

Sci Fi and Our Space Odyssey

BY DANIEL KENNELLY

The frivolous joy with which we throw ourselves into stories of space travel, aliens, and intergalactic war masks an important truth: Humans owe science fiction writers a debt of gratitude. Science fiction both shapes and reflects the evolution of our attitudes toward technology. Sci-fi writers may not have actually created lunar landers, computers, satellites, cell phones, and other futuristic breakthroughs, but they *have* helped us understand the uses, risks, and benefits of such devices. In this way, the creators of science fiction have helped us move into an increasingly scientific future with our eyes wide open.

Science fiction writers—and readers—have long had symbiotic relationships with scientists and engineers. Inspired by Jules Verne's stories, the nineteenth-century Russian Konstantin Tsiolkovsky moved from writing science fiction about space travel to writing science fact. His theories about the dynamics of rocket flight are still referred to by scientists today. H. G. Wells' 1914 book *The World Set Free* started Hungarian physicist Leo Szilard thinking about the possibility of creating an atomic bomb—a vision that was realized when Szilard and Albert Einstein helped get the Manhattan Project off the ground.

The famed trio of science fiction's "Golden Age"—Robert Heinlein, Arthur Clarke, and Isaac Asimov—played significant parts in instigating many technological and engineering feats following World War II. Clarke is most widely known for his collaboration with Stanley Kubrick on the film *2001: A Space Odyssey* (1968). He had his greatest impact on our lives, however, through the 1945 scientific paper he wrote proposing a network of communications satellites in geostationary orbit—the achievement of which has made possible global telephony, satellite TV, global positioning systems, and the Internet.

It isn't only when sci-fi authors moonlight as scientists that



they influence technical progress. "Half the people in the space program were lured in by Robert Heinlein and those who followed his path," wrote Larry Niven, the award-winning author of several science fiction classics. "Josef Stalin may have influenced more people directly, but in the long run Heinlein may have a greater effect on the future."

Ballistic missile defense may just turn out to be an innovation that proves Niven wasn't overstating his case. Along with several scientists, former astronauts, and science fiction writers like Jerry Pournelle, Heinlein, and Poul Anderson, Niven put together a group in

the early 1980s called the Citizens' Advisory Council on National Space Policy. This organization lobbied the incoming Reagan administration to investigate the feasibility of constructing a space-based shield against Soviet nuclear warheads. When Reaganites eventually launched the Strategic Defense Initiative, critics laughed, deriding the plan as "Star Wars." But they aren't laughing any more. The first stages of a ground-based missile-defense shield will soon be operating, helping protect the North American continent from nuclear blackmail or accidental launches from rogue states like Iran or North Korea.

Science fiction authors sometimes set us on a path that only future generations can bring to fruition. Arthur Clarke's 1978 novel *The Fountains of Paradise*, for instance, describes construction of a "space elevator," an idea that's been taken up by many others, including Kim Stanley Robinson in her novel *Red Mars*, and Larry Niven in *Rainbow Mars*. The space elevator is essentially a space station tethered to the surface of the earth by a super-strong cable which shuttles crawl up to pull themselves into orbit. Sound far-fetched? Think again: NASA and other groups are

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actively exploring the feasibility of building a space elevator using powerful carbon-nanotube-composite ribbons—a substance that may very soon begin to be produced in large quantities. If successful, a space elevator would revolutionize exploration of the solar system—putting men and materials into orbit at a small fraction of the cost of today’s expensive rocket lifts.

That science fiction gives our engineers “wish lists” and inspires our adventurers to “reach for the stars” is not the whole story. The dynamic works in reverse, too: Our scientific aspirations and apprehensions are reflected and ruminated upon in the literature. Mary Shelley’s *Frankenstein* was one of the first works to cast doubt on the unqualified benevolence of the scientist-engineer and the modern promethean spirit. “Soma,” the pleasure pill of Aldous Huxley’s dystopic *Brave New World*, and other sci-fi images have entered our consciousness so thoroughly that we tend to use terms from science fiction novels to critique real-world products ranging from Ritalin and Prozac to bioengineered crops.

