

Editor's Notes, Vol. 8

Defining Science Fiction and Fantasy

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If we are to follow Socrates, the task of defining things is part and parcel of the philosophical endeavor. The usefulness of clear definitions for communicating ideas is fairly obvious, as defining their subject allows parties to avoid discussing at cross purposes. Socrates and Plato press further, though, arguing that adequately defining the topic of a discussion, as difficult as the task may appear, will provide us with a deeper understanding of that topic. Tell me what the pious is, Socrates asks Euthyphro, and I will not have to worry about being indicted for impiety. (And you, Euthyphro, make sure you have a demonstrated good grasp of piety before you go about indicting your own father!) It is also clear from the Dialogues that even a flawed definition can be enormously useful in progressing towards a clearer understanding of the subject.

For diverse philosophical reasons, though, this task of defining has received much top-down resistance this side of Ockham, and is now widely regarded as suspicious, when not plainly futile or even arrogant. Is it not arrogant to try your hand where everyone previously failed? Why try to climb a tree, when everyone who's done it was ever forced to come down again? Bottom-up too, the particular task of defining *science fiction* (and even more slippery *fantasy*) has been declared a goose errand by SF theorists as insightful as the great Fred Pohl, who ("A Modest Proposal," 11) declares by proxy that the task is impossible.¹

Plato – whose characters rarely succeeded in defining anything – would call this attitude *misology* (*Phaedo* 89 c-d), a sad state ("no worse thing can happen to a man") in which reason abandons its task for having been hurt too often by disappointment. He would also warn us (in *Republic* 453c) that, despite the difficulties, what little is achieved is truly worthwhile.

Besides, defining things is *fun*. Once they get going, the more philosophical characters in Plato's dialogues keep striving despite difficulties and dead ends because, practical and ethical consequences aside, arriving at a proper definition – one that clarifies its topic and defies refutation – is at the heart of the philosophical puzzle. *Hubris* is to be avoided, to be sure; but perhaps, in overcorrecting, we stand now in an excessive fear of overstepping, of saying too much and being found wrong. This sucks the fun out of philosophy. But I digress a little.

¹ Pohl, Frederik. 1997. "The Study of Science Fiction: A Modest Proposal." *Science Fiction Studies*, Vol. 24, No. 1 (Mar., 1997): 11-16. <https://www.jstor.org/stable/4240572>

Solvitur ambulando, I propose to define here *science fiction* and *fantasy* for the same reason that children climb trees: there's apples and pinecones, stranded kites and kittens to be found, but above all because it is fun. I truly think there is value to be found in these definitions, but this will be up to the reader to decide.

A working definition of "science fiction"

As these are some Editor's Notes, and not a full-fledged article, I may be excused for skipping the Aristotelian task of tracking down previous definitions, though I plan to point out some common weaknesses I often find in them, particularly when asking my students to produce one.

Here is a definition I commonly use in my classes.

Science Fiction (as a literary genre) can be defined as:

(1) A literary genre (2) characterized by the presence of scientific developments that are, if fictional, at least in line or in continuity with our current understanding of the laws of nature, (3) or by technological developments that are either fictional, or of very rare availability. (4) These scientific and technological developments are to some extent fundamental to the plot.

Naturally this requires some further elaboration, as well as anticipating some potential counterarguments and misunderstandings.

A short detour through literary genres

Let us tackle first some difficulties found when classifying science fiction among literary genres. Not infrequently I have found seeds of confusion (both in young students and in published authors) due to the fact that science fiction (and fantasy) stories seem to "skip genres," so that some can be described as short stories while others are novels of epic length, some overlap with horror while others with comedy or even contain detective story elements; and so forth, so that science fiction as a genre seems to be "all over the place."

This confusion comes down to the basic mistake of mixing criteria – as if I said "types of cat can be: tabbies, Siamese, skittish, female, small, hairless, hatless, and scanning technology," then showed confusion because tabbies can also be hatless and CAT scans have no visible relation to feline mammals.²

To solve this confusion, I propose that at least three sets of categories should be made explicit. There are, of course, what we could call "stylistic genres," and here we could oppose poetry to dry, informational prose, as the two ends of a wide spectrum; more

² Jorge Luis Borges, in "The Analytic Language of John Wilkins" (*Other Inquisitions*, 1952) mentions an ancient Chinese encyclopedia in whose distant pages "it is written that animals can be divided into (a) belonging to the emperor, (b) stuffed, (c) tamed, (d) piglets, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in this classification, (i) shaking like crazy, (j) innumerable, (k) drawn with a very fine camel-hair brush, (l) etcetera, (m) that just broke the jar, (n) that look like flies from afar."

technically, we could include overlapping classifications according to form (sonnet, limerick, haiku, simple prose and such). In second place there are what I would call “*existential genres*,” which respond to Sam Gamgee’s question to Frodo, “I wonder what sort of tale we’ve fallen into.”³ Here we could list *comedy*, *tragedy*, *farce*, *horror*, and the almost universally omitted *adventure*. These have to do with how life’s ultimate meaning is narratively perceived, which is why I would call them “existential.”

