

Design Fiction

Bruce Sterling

<http://interactions.acm.org/content/?p=1244>

Retypeset in PDF to maximise reading pleasure without permission from the author nor the publisher.

I won't resist requests to take this file down if the copy-right holders will request so.

I'm a science fiction writer, and as I became more familiar with design, it struck me that the futuristic objects and services within science fiction are quite badly designed.

Why? That's not a question often asked. The reason is pretty simple: Science fiction is a form of popular entertainment. The emotional payoff of the science fiction genre is the sense of wonder it conveys. Science fiction "design" therefore demands some whiz-bang, whereas industrial design requires safety, utility, serviceability, cost constraints, appearance, and shelf appeal. To these old-school ID virtues nowadays we might add sustainability and a decent interface.

The classic totems of sci-fi: the rayguns, space cruisers, androids, robots, time machines, artificial intelligences, nanotechnological black-boxes. They have a deep commonality: They're imaginary. Imaginary products can never maim the consumer, they get no user feedback, and lawsuits and regulatory boards are not a problem. That's why their design is glamorously fantastic and, therefore, basically, crap.

On occasion, sci-fi prognostications do become actual objects and services. Science fiction then promptly looks elsewhere. It shouldn't, but it does. I like to think that my science fiction became somewhat less flaccid once I learned to write "design fiction" as I now commonly do. I believe that I've finessed that issue, at least in my own practice.

However, when science fiction thinking opens itself to design thinking, larger problems appear. These have to do with speculative culture generally, the way that our society imagines itself through its forward-looking disciplines.

Many problems I once considered strictly literary are better understood as interaction-design issues. Literature has platforms. By this I mean the physical structures on which literature is conceived, designed, written, manufactured and distributed, remembered and forgotten. Literary infrastructure has user-experience constraints.

To expand on this, consider science fiction, a literary form that is young, small, and geekish. Fantastic writing is old as the scriptures. Science fiction, by sharp contrast, emerged in the 1920s from down-market electronics parts catalogs for teenage radio enthusiasts.

That was science fiction's original platform. The American pulp-fiction platform is now long dead. Still, any contemporary Web designer can easily understand how and why science fiction functioned in its early days. Pulp-paper magazines were cheap, affordable, easily distributed, and able to serve niche markets. Effective graphic icons quickly distinguished science fiction from its sister pulp genres: mysteries, westerns, men's adventures, women's confession magazines, sports stories, true crime, and other genres.

For 80 years, science fiction has been able to find and recruit fans, and to transform a few users into cultural producers. It also made enough money not to perish under capitalism. And under Communism, Soviet science fiction was a huge success. It was much more popular than Soviet industrial design, which was ghastly and is now extinct.

Below the professional level of for-profit publishing, the subculture of science fiction fans exploited early, DIY duplication technologies: Gestetners, hectograph. There were letter-writing campaigns, amateur press associations, local writers groups, regional science fiction conventions galore. One might even argue that contemporary Web culture looks and behaves much like 1930s science fiction fandom, only digitized and globalized.

This long-vanished situation was not idyllic-it took form within a specific set of infrastructural conditions. Early science fiction writers and editors imagined that they were selling popular fiction about science and technology. They were mistaken. That was a user-interface artifact. The platform was selecting a fraction of the population willing to consume radically imaginary works through print; that demographic partially overlapped with science wonks. Scientists never printed science fiction.

What science fiction's user base truly desired was not possible in the 1930s. Believing their own rhetoric, science fiction users supposed that they wanted a jet-propelled, atomic futurity. Whenever offered the chance at such goods and services, they never left science fiction to go get them. They didn't genuinely want such things-not in real life.

What the user base genuinely wanted was immersive fantasies. They wanted warmly supportive subcultures in which

they could safely abandon their cruelly limiting real-life roles, and play semi-permanent dress-up. Science fiction movies helped; science fiction television helped. Once massively multiplayer online role-playing games (MMORPGs) were invented, the harsh limits of the print infrastructure were demolished. Then the user-base exploded.

No sane person reads science fiction novels for 80 hours a week. But it's quite common for devoted players to spend that much time on *Warcraft*.