James Gunn, a former president of the Science Fiction Writers of America (SFWA), warns that “scientists do not, in the ordinary course of their investigations, consider how their quest for knowledge will affect the future and human existence.” The more varied and pervasive technology becomes, the bigger this problem looms. “Science has become both so complicated and uncertain that the general public is likely to surrender any thought of keeping up. Although science is accomplishing more, particularly in the medical and biological fields, its work has become more controversial,” summarizes Gunn. Science fiction is one way that ordinary citizens can be exposed to scientific debates.

Mediating between society’s concerns and the technical forces that are changing society so rapidly is a role tailor-made for science fiction. Science fiction, wrote Asimov, “can first, and most important, accustom the reader to the notion of change. The force of change...is the essence of our society,” and science fiction “treats social change as the norm.” Or, in the words of Alvin Toffler, “Science fiction is the sovereign prophylactic against future shock.”

But science fiction can also exert influence in the opposite direction—instead of preparing readers to accept change it can ring alarms in an attempt to put the public on guard. Twenty years ago, just as the Information Age began to sweep the modern world, William Gibson published *Neuromancer*, a dark, gritty, portrayal of the future, in which a world-spanning computer network pervades every level of life, nearly every public and private transaction. The protagonist hacks into this network by attaching his brain directly to its digital nodes, becoming a kind of cyber-addict who finds it insufferable thereafter to live solely in “the prison of his own flesh.” It’s not too much of a stretch to call this an apocalyptic early warning of hazards in a world of omnipresent multimedia, Internet links, cell phones, Blackberrys, and WiFi, where some technology junkies don’t feel alive unless they have



access to their gadgets and communication links.

The popularity of Gibson and his imitators shows that the Information Age has spawned fresh worries about technology tipping the scales against nature. *Neuromancer* is to the Information Age what Mary Shelley’s *Frankenstein* was to the Industrial Age. The flesh and bone of Dr. Frankenstein’s monster has been replaced by a mysterious and disembodied artificial intelligence that has evolved in cyberspace and grown beyond human control.

This darker view of the future can also be seen in the current decline of space-related science fiction. The enthusiasm for “going to the stars through difficulty” that was fostered so well by Heinlein, Asimov, Clarke, and others during science fiction’s Golden Age is now tempered by a parallel skepticism. “Right now, space travel as a premise of science fiction is imploding,” says Mary Turzillo, whose novelette *Mars Is No Place for Children* won the SFWA’s Nebula award in 2000. “This is partly because we are coming to realize that space travel is harder than we thought.”

But the depression runs deeper than the Space Shuttle calamities, the bureaucratic bloat of NASA, or the failures of interplanetary probes and space telescopes. “We don’t really trust human nature to solve the problems needed to get us to the planets and stars,” Turzillo says. “So we have dark futures in which we’re unable to get off earth and are cursed instead of blessed by any scientific discoveries or inventions.”

The drop-off in science fiction readership has been matched by a sharp turn to the genres of fantasy and historical fantasy. Witness the extraordinary popularity of the film versions of Tolkien’s *The Lord of the Rings*, and the profusion of “alternate history” novels along the lines of Harry Turtledove (*The Guns of the South*, *Ruled Britannia*). Even mainstream author Philip Roth has entered the fray with an alternate history novel in which Charles Lindbergh defeats FDR in the 1940 Presidential election (*The Plot Against America*).

What do the turn to fantasy and the historical past, and the dark hues of today’s science fiction, say about current public attitudes toward science and the future? “I think it’s kind of scary,” says Turzillo. “We like black, we hate happy endings, and we like authoritarian rule sugared over by the prettiness of dragons and rightful kings. What does this say?”

Among other things, it seems to say that the scientific messianism that swept the previous generation of Americans has abated somewhat. If science fiction is both a leading indicator of public attitudes and a stimulus to future views, it appears that even as the Technological Revolution continues to tear along, the post-World War II-era of unbridled enthusiasm for scientific pioneering has passed. If so, the longstanding assumption that human space exploration is an undertaking that will thrill everyday citizens may need to be re-examined.

