

Guest Editorial

David D. Levine

THOUGHTS ON A DEFINITION OF SCIENCE FICTION

One of the perennial arguments in the SF field is “what exactly is science fiction, anyway?” and in particular where the line between SF and fantasy is drawn. When this question comes up around me, my immediate and glib response is, “Have you ever been to Disneyland? There’s a ride there called Dumbo the Flying Elephant—elephants that go around and up and down. There’s another ride called Astro Orbiter—rocketships that go around and up and down. They are the same ride with different paint jobs.” In other words, if you strip away the trappings of the setting, science fiction and fantasy are basically the same thing. But even though it’s a good line, and true in its way, it’s reductionist and insufficient. The real differences between the two genres, in my opinion, are a lot deeper and subtler.

I have to emphasize here that this is my personal opinion. People have been arguing about where the line between fantasy and science fiction falls as long as the two labels have existed, and I’m not pretending to have the single answer that will work for everyone. What you see here is my attempt to put into words what makes a work “feel” to me science fictional as opposed to fantastic. And to me that feel depends on the characters’ view of their world . . . and the world’s view of the characters.

Science fiction, in my opinion, is based on an Enlightenment worldview: the universe is logical, predictable, and understandable, governed by rules that are impersonal and have no moral dimension. The nature of the universe can be determined by observation and experiment, and once its rules have been discovered they are reliable and predicable. Even if the rules of the universe are not currently completely understood, the expectation is that with further observation and experimentation, and perhaps better math, they can eventually be worked out.

Fantasy, on the other hand, is based on a pre-Enlightenment worldview: the universe has a moral compass, and is governed by rules that, though they may be understandable, are not necessarily always consistent, logical, or predictable in their application. The nature of the fantasy universe is investigated through philosophy and contemplation, but sometimes its rules are accepted to be beyond human comprehension. The fantasy universe is numinous, mysterious, and full of wonder. Most important, the fantasy universe is *personal*. It is aware of, and cares about, humans and human concerns, and outcomes of actions are at least partly determined by the actors’ attitudes, personalities, and heritage. The fantasy universe has an agenda. Its motivations may be benevolent, inimical, or incomprehensible to humanity, but there is no question that it has them.

Both worldviews exist in the real world, of course, and they are not mutually exclusive; many scientists have a personal relationship with some kind of universal intelligence, and many religious people use science and scientific principles to understand the mind of the creator. But in fantasy and science fiction, which take place in created worlds, it is not only the worldview, but the nature of the world itself which varies. The worldview of an individual work does not necessarily reflect the author’s views of the real world, and not every character may share the dominant worldview of their universe, but I believe that a consistent created world will fall, generally speaking, into one of these two camps.

The universe’s moral dimension, or lack thereof, has a powerful impact on both plot and character. The science fiction world is a collection of physical processes that have

no consciousness or personality and cannot be influenced by human moral codes. In a science fiction story, building a world-destroying machine may be morally wrong, but the universe will not do anything to prevent it from working (except, perhaps, via extremely subtle means that do not visibly break the established physical laws, so that the supreme being can preserve plausible deniability of its existence). But in a fantasy story, the characters can expect that immoral or ungodly actions will eventually be punished by a just universe. The arc of the fantasy universe does indeed bend toward justice, and the universe sometimes moves in mysterious ways its wonders to perform. Characters may disagree on the moral quality of any given person, thing, or action, and call upon various observable effects to defend their opinions, but in the end (perhaps in an afterlife) there is a definitive accounting.

This fundamental difference between science fiction and fantasy can perhaps most easily be observed in the means by which characters affect the world, which in science fiction is termed “technology” and in fantasy “magic.” Technology is impersonal, predictable, and repeatable, whereas magic is personal and idiosyncratic. Suppose there is a Colt revolver on the table between you and me. Even if you are a far better shot, the pistol will function for both of us and its destructive power is the same in my hands as yours. But if that pistol is replaced by a magic wand, we can expect that it may function very differently for you than for me. If the wand belongs to you, or you possess the necessary bloodline or birthdate or other personal characteristics, it may not perform at all for me, or may even strike back against me for attempting to use it. Technology depends on what you have; magic depends on who you are. (Knowledge and training, which are personal but not inherent, are a special case and are often significant in both SF and fantasy.)

The fantasy universe is full of swords that may be drawn only by the pure at heart, unicorns that can be ridden only by virgins, and doors that open only for the rightful king. Although science fictional (and real-world!) technologies may sometimes seem to be equally capricious, knowledgeable people understand that their behavior is actually based on impersonal rules of physics and software engineering—though these may not be completely understood by the user.

Magic systems in which the magic behaves like a technology—predictable and repeatable—are sometimes found in fiction, though many readers feel they lack a “sense of wonder.” They are seen more often in games, where predictability is helpful for playability and fairness. And technologies are sometimes mysterious and capricious, prone to malfunction and unexpected results. But these technological surprises are considered to be bugs, the result of incomplete understanding or imperfect equipment, and the characters expect that they can be eliminated by further technological development. When magic has a technological component imposed upon it—such as “weirding modules” or “midichlorians”—the result often feels uncomfortable and unsatisfying. And even when a technology in fiction is completely impossible according to currently known science, such as teleportation, anti-gravity, or faster-than-light travel, if the characters accept it as predictable and repeatable, with no personal or moral dimension, it reads as technology rather than magic.