This should not be mistaken for "progress." It's not even a simple matter of obsolescence. Digital media is much more frail and contingent than print media. I rather imagine that people will be reading H.P. Lovecraft-likely the ultimate pulp-magazine science fiction writer-long after today's clumsy, bug-ridden MMORPGs are as dead as the Univac.

What truly interests me here is the limits of the imaginable. Clearly, the pulp infrastructure limited what its artists were able to think about. They wore blinders that they could not see and therefore could not transcend.

The typewriter limited writers. Magazine word counts limited writers. Even the implicit cultural bargain between author and reader introduced constraints on what could be thought, said, and understood in public. Those mechanisms of interaction—the letter columns, the fan mail, the bookstore appearances, the conventions—they were poorly understood as interaction. They were all emergent practices rather than designed experiences.

One might make a Wittgensteinian argument here about the ontological limits of language itself. Wittgenstein once wrote a famous statement about the need of philosophers to tactfully shut up in the face of the unimaginable. It reads as follows:

"The whole sense of the book might be summed up the following words: What can be said at all can be said clearly, and what we cannot talk about we must pass over in silence."

Many science fiction writers, believe it or not, were capable of understanding Wittgenstein. User experience design, however, was far beyond them. It was also beyond Wittgenstein, because there are things we might imagine and speak about that we do pass over in silence because we are writing in books.

The "whole sense of the book" is not the whole sense of the words. Look at the weird "Google erudition" of journalism researched online. Consider the hybridized "Creole media"

of blog platforms. The line commands in software are text as an expression of will.

Let me offer an older example here, to show how deep this goes. Consider the literary platforms of a thousand years ago. This remote period saw the birth, or rather the still-birth, of the novel, with Murasaki Shikibu's *The Tale of Genji*. This Japanese manuscript scroll, written with an ink brush in the late 900s and published in modern times as a book, is nevertheless a true novel. More specifically, it's a romance. Jane Austen fans could easily parse *The Tale of Genji*.

While this proto-novel was being written, a rival work appeared, known as *The Pillow Book of Sei Shonagon*. This other composition is certainly not a novel. It's intensely literary, yet it can't be described by contemporary literary-platform terminology. *The Pillow Book* is a nonlinear set of writings jotted down on a loose heap of leftover government stationery.

The Pillow Book is not a diary, a miscellany, an almanac, a collection of lists, or even a resource for composing Japanese poetry, although it seems to us to have some aspects of these modern structures. It is better described in terms of user experience.

This experience was a four- or five-year effort to beguile the tedium of a tight circle of Imperial ladies-in-waiting. The experience had a star author/designer—the glamorous and attention-hungry Court Officer Sei—but it had no press, no publisher, no editor, no distributor, and it was never for sale. Its user base—in total, maybe 200 women—probably never read it. Instead, they heard the work recited aloud by someone crouching near a lantern after dark.

A strictly literary approach to this experience hurts our ability to comprehend what *The Pillow Book* is doing. This ancient "book" is related only distantly to our books; in function and audience, it has more kinship with a small-scale blog.

The most notorious part of *The Pillow Book* reads as follows. This is one part of a list of things that Sei Shonagon finds "unsuitable."

"Snow on the houses of common people. This is especially regrettable when the moonlight shines down on it."

What is Sei Shonagon saying here? Moonlit snow is "unsuitable" on the homes of the peasantry. The pretty snow is too nice for those lowly, humble people. The glamour of the snow clashes with their squalor.

Sei Shonagon receives much grief from contemporary observers because of the snobbish ring of this remark. Of course we find ourselves bound to interpret this statement as hurtful, hateful, and politically incorrect. After all—what if one of those poor commoners were to read this crass insult?

But commoners could never read it. First, because peasants were illiterate; next, because the work was copied by hand and circulated within a small royal clique; third, it was written in a special cursive script used only by women. It was girl talk no man could overhear.

In this structure of interaction, it was not possible for this remark to become offensive. Its crassness for us was unimaginable for Sei Shonagon. To think otherwise is an anachronism.

