

The History of Science Fiction, and Why It Matters

The following essay is adapted from a keynote speech delivered at the Melon 2018 science fiction symposium, March 17, 2018, in Hong Kong.

First, a disclaimer: the title of this address should not be taken literally. I'm not going to attempt to narrate the history of science fiction in the short time the convention has generously given me this morning. It's far too complex for any sort of brief yet cogent description. Even an attempt to summarize the most important stuff would soon have people in this room checking their watches and making furtive dashes for the door.

Instead, let me tell you where to search for this history, and why I think it's so important for it to be studied, or at least not forgotten.

If you were to visit me at home, I'd probably show you my office. It's located on the second floor in what used to be a teenager's bedroom, and above it is a small, barn-style loft, accessible by a built-in ladder. When my wife and I bought our house more than twenty years ago, one of the big attractions was this loft. I get my exercise from climbing the ladder at least twice a day to reach that which I've put up there, my favorite material possession: my science fiction magazine collection.

I began this collection while still in grade school more than fifty years ago, and I've been steadily adding to it ever since, one issue at a time. I've never thrown away an SF magazine except when it was so damaged that it was unreadable, and I've become an expert at reinforcing spines, repairing torn covers, reinserting loose pages, and erasing pen and pencil marks. My magazines are individually stored in plastic bags, with cardboard stiffeners for the oldest issues; I've put

blue cellophane sheets over the skylight windows to filter out UV rays, installed LED lights and a fan for hot days, and put down mousetraps for uninvited bibliophiles. If the house were ever to catch fire, my town's volunteer fire department would probably have to rescue me from the loft; I'd be up there, desperately throwing my precious collection through the windows I've broken out.

Shelved on stainless-steel restaurant kitchen racks are the following:

A near-complete run of *Astounding* (now *Analog*), including all issues from January 1934 to the present, and sixteen issues before then, including January 1930, the first issue;

A complete run of *Asimov's Science Fiction*, from Spring 1977 to the present, including all four issues of the short-lived *Isaac Asimov's Science Fiction Adventure Magazine*;

Fantasy and Science Fiction, complete from July 1969 to present and several dozen issues before then, including the first issue, Fall 1949;

A near-complete run of *Venture, F&SF's* sister magazine;

A near-complete run of *Unknown, Astounding's* sister fantasy magazine, including both the first and last issues;

A near-complete run of *Planet Stories*, including the issues where Ray Bradbury and Philip K. Dick published their first stories;

A complete run of *Captain Future*;

Near-complete runs of both *Galaxy* and its sister magazine *If*, including the first and final issues of both;

A near-complete run of *Amazing Stories* from the late sixties through the late eighties, along with individual issues dating back to the late twenties and early thirties.

Besides the racked magazines, rows of

cardboard long-boxes hold complete runs of *Vertex*, *Science Fiction Age*, *Absolute Magnitude*, *Aboriginal Science Fiction*, *Artemis*, *Future*, and *Cosmos*, many issues of *Omni*, *Startling*, *Fantastic Universe*, and *Thrilling Wonder*; and miscellaneous magazines that had brief, but memorable existences, such as the issue of *UnEarth* where William Gibson made his debut.

As obsessive collections goes, this one might be considered a little extreme, but it could be worse. I once saw a porn collection nearly this big.

I'm not going to try to explain why I've spent a lifetime collecting SF magazines, nor am I going to rationalize it, for there's nothing here that needs to be explained or rationalized, let alone apologized for. I love science fiction, and since I go back to a time when SF was principally a short-fiction form, with few novels and even fewer movies or TV shows (and no videogames), I came to it mainly through reading SF magazines, and that's still what I treasure the most. What I'd like to talk about, briefly, is what I've learned from this obsession of mine.

Science fiction came from somewhere. It wasn't as if the Almighty looked down upon the face of the waters, said "Let there be SF!," and with lightning and thunder Robert Silverberg appeared. We can debate forever who wrote the first SF novel: Mary Shelley, Edgar Allan Poe, or Jules Verne. And for what little I know about Asian SF, there may be a Chinese author who predates them all.

