian civilization is but shallowly rooted and easily erased even if its infrastructure persists. The mystifying title of the story—“There Will Come Soft Rains”—connects this existential critique to an environmental one. It is drawn from a World War I-era poem of the same title by Sara Teasdale, which imagines the indifference of nature to mankind’s self-induced extinction. “Not one would mind, neither bird nor tree, / If mankind perished utterly,” the poem reads.

Bradbury’s use of this sentiment complicates it, however. The indifferent cycles of nature that Teasdale invokes are refigured by Bradbury in the automated household, as if all of the technological achievements that were intended to insulate human beings from the environment have become just another implacable form of indifference to human

well-being. In this story, long a staple in high school classrooms, Bradbury gives voice to a feeling, which appears again and again in postwar science fiction, that by massively transforming their physical environment, Californians traded exposure to the cycles of “first nature”—the natural world—for a more profound dependency on an equally demanding infrastructural “second nature” made by human beings.

Bradbury’s use of the interlinked story form points to another significant development in the history of science fiction: the shift away from magazine publication toward long-form fiction marketed as novels. Though this was driven by a variety of economic and cultural factors, it dovetailed well with the need for a broader fictional canvas to accommodate the infrastructural ambitions of writers in the 1950s and 1960s. Such longer forms allowed for more thorough evocations of place and deeper critical development of the consequences of speculative infrastructures in the western United States.

Robert Heinlein’s arguably best novel, *The Moon is a Harsh Mistress*, published in 1966, uses the extra space of a long-form novel to craft a story ostensibly about the struggle waged for political self-determination by Loonies, the residents of the moon, which has been turned into a penal colony. *The Moon is a Harsh Mistress* can be read as a brief for a form of libertarianism (called “rational anarchism” by the chief ideologue in the book) tintured with the frontier ideology of the nineteenth century American West. But Heinlein is equally alive to the ways in which individual initiative is supported and constrained by technology. The plot to free Luna, as the moon is called, from its earthbound overlords hinges on the sympathies of a self-aware supercomputer nicknamed Mike that can accomplish what the human plotters can only dream about. When the war of independence heats up, it is Mike’s manipulation of the freight catapults that ultimately wins the day. Independence from earthly political and moral authority—the loosening of marital strictures is one major social component of the lunar society—turns out to be deeply dependent on specific infrastructures of transport, communication, and computation. Where Bradbury concentrated on how humans might lag behind in an era of rapid change, Heinlein’s novels depict the slow processes by which cultural practices adapt in response to their transformed material technological conditions.



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What is most remarkable about Heinlein's fictional universes is that his novel technologies are allowed to have shifting histories and contingent futures. Instead of indulging in the engineer's fantasy of a design that fulfills its specifications to perfection, Heinlein's worlds are filled with technologies that always produce some form of deficiency or excess that can be turned to unforeseen further use by the processes of history. It was an accident of accounting and computer science that allowed the supercomputer Mike to develop a consciousness that enabled "him" (the gender is actually the subject of some debate in the novel) to evaluate the political status quo for fairness and thus become subject to political persuasion by the human revolutionaries Manny, Wyoh, and Professor de la Paz. And the existence of a mothballed and forgotten wheat-catapult provides the means for the lunar rebellion to escape military suppression. Even the triumphal moment of lunar independence is no stable event: its architects (Mike and Professor de la Paz) die or disappear immediately, and the erosive forces of history immediately start gnawing away at the new state. At the end of the novel, we are left wondering from what corner of the technical zone the next chapter in lunar history will evolve.

Heinlein's novels on the whole reflect the basic optimism of his era about the potential to remake human civilization by creative reuse and development of technological infrastructure, reflecting a moment in western US history when large state investments were as likely to be seen as liberating new social forms as they were to induce fears of oppression. But they also betray unease about the degree to which the future is determined by technological factors that are nearly impossible to predict or even rationally assess.

The Moon is a Harsh Mistress may well have been inspired by a lunar rebellion novel from another California science fiction novel, Philip K. Dick's *Time Out of Joint*, published in 1959. While Heinlein rarely allowed his doubts about the knowability of the future effects of technology to derail his certitudes about the politics of daily life, Dick carved out his distinctive niche among sci-fi authors precisely by bodysurfing the new waves of socio-technical innovation as they crashed into the politics of daily life in California. Dick's short stories from the 1950s register in a direct way the prevailing geopolitical concerns of his time: the war of ideologically opposed factions; the threat of autonomously escalating military conflict, often culminating in complete nuclear annihilation of the Earth's surface; time travel as

a means of confirming, preventing, and sometimes triggering apocalypse; and Mars colonization. But after a great burst of short story production in the early 1950s, Dick returned to many of these materials in a cooler and more metaphysical mode. He focused not just on the threat of cataclysmic violence but on the way the disintegration of modern civilization's fantasy about itself possesses its own form of productive power. The whiff of atomic panic and red scares that wafted through the stories of so many of his peers remains in Dick's work, but he places new emphasis on the ideological and material infrastructure that invisibly determines the imaginative horizons of his characters—hence the stories of suburbia that emerged in the late 1950s and early 1960s in his non-science-fiction work and the relentless attention to colonization in his major sci-fi novels of the 1960s.