Speaking of “sense of wonder” . . . I feel that both SF and fantasy are capable of delivering this ineffable feeling. Science fiction, and indeed science itself, can provide wonder at the grandeur, complexity, and scope of the universe; fantasy can do so in many of the same ways, and also adds a subtler, more personal dimension.

Let's use this lens to examine some recent and not-so-recent award winners. I'm going to focus on those whose SF or fantasy lineage is open to question. (Spoilers are, alas, inevitable.)

Star Wars is perhaps the best-known poster child for the “is this SF or fantasy?” question. Its trappings are pure science fiction, with space ships and alien planets

and holograms. But the underlying universe, in which the Force is clearly dependent on bloodline and has an explicit moral dimension, looks like pure fantasy to me. I'm particularly intrigued by the fact that in the first movie released, *A New Hope*, the powers of the Force are quite subtle—perception and persuasion, mostly. The gaudier, more undeniable Force powers appeared only in the second movie, and became greater and greater as the series went on. This, to me, moves the series more firmly into fantasy territory over time, as the subtler Force powers feel more plausible in a science fiction universe, but the telekinesis and levitation seen in later movies involve unreasonable expenditure of energy at a distance.

Anne McCaffrey's *Dragonriders of Pern* books have a medieval level of technology, a feudal system of government, and of course teleporting dragons, so they look like fantasy. But as the books go on, it becomes clearer and clearer that Pern is a lost space colony and the dragons are the result of genetic engineering. So does that make the books science fiction? Let's look a little closer. The attitude of the characters to the universe is generally morally neutral—the thread that falls from the Red Star, for example, is a disaster, but is not regarded as “evil” in any personal sense—and though the society is pretty rigidly structured we are given multiple examples of dragonriders who defy convention. Lessa's discovery of dragons' ability to travel in time also reads to me as a scientifically minded exploitation of a natural phenomenon (as opposed to, for example, her being a Chosen One or receiving the information in a vision). Also, most of McCaffrey's previous work was more definitively SF. On balance, applying my worldview test I'd say that these books are indeed science fiction, despite their fantasy trappings.

Gene Wolfe's *Book of the New Sun* tetralogy is a fascinating mix of SF and fantasy concepts. Set in a future so distant that the Sun is dying and the Moon is forested, its world is full of flyers, energy weapons, genetically engineered creatures, and aliens. The people of this world understand that sunset is the horizon rising to obscure the sun. But the structure of the society depicted—the main character is, of course, a torturer by profession—and the delightfully esoteric vocabulary give it an extremely old-fashioned feel. These books deliberately teeter on the edge of SF and fantasy, but the main character's deeply held philosophy, in which a New Sun will be brought by an extraordinary being known as the Conciliator, and the number of miraculous events that occur without logical explanation, mark them as being more fantasy than SF.

N. K. Jemisin's *Broken Earth* trilogy pulls a fascinating double-reverse on the fantasy/SF axis, which mirrors its brilliant and unexpected shifts of point of view. It seems at first to be a fantasy: some characters have seemingly magical powers, and the bloodline aspect of the power reinforces the fantasy feel. But as the books go on, it becomes clear that this is a future Earth wracked by the aftereffects of a major technological project, and the characters' powers are the result of advanced genetic engineering. But wait, there's more. Eventually the reader learns that the Earth itself is a conscious being—one with anger issues—and the energy that powers the characters' abilities is in fact nothing more nor less than magic. So the underlying structure of the world is fantastical, the characters' perceptions of it are largely science fictional, and the story through which the reader perceives the world uses both fantasy and SF concepts. Is it SF or fantasy? It's brilliant.

My own *Arabella of Mars* trilogy started out with a hard SF concept: what if the solar system were full of air, making travel to other planets possible with eighteenth-century technology? My original intention was to write the story with real science, as much as possible, proceeding from this impossible premise. However, it very quickly became apparent that the universe I had in mind was scientifically implausible. Air is not that transparent—the sun would be visible from Earth only as a

vague red glow—and the air resistance of the interplanetary atmosphere would scour the surfaces of the planets clean and cause them to spiral into the sun far too quickly for life to evolve. So I changed the interplanetary atmosphere to something more amenable to the plot—something breathable, but more transparent and permeable than air—but even with that change I still had to do so much hand-waving that eventually I threw up my hands and said “okay, fine, it’s a fantasy.” But although the underlying physics defy all known science, the attitude of the characters toward their universe is an Enlightenment one, and the attitude of the universe toward the characters is morally neutral. So according to my own worldview test, the Arabella books are definitively science fiction.

Although I consider myself a science fiction writer, I enjoy, and have written, both science fiction and fantasy, and I would never claim that either genre is inherently better than the other. Other readers may have different definitions of the differences between the two genres, and certainly different literary tastes. But, to me, the assertion that either genre is morally superior to the other is a fundamentally anti-Enlightenment stance, requiring an imposition of moral order upon a literary universe that ought to be governed by humanistic, rational principles. And isn’t a humanistic, rational worldview what science fiction is all about?

David D. Levine won a Hugo for his short story, “Tk'tk'tk” (Asimov’s, March 2005), and SFWA’s Andre Norton Award for his Arabella of Mars trilogy. In addition, he has published over fifty other science fiction and fantasy stories.