In both name and form, though, science fiction as a distinct and definable genre emerged from American pulp literature. First in *Argosy* and *All-Story*, then in *Science and Invention*, and then, in 1926, the great *Amazing Stories*, where the genre was given its original name, "scientifiction" (which, thankfully, never really caught on). It took many decades for major publishers to begin regularly producing SF novels, and small-press publishers like Gnome, Shasta, and Fantasy Press didn't appear until the late forties, so at first nearly all science fiction

was being published in *Amazing* and its competitors *Wonder Stories* and *Astounding*. The new genre quickly gained popularity. Through the Depression and the wartime years, a spate of newer magazines appeared: *Startling*, *Planet*, *Thrilling Wonder* (which was *Wonder Stories* under a more thrilling title), and my personal favorite, *Captain Future*. And while it was mainly a fantasy and horror magazine, *Weird Tales* nonetheless published some early SF. The first true space opera, "Crashing Suns" by Edmond Hamilton, appeared in the August and September 1928 issues.

A small confession here: in the past few years, I've read very little recent SF. Many of the novels published over the last decade, and the authors who wrote them, are unknown to me. It's not because I don't respect and enjoy their work; for the most part, that which I have read by SF's newest generation has been pretty good. However, my attention has lately been consumed by a long study of the genre's history and development, and I feel that the best way to do that is by reading the literary works themselves, and whenever possible in the form in which they first appeared.

So most of the SF I've read lately was published before 1950, particularly from the twenties through the forties. The authors I've been reading include Neil R. Jones, whose Professor Jameson series was probably the first treatment of what we'd now call transhumans, Clare Winger Harris, the first female SF author of the twentieth century, and Stanley G. Weinbaum, whose tragically short life—he died at age thirty-three—didn't stop him from being one of the great innovators of early space opera. If you haven't read any of these writers, you're not alone . . . and I'll come back to that in a minute.

My fascination with early SF has nothing to do with nostalgia or a desire to live in the past. And while most of the stories I've read in the pulps are as entertaining as anything published today, that's not the principal reason either. Rather, I've developed an abiding interest in what I

consider to be science fiction's greatest contribution to human culture, the subtle yet detectable influence it's had on scientific inquiry and technological development.

There's a theory, which I happen to share, that science and science fiction have established and sustained a pattern of co-evolution for the past 150 years or so. Just as real-world science and technology has influenced science fiction, so SF has influenced scientific and technological progress. SF does not predict the future, and serious SF writers don't consider themselves to be prophets. However, the genre has had demonstrable impact on what scientists have chosen to investigate and what technologists have chosen to invent.

Science fiction came out of the nineteenth century industrial revolution, and there is plenty to suggest that both science and SF have influenced each other ever since. Just as SF writers look over the shoulders of scientists to gain inspiration for stories and novels, scientists and inventors have read SF and been inspired to theorize, explore, and create.

This has been going on for quite a long time now, and some examples are well known. Robert H. Goddard was inspired by *The War of the Worlds* by H.G. Wells (and possibly Garrett P. Serviss's unauthorized sequel, *Edison's Conquest of Mars*) to spend his life developing the means for humans to travel to Mars; the liquid-fuel rocket engine was the result. The hand-held communicators of *Star Trek* inspired Motorola cell-phone engineers to replicate the design for the first flip-phones; similarly, today's smartphones greatly resemble the pocket computers depicted in *The Mote in God's Eye* by Larry Niven and Jerry Pournelle. No one seriously considered time travel before SF writers began playing with the idea; now, it's a subject of serious scientific inquiry. Likewise black holes; originally called "black stars" or "black suns," they showed up in science fiction as far back as 1930, long before theoretical physicists postulated their existence.