A key harbinger of this turn is the brief but powerful early story, "Survey Team," which features a crew driven by the nuclear annihilation of Earth to attempt a desperate colonization of Mars. As the story opens, the main character reflects on the despoliation of his home in terms that recall the wistful reminiscences of Californians coping with the rapid development of their state:

"It was a lot different from the way he remembered it when he was a kid in California. He could remember the valley country, grape orchards and walnuts and lemons. Smudge pots under the orange trees. Green mountains and sky the color of a woman's eyes. And the fresh smell of the soil . . . That was all gone now. Nothing remained but gray ash pulverized with the white stones of buildings. Once a city had been in this spot. He could see the yawning cavities of cellars, filled now with slag, dried rivers of rust that had once been buildings. Rubble strewn everywhere, aimlessly . . ."

As they explore the planet, the crew finds no useful resources for human life but plenty of evidence of an ancient Martian civilization that is surprisingly similar to the wreckage they left behind: "Ruin, heaps of rusting metal. Bales of wire and building material. Parts of uncompleted equipment. Half-buried construction sections sticking up from the sand."

It slowly dawns on them that the Martians deliberately abandoned the planet after despoiling it 600,000 years before, evacuating all of the useful resources with them. An examination of the ruins reveals that their target



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planetary colony was Earth itself. Thus, the Martian-cum-human species was responsible for the destruction of *two* hospitable planets. “A closed circle,” one crewmember observes. “We’re back where we started. Back to reap the crop our ancestors sowed.”

This story marks the shift in Dick’s work from the fixation on the extrinsic nuclear threat to the internally generated infrastructural and environmental threat, and it begins the major phase of his career in which a doubled focus on space colonies as representations of western American developments gives Dick’s major novels the hallmark, uncanny Californian dimension that has made them favorites of Hollywood.

The twin culminations of this theme in Dick’s work come in his novels of 1964 and 1965, *Martian Time-Slip* and *The Three Stigmata of Palmer Eldritch*. A dramatization of the self-enclosure of the American West, the novels explore the interrelation of imagination and materialism. *Martian Time-Slip* in particular is packed with references to the landscapes of the postwar boom in California and the Southwest. Grand plans for the building of a Martian canal system to enable food production and residential development echo Pat Brown’s California Aqueduct, begun in 1963, right down to an allusion to the aqueduct bikeway that follows the maintenance roads alongside the canal. The plotting for control of land where a huge retirement community will be built to house elderly colonists from Earth recalls the meteoric rise of Del Webb, whose Sun City development was built in 1960 atop a ghost town near Phoenix, Arizona. A subplot about the education of an autistic boy details a university system much like the one established in California under the Donohoe Act of 1960. (The school’s faculty of robotic historical figures eerily anticipates the educational-automation debates of the present.) From air conditioning to anti-immigration sentiment, the world of *Martian Time-Slip* is a thinly veiled portrait of 1960s California. To the extent that its byzantine plot can be boiled down to a single message, it is carried by the figure of Manfred Steiner, an autistic boy who finally carves out a place for himself in the way all Californians must: by going native—befriending the native Martian Bleekmen—and by adopting a set of life-giving technological supports to make existence possible.

The Three Stigmata of Palmer Eldritch, a considerably bleaker novel from the same period, provides the deepest allegorical portrait of California’s predicament. The first of Dick’s theological novels, its eponymous main character is less a human figure than a force of nature that takes various historical shapes in order to survive and grow. One of Eldritch’s main gambits in forcing the colonization of deep space is the use of infrastructural fantasies called “Perky Pat layouts”—miniaturized civilizations, board games that denizens of the outer colonies can purchase, customize to their liking, and then psychically enter and enjoy through the use of a hallucinogen called “Can-D.” Part Barbie and Ken playset, part Pat Brown-era three-dimensional planning tool, part dystopian nightmare, the Perky Pat layouts offer an image of a California in which fantasy, civil engineering, and the real environmental conditions of existence in a dry colony have become a single story with an ending as yet unwritten. Philip K. Dick’s trademark interest in the ways that humans become trapped in the real consequences of their fantasy lives plays out not simply as a puzzle about virtual versus actual reality but as an analysis of the feedback loop between imagination, infrastructure, and daily life.

It may be worth pausing for a last moment here to consider that our present condition is, in fact, the result of the shared infrastructural hallucinations of previous generations, and that California’s future depends on accepting the constraints, intended and unintended, that resulted from those realized dreams. And we might consider trading in less effective forms of California dreaming in favor of speculatively rearranging the state’s material layout and getting on with the next phase of the shared delusion that will be twenty-first-century California. A little science fiction might just help. **B**

Note

PHOTOGRAPHS COURTESY OF THE J. PAUL GETTY MUSEUM, LOS ANGELES. © ESTATE OF WILLIAM A. GARNETT. Page 29: Grading, Lakewood, California, 1950; Trenching, Lakewood, California, 1950. Page 31: Foundations and Slabs, Lakewood, California, 1950; Framing, Lakewood, California, 1950. Page 33: Plaster and Roofing, Lakewood, California, 1950; Finished Housing, Lakewood, California, 1950.