The following essay is adapted from a speech made at the second Asian Pacific Science Fiction Convention (Apsfcon 2019) in Beijing, China, on May 26, 2019.

I’m not only a science fiction writer, but also a science fiction historian, albeit of the armchair variety. The history of the SF genre fascinates me just about as much as any SF novel I’ve ever read. I’ve often used SF history as the background for my own work, such as my novel Arkwright, and lately my interest has only become stronger as I’ve explored the genre’s origins.

One of the most wonderful things that’s come out of my studies is an appreciation for SF’s roots and just how truly international they are. More importantly, though, if we accept the idea that examining history can be a reliable means of forecasting the future—a major reason why it’s important to preserve the past and study it—then it’s possible that we may be able to perceive the direction where we’re headed by looking back to see where we’ve come from.

Thus, a brief, and by no means complete, history of science fiction:

Like science fiction’s close cousin, fantasy, SF has its roots in fables and mythology, stories of the fantastic as opposed to realistic fiction. Much of this, particularly the imaginative literature published prior to the mid-nineteenth century, could be considered proto-SF. These works don’t fit the modern description of science fiction, but nonetheless they have a certain SF taste to them; examples include Edgar Allan Poe’s “The Descent into the Maelstrom” or C.I. Defontenay’s Psi Cassiopeia. Yet as human civilization broadened its understanding of the natural universe and used what it learned to invent much of the technology we take for granted today, belief in magic began to be replaced by belief in science. When this occurred, it was only a matter of time before imaginative literature began to change as well.

Science fiction—or at least science fiction as we usually define it—was created by four writers: Mary Shelley, Jules Verne, H.G. Wells, and Edgar Rice Burroughs. Shelley’s Frankenstein marks the transition point between proto-SF and modern science fiction. As a result of the many movies that been made of it, Frankenstein has become more associated with horror than science fiction, but nevertheless it led to one of SF’s lasting themes: the creation of a new technology and the dangerous results that can come from failure to control it. For this reason, Mary Shelley could be considered the author of the first science fiction novel.

On the other hand, Jules Verne could be considered the first true science fiction writer in the sense that he was prolific enough that his “voyages extraordinaires” created a literary form that other authors sought to emulate. Verne’s novels were about amazing inventions and journeys to places where no one had ever gone before. His novels inspired not only many literary imitations, but also quite a few real-life scientific accomplishments. The creative feedback-loop, where science fiction sparks scientific inquiry and invention and vice versa, has been a subtle yet decisive driving force behind SF that began with Verne.

H.G. Wells went in the opposite direction. His cautionary works were often warnings about what might happen if technological advances are left unchecked or fall into irresponsible hands. Later in his career, with novels like When The Sleeper Wakes and the film Things to Come, he created what we now refer to as dystopian SF. Although his “science” often had little or no basis in actual science—no one has yet invented Cavorite or potions that cause one to become invisible—Wells’s novels served as a sort of balance against Verne’s wide-eyed sense of wonder.
Edgar Rice Burroughs was the least technology-minded author of this quartet. Many of his novels displayed a cheerful willingness to ignore not just science, but sometimes common sense itself. Yet Burroughs was the most prolific author in SF’s early history, and with his science-fantasy novels about Mars, Venus, the Moon, and the hollow world at Earth’s core, he almost single-handedly invented large-scale world building as we know it.

This is not to equate one author with another. Clearly Shelley was a better writer than Burroughs or Verne, for instance, even though Verne and Burroughs were far more prolific than she was. But I believe we can safely say that virtually every science fiction story or novel that’s ever been published owes something to one or more of these writers, whether contemporary authors realize that or not.

However, SF was not entirely a literary invention of the western world. Just recently I’ve learned, from an essay by Regina Kanyu Wang in a recent American collection of Chinese SF, *Broken Stars*, that this quartet had a distant cousin in China: Huangjiang Diaoudou, whose novel *Colony of the Moon* was serialized in 1904 through 1905. Unfortunately, Huangjiang’s story was unfinished for reasons still unknown and thus remains obscure in the West, so it can’t be said that it influenced the global development of science fiction to any great degree. Nonetheless, I’d be interested in reading an English translation of *Colony of the Moon* to see how it compares to the lunar-themed SF written around the same time by Verne and Wells.