It can be said that science fiction is, itself, a science fiction story: the invention and development of a literary form that, over time, inadvertently changed the nature of science and technology. More often than not, SF as a source of inspiration for real-world sci-tech development has been largely overlooked. Yet there have been so many instances in which reality has echoed fiction that they can't be considered coincidence or happenstance. And the further back you look, the more obvious the pattern becomes.

Take, for example, the search for extraterrestrial intelligence and our attempts to make contact with alien civilizations.

One of the earliest SF stories about SETI is "Old Faithful," by Raymond Gallun, published in the December 1934 issue of *Astounding*. The protagonist is a Martian astronomer who finds that intelligent life exists on Mars' closest planetary neighbor. The elderly astronomer makes this startling discovery while observing this nameless planet through his telescope; spotting a sequential series of light flashes, he concludes that this world is inhabited. He attempts to respond the same way, leading his human counterparts on Earth to refer to him as "Old Faithful" because of the regularity of the light signals from Mars.

(Incidentally, the idea of using light flashes to contact alien life was not new when the story was written. Percival Lowell, the early twentieth century astronomer who mistakenly spotted canals on Mars, suggested much the same thing.)

The very idea of alien intelligence is considered heresy by the Martian scientific establishment, and so the old astronomer, already nearing the end of his predetermined life span, is forced to covertly build a spacecraft, which he uses to travel to Earth. He survives the long voyage, but Earth's higher gravity and greater atmospheric oxygen content prove fatal to him, and he dies almost as soon as he reaches the location of the light flashes in the American southwest.

"Old Faithful" was very popular when

it was published, prompting Gallun to write a sequel, predictably titled “The Son of Old Faithful.” Published just six months later in the July 1935 issue of *Astounding*, it tells the story of Old Faithful’s offspring, another Martian astronomer who picks up his father’s work. But while the elder astronomer used light flashes to communicate with the inhabitants of Earth, the younger Martian goes a different route. In order to avoid detection by the authorities, who still believe the existence of alien life to be heresy, the son of Old Faithful uses radio.

And not only this, but his first radio transmissions are a repeating numerical sequence, timed in such a way that they can’t be mistaken for the naturally occurring radio sources found in deep space.

If this sounds familiar, it should: this is much the sort of thing SETI astronomers have been doing for many years. The first known attempt to detect extraterrestrial radio signals was in August 1924, when an Amherst College professor used an ordinary 50 MHz receiver to listen for random transmissions. Since 1960, when Project OZMA was undertaken at the U.S. National Radio Astronomy Observatory in Green Belt, West Virginia, there have been fairly regular efforts to pick up alien communications. And while the efficacy of radio technology has been questioned lately, nonetheless every ambitious effort to receive and send messages from and to the stars, including the spectacular efforts now being undertaken by China with its colossal new radiotelescope in Ghizou, has involved very much the sort of thing Gallun described in his two stories, published long before SETI became actual fact . . . including the use of numerical sequences as a way of getting the attention of distant listeners.

Is this coincidence? I think not.

Where do ideas come from? Brainstorms happen, of course, and sometimes inspiration comes as a sudden flash of insight. More often than not, though, the ideas that shape the world are formed over many years, even generations. Science fiction is a discrete yet fundamental

part of this progress, I think. There is an indirect but nonetheless perceptible line of thought that runs from “Old Faithful” to Project OZMA to Cixin Liu’s *The Three-Body Problem* (yes, I have read a little recent SF) to Ghizou. In *Astounding*, serious-minded SF stories were once called “thought variants,” and over time these intellectual experiments have subtly manifested themselves in the real world.

If you go back and read the older works of SF, you see the development of ideas that would go on to shape the twenty-first century. Over the course of decades, concepts for space travel, cybernetics, biotechnology, communications, advanced technology warfare, nuclear power, and on and on are explored and mapped out. In hindsight, this sort of thing *looks* like prediction. But it isn’t. Rather, it’s the outcome of an intellectual feedback loop, a never-ending conversation that has been going on month after month, year after year, decade after decade, for more than a century now.