Which leaves us to balk at the unthinkable notion that lovely snow on the homes of the peasants really was inappropriate. Sei was telling the truth—though we’re hard-put to imagine that now. This was not a catty remark but an aesthetic assessment, refined and apolitical. It was like saying that lime green clashes with aviation orange. If Sei, somehow, had directly said that to a peasant—that peasant would have promptly removed the snow. He would not have wanted his ugly misstep to trouble her ladyship further.

The infrastructure of publishing constrains the thinking of writers. Obviously, all forms of art and design have some inherent constraints—but it seems to me that writers are especially misled by the apparent freedoms of language. Published language, in print, on paper, is not language per se: It’s an industrial artifact.

Writers cling hard to the word, to semantics, to meaning and sensibility. Design, by contrast, is less verbal. Design is busily inventing new ways to blow itself apart. Design is taking more risks with itself than literature. That is why contemporary design feels almost up to date, while literature feels archaic and besieged.

Design and literature don’t talk together much, but design has more to offer literature at the moment than literature can offer to design. Design seeks out ways to jump over its own conceptual walls—scenarios, user observation, brainstorming, rapid prototyping, critical design, speculative design. There is even “experience design,” which is surely the most imperial, most gaseous, most spectral form of design yet invented.

Experience design is closer in spirit to theater, poetry or even philosophy than it is to the older assembly line. What

on earth isn’t “experience”? And what is not, in some sense, “interactive”? Experience designers are a tiny group of people with a radically universalized prospectus.

When science fiction was born from its radio-parts catalogs, design was also born as the streamlined handmaiden of industry. The earliest industrial designers, Norman Bel Geddes in particular, were much given to flamboyant sci-fi special-effects gestures: flying wings, giant dams, and future supercities.

But these two sister disciplines, born within the same decade and surely for similar reasons, soon parted ways. The sisters were distantly cordial; they never quarreled or demeaned each other, but they saw no common purpose. Design, which is industrial, has clients and consumers, while science fiction, an art form, has patrons and an audience.

No major designer ever dabbled in writing science fiction. Gaudy sci-fi never went in for stern modernist rationalism, the glum acceptance of material constraints, or the study of human ergonomics. These two visionary enterprises never shared a user base.

Until, that is, the Internet. When print began to dissolve, the industrial began to digitize. The consumers and the audience became the users, the keyboard-clicking participants, the people formerly known as the audience.

Here in 2009, I find myself wondering hard about those older commonalities from the 1920s. The technoculture that we currently inhabit (it’s not the postmodern anymore, so we might haltingly call it a cyberneticized, globalized, liberal capitalism in financial collapse) well, it was neither rationally designed nor science-fictionally predicted.

Why is that? What happened? Why are we like this now? What next, for heaven’s sake? Can’t we do better?

We have entered an unimagined culture. In this world of search engines and cross-links, of keywords and networks, the solid smokestacks of yesterday’s disciplines have blown out. Instead of being armored in technique, or sheltered within subculture, design and science fiction have become like two silk balloons, two frail, polymorphic pockets of hot air, floating in a generally tainted cultural atmosphere.

These two inherently forward-looking schools of thought and action do seem blinkered somehow—not unimaginative, but unable to imagine effectively. A bigger picture, the new century’s grander narrative, its synthesis, is eluding them. Could it be because they were both born with blind spots, with unexamined assumptions hardwired in 80 years ago?

There is much thoughtful talk of innovation, of transformation, of the collaborative and the transdisciplinary. These are buzzwords, language that does not last.

What we are really experiencing now is a massive cybernetic hemorrhage in ways of knowing the world.

Even money, the almighty bottom line, the ultimate reality check for American society, has tripped over its own infrastructural blinders, and lost its ability to map value. The visionaries no longer know what to think-and, by no coincidence, the financiers can no longer place their bets.

I scarcely know what to do about this. As Charles Eames said, design is a method of action. Literature is a method of meaning and feeling. Hearteningly, I do know how I feel about this situation. I even have some inkling of what it means.

Rather than thinking outside the box-which was almost always a money box, quite frankly-we surely need a better understanding of boxes. Maybe some new, more general, creative project could map the limits of the imaginable within the contemporary technosocial milieu. Plug that imagination gap.

That effort has no 20th-century description. I rather doubt that it's ever been tried. It seems to me like a good response to events.

The winds of the Net are full of straws. Who will make the bricks?