What’s just as important about these writers as the themes they covered is that they didn’t all come from one country, but four: Shelley and Wells from England, Verne from France, Burroughs from the United States, and Huangjiang from China. While science fiction was initially a male-dominated field, it’s important to note that Mary Shelley was the first person to write SF. Unlike Verne, Wells, and Burroughs, however, Shelley did not make a career of writing science fiction.

There were many other authors during the nineteenth and early twentieth century whose work had a lasting influence on the development of science fiction. The American astronomer Garrett P. Serviss wrote an unauthorized sequel to Wells’ *The War of the Worlds* titled *Edison’s Conquest of Mars*, which is arguably the first space opera, with battles fought by interplanetary soldiers, fleets of armed spacecraft, and strange aliens who looked nothing like the Martians Wells created. *The Blind Spot*, by American authors Austin Hall and Homer Eon Flint, was the first parallel-universe novel, the forerunner of alternate history. And in England, Sir Arthur Conan Doyle wrote *The Lost World*, the first novel about modern man encountering living dinosaurs. These examples may not be definitive. One thing I’ve learned from studying SF history is that whenever you think you’ve found the first example of a particular SF trope or subgenre, there’s always one that was published earlier that you haven’t found yet. It’s like literary Whack-A-Mole: annoying, but fun.

All these novels, and many more like them, were very popular when they were published around the start of the twentieth century. Nonetheless, it was a long while before this form of literature reached a place where it could be given a name and recognized as a distinct genre.

At the beginning, science fiction was mainly published in magazines. In America, the weekly magazine *Argosy* regularly published such authors as Edgar Rice Burroughs, Ray Cummings, and Burroughs’ biggest imitator, Otis Albert Kline. But the new genre didn’t have a name or a home of its own until 1926, when a Belgium-born American publisher named Hugo Gernsback published, as a spin-off of his monthly magazine *Science & Invention*, the first science fiction magazine, *Amazing Stories*. The new magazine featured what “Uncle Hugo” called “scientifiction,” and although *Amazing* initially published only reprints of old stories by Verne, Wells, Burroughs, and Serviss, by its second year Gernsback was publishing stories by authors new to
the genre, among them Jack Williamson, Edward E. Smith, Murray Leinster, Edmond Hamilton, and Clare Winger Harris.

*Amazing* came out in the same period of the 1920s when a number of other pulp magazines were making their debut, each of them helping form genres that were separate and distinct from the literary mainstream. When the Great Depression hit at the beginning of the 1930s, the pulps proliferated because they offered a cheap form of entertainment when few people could afford the luxury of going out at night or buying a radio. And because SF in particular offered escape from a rather grim reality, it wasn’t long before *Amazing* spawned competitors like *Astounding* and *Wonder Stories*. (Incidentally, *Wonder Stories* was also created by Gernsback after he lost control of *Amazing* to his managing editor, T. O’Connor Sloane, who conspired with Gernsback’s business rivals to take the magazine away from him.) It was in these magazines that the word “scientifiction” was gradually replaced by a new term that was easier to pronounce and understand: “science fiction.”

From the beginning, science fiction has stood out among the literary genres by the fact that it has a devoted following that frequently and constantly generates new writers from its own ranks. SF fandom may seem like a natural side effect of the published work, but it wasn’t. When Gernsback began receiving dozens of enthusiastic letters from his readers—mostly young men, but a few young ladies as well—he responded by publishing these letters in *Amazing*, along with the addresses of the correspondents. Through the magazine’s letter page, *Amazing’s* readers learned who each other were and began communicating amongst themselves, mainly as pen pals but also occasionally traveling many miles to meet one another other face to face.