However, there’s a catch. A conversation, particularly a long one, has meaning only when you know what’s been said before. You take inspiration from ideas that others have formed and develop them further. This progression becomes a form of question and answer, inquiry and extrapolation, that gradually becomes more logical and meaningful as time goes on.

For this process to work successfully, though, you need to be aware of how these ideas have been handled in the past. One thing I’ve learned from studying early SF is just how far back some ideas go. Often I’ve found inventions that have become commonplace in the real world first depicted, however loosely, in SF stories published many, many years ago.

Major publishers aren’t reprinting older science fiction as much as they used to, though, so anthologies of classic SF are seldom seen anymore. I think this has caused the genre to develop a blind spot to its own past. Quite a few younger readers, I’ve found, haven’t read many of the classics, mainly because all but a

handful of them aren't readily available. So it's hard for both them, and the young SF writers who emerge from their ranks, to know that some ideas have been around for a long, long time, and therefore be able to explore new variations on these themes. For the sake of the field's continued growth, it's vital for those in the millennial generation to not disregard that which was published before their own lifetimes, but to seek out older works, and not just well-known novels like *Dune*, *Starship Troopers*, or *The Left Hand of Darkness*.

Thanks to the digital revolution and desktop publishing, older SF has become more accessible than ever. You don't need to spend fifty years building a magazine collection like mine. Digital scans of many of the magazines you see on my shelves can be found in online collections like the Pulp Magazine Project or the Pulp Magazine Archive. Likewise, small-press publishers like Armchair Science Fiction, Adventure House, Pulpville Press, and Altus Press have begun issuing print-on-demand paperback editions of older novels and facsimile copies of individual issues of various magazines. And if you find that, like me, you have a burning desire to read the originals, there are dozens of online booksellers who can send you just about any book or magazine you want. Indeed, many of the oldest magazines in my collection were purchased from eBay and Amazon (just beware . . . you may have to lay down serious money).

Yes, there's some garbage among older works. Yes, there's often clunky writing, weak characterization, and unintentional humor. Sometimes, there are racial, ethnic, and gender stereotypes that can be greatly offensive. If you can look past the former, though, and recognize the latter as—like smoking in public, driving drunk, or making unwanted sexual advances—cultural relics that are no longer acceptable, then you'll find a practically bottomless supply of great SF.

In these stories, you'll have the surprise of finding maglev vehicles described in a novel published in 1919 (*The*

Moon Pool, by A. Merritt), pocket phones in a novel published in 1949 (*Space Cadet*, by Robert A. Heinlein), Google-like information search and retrieval systems ("A Logic Named Joe" by Murray Leinster; *Astounding*, March 1946) or the breakdown of the American medical industry depicted in *The Bladerunner* by Alan E. Nourse, which was published in 1974. (The only relation between this novel and the movie that came out eight years later is the title, but that's a story for another day.)

Science fiction is the literature of possible futures, but viable futures are built upon the lessons of the past. Memory is as crucial to progress as foresight, and imagination often takes the form of studying what's been done before and determining how to do it again, but better. Science fiction is a literature of ideas, but you have to know where those ideas came from in the first place before you can do something new with them. And because SF may be a tool for human survival, it's important that we have an historic view of where it's both succeeded and failed in the past.

I give the last word to John W. Campbell, Jr., the author who became arguably the most influential American SF editor of the last century. In a 1953 essay, Campbell wrote: "Science fiction can provide for a science-based culture . . . a means of practicing out in a no-practice area."

To which he added: "If we fail to practice in imagination—practice with free, open discussion and suggestions—we'll be back to the days of trial and error. But only for a little more time; we've already done so much work that a few more trials and we'll hit the permanent error."¹

And this is why I urge my audience here today to live in the future, but not neglect the past. ○

Footnote:

¹ "The Place of Science Fiction"; *Modern Science Fiction: Its Meaning and Its Future* (Reginald Bretnor, editor). Coward-McCann, 1953.