Upon learning of this, Gernsback decided to capitalize on it. He founded the Science Fiction League, with *Amazing* as its de facto house organ, and encouraged fans in various cities to charter themselves as its chapters. Uncle Hugo did this mainly to promote his magazine, but he also laid the groundwork for something greater. Although the Science Fiction League eventually self-destructed due to internal feuds among its members, it not only laid the cornerstone for science fiction fandom, but also generated SF’s first great literary movement, the Futurians, whose members included Isaac Asimov, Donald A. Wollheim, Frederik Pohl, and his collaborator C.M. Kornbluth. They were only the first of countless SF writers who emerged from fandom in years to come and still do today.

As science fiction continued to grow, both as a literary genre and as a subculture, it crossed the Atlantic and took root in the United Kingdom. Many American pulps like *Astounding* had British editions, and again their letters pages provided the means by which readers were able to make contact with one another. World War II put a crimp in British fandom, but once the war ended fandom became active again. By the end of the forties, British SF magazines like *New Worlds* were being launched. Modern SF crossed the English Channel to France and the rest of Europe, and it wasn’t much longer before SF reached Asia and Japan began generating SF stories and novels as well.

In postwar America, the SF scene was rapidly changing. The pulps were dealt a hard blow by wartime paper shortages, and many were killed off by their publishers in an effort to save their more popular sister publications. But once the war was over, the pulps continued to decline and perish. *Planet Stories, Startling Stories,* and *Thrilling Wonder* folded in the mid-1950s, while *Astounding* and *Amazing* became digests to compete with upscale newcomers like *Galaxy* and *Fantasy and Science Fiction*.

What replaced the pulps were mass-market paperbacks. Although the first pocket books were introduced in the late thirties, they didn’t become popular for another ten years, and the first paperback SF novels and collections didn’t appear until 1950.
Once they did, though, they became even more popular than the pulps that preceded them, with original softcover novels supplementing reprints of hardcover novels.

The postwar publishing revolution that put genre literature into the hands of many readers is a major reason why SF gained a worldwide audience, yet there’s another, more subtle reason. Whenever and wherever society has embraced science and technology as part of everyday life, science fiction has eventually taken root.

Because of this, science fiction has become a truly international form of literature in a relatively short span of time. Less than a hundred years separates us from the day the first issue of *Amazing* appeared; we have gone from pulps to paperbacks to ebooks in just three generations.

This is science fiction’s great strength. Although it became a distinct genre in American pulp magazines, it cannot be said that SF is an American form of literature, any more than the mystery genre can be called a British form of literature even through Great Britain was where detective novels first appeared. Over time, science fiction has grown and changed, and much of this growth can be attributed to its international nature. Different countries and different cultures have introduced a broad variety of voices, approaches, and objectives. The result is an incredibly diverse literary genre where, as one cluster of SF writers begins to age, a fresh new group of writers is introduced.

While it’s true that science fiction has also produced thousands of movies, TV shows, and most recently electronic games, at its core SF remains a literary genre. Novels and short fiction are the fountain from which new ideas flow. This is because creators can express themselves more deeply in the written word than they can on the large or small screen. While a space battle can be depicted very impressively in a movie where hundreds of special effects artists and technicians have pooled their talents to create a scene that dazzles the eye, it’s only in prose that the reasons why this battle is being fought can be thoroughly explained. It took George Lucas six movies to tell us why the Rebel Alliance was fighting the Galactic Empire; in a novel, this could be explained in just six paragraphs.

It’s now the early twenty-first century, and it’s become clear that science fiction has not only become a global form of literature, but has also had a subtle yet discernible influence on science and technology. Ideas that were first addressed in SF are now the subject of serious scientific inquiry—for example the search for extraterrestrial intelligence and habitable alien worlds. Likewise, technologies first depicted in science fiction have become reality. The list is nearly endless, and I could spend another hour or so running down obvious examples like manned spacecraft, AI, deep ocean exploration, wireless personal communications, and so forth.

SF isn’t merely a form of escapist entertainment—although it does that quite well, too—but also a driving force behind science and technology. Indeed, I believe that a major reason why science has made such great strides over the last century has been the existence and popularity of science fiction. Without SF, it’s debatable whether much of the technology we now take for granted would’ve ever been invented, or if concepts like time travel, artificial intelligence, black holes, or even the Big Bang itself would’ve ever been investigated by scientists.

Yet science fiction itself is currently in a state of change. This is to be expected. Throughout its history, SF has reinvented itself with the frequent introduction of new authors. During the late thirties through the forties, for instance, American SF had its Golden Age, when authors like Robert A. Heinlein, Isaac Asimov, Theodore Sturgeon, and Leigh Brackett appeared, little more than a decade after *Amazing*’s first issue was published. In the sixties, it was the New Wave, which began in England and spread to the U.S., introducing such writers as Michael Moorcock, Ursula K. LeGuin, Norman Spinrad, and Samuel R. Delany. A post-New Wave explosion followed in the seventies,
with George R.R. Martin, Gardner Dozois, Vonda McIntyre, Jerry Pournelle, Octavia Butler, and others appearing on the scene. In the early eighties, the cyberpunk/humanist writers, whom Michael Swanwick typified as the “postmoderns”—William Gibson, Kim Stanley Robinson, Connie Willis, Lucius Shepard, and Swanwick himself, among others—were soon followed in the late eighties and early nineties by the post-cyberpunk writers that included Robert J. Sawyer, Kristine Katherine Rusch, Kevin J. Anderson, and yours truly. The careers of these authors often overlapped—my first stories were published around the same time that Isaac Asimov published his last—but each movement or wave has had a flavor distinct from those that came before.

Now we’re at the end of the second decade of the twenty-first century, and so it should come as no surprise that SF is once again revising and rejuvenating itself. New writers are entering the genre again, only this time they’re not restricted by the slow and costly print mediums of the past. Just as the pulps were replaced by mass-market paperbacks, so paperbacks are now being replaced by ebooks. Printed SF magazines still exist, but now they’re outnumbered by digital zines.

Likewise, whereas SF fans and writers formerly had to rely on snail mail, mimeographed fanzines, and the letters pages of SF magazines to reach out to one another, now they’re able to use email and social media instead. Even the annual World Science Fiction Convention, once almost exclusively held in the U.S., with only occasional forays to other English-speaking countries, has become a truly international convention. Differences of language and culture are no longer the barriers they once were. And with more women, people of color, and folks who are openly members of the LGBTQ community working in the field than ever before, they represent not only diversity for its own sake, but also diverse viewpoints.

So it should come as no surprise that the leading edge of SF’s latest rejuvenation isn’t coming from America or England or even western Europe, but from China. The Middle Kingdom is having a Golden Age similar to American SF’s Golden Age of the 1940s. The creativity, the passion for imagination, that’s coming from this country is refreshing and delightful to behold.

And China isn’t the only country to produce a new generation of SF authors. At Beijing’s APsfcon 2019, there were writers, artists, and other creators not only from mainland China, but also South Korea, Japan, Sri Lanka, Israel, New Zealand, Russia, and the Ukraine, among others. When I was a teenager attending my first World Science Fiction Convention in Toronto, Canada, back in 1973, such a gathering would’ve been unthinkable. Now, I believe it’s only a matter of time before the Worldcon is held in Beijing or another Chinese city, once the Covid-19 pandemic comes to an end and international SF conventions are resumed.

This helps prove that SF has a way of breaking through cultural and ideological differences. It’s a literary genre that belongs to all of humanity, not just one culture or nationality. Indeed, if there’s one thing that I’ve learned from a life well-spent as an SF fan and writer, it’s that there are seldom any differences among people that can’t be settled by observing and respecting their cultures. Science fiction helps us do that, for if it teaches us anything, it’s how to have an open mind.

In a sense, we’re the spiritual descendants of Shelley, Verne, Wells, Burroughs, and Huangjiang. Where we came from is the same place where we’re going. It’s a journey that will never end . . . and why would we want it to?