Finally, there is a difference between the more informational “non-fiction” (with variations from dry to narrative, according to the first criterion) and “fiction.” Within fiction we can distinguish properly “*narrative genres*” according to the goals and constraints of the narrative: detective story, thriller, love story, existential horror, science fiction and so forth. Since a narrative can have more than one goal, and can play with various constraints, we can expect to find some overlap among these types: historical drama, detective stories with Lovecraftian elements, sci-fi fantasy and many more. It is within this third framework that I offer what I would propose as characteristic of science fiction stories; and later, of fantasy.

Fictional scientific and technological developments

What I regard as the universal characteristic of science fiction stories is the presence of scientific or technological developments that are either fictional themselves, or in the case of technological developments (to cast the net a bit more broadly), “of very rare availability.” The “or” is inclusive, which means you can find either of these, or both.

Focusing on the *scientific elements* first: The name “science fiction” has often been contested, with some authors preferring the more ambiguous “speculative fiction,” and others proposing to use instead the convention “SF,” which can stand for both. Despite initially being swayed by the latter (as reflected in early style choices in this Journal), I am finding “science fiction” more adequate with the years. Though it may originally have meant to express “fictional stories rich in science,” frequently science fiction stories require “fictional” science proper, stretching the possibilities that science establishes at the time of writing, or cleverly situating made-up laws and facts within the space left by current science. Thus 19th-century authors like Arthur Conan Doyle and Edgar Rice Burroughs were able to situate prehistoric worlds in then-unexplored corners of the world, basing the characteristics of their prehistoric animals on what was then known to paleontologists, and their placement on what was then unknown to geographers. As unlikely as such stories of lost worlds may have been, they did not directly contradict the knowledge of their era, but rather took inspiration from it to make the narrative attractively plausible. Science fiction stories work, so to speak, within the space left open for exploration by both our current understanding of natural laws, and our factual knowledge of the world. Thus, a story about dinosaurs written in the present time will not depict them as cold-blooded, for this view is no longer in vogue; and will have to find some creative way of hiding them, as most of the surface of our world has been thoroughly mapped.

³ Tolkien, J. R. R. 1988. *The Two Towers*, part IV, chapter 8. Ballantine: 408.

This is better phrased by Yoji Kondo (pen name Eric Kotani), who presents this framework in the form of four “laws”:

- (1) Where a known natural law applies, the story must be consistent with that law.
- (2) Where a known law is ambiguous or not explicit, the author may fudge, again within the constraints of well-established laws.
- (3) Where no known natural law exists, an author may exercise his or her imagination, provided the extrapolation does not contradict other well-established laws.
- (4) If the plot requires that the preceding rules be bent or broken, the author may do so, but must explain why. One might say that a new theory has superseded the old, or that a theory has proven incomplete or wrong.⁴

This intention to stay consistent or “in continuity with” our current understanding of the laws of nature is, roughly, what distinguishes science fiction from fantasy. But before we get there, let me clarify a few points. First, old science fiction stories will be based often on debunked scientific theories. Burroughs’ idea of an “eighth ray” or “ray of propulsion” (used to justify the power of Mars’ flying machines in the John Carter series) will not resist today’s understanding of light waves. This does not “transform” the series into fantasy, as the intention at the time of writing was to exploit this space of possibility within the science of the time, in order to justify flying machines and aerial battles in the lighter gravity of Mars.

Secondly, other genre conventions may directly oppose, say, current medical science, as when a character in an action-heavy SF story falls many stories, is grabbed mid-fall by another, and no one suffers any sprains or dislocations: or when a game character swims placidly despite carrying a bazooka in his “inventory.” This does not turn the story into fantasy; it just makes some of its elements selectively unrealistic.

In third place, authors may take rather broad licenses as to what is still “in continuity with” current science. Superhero stories, for example, are often very “light” on scientific consistency, vaguely justifying a hero’s ability to fly or teleport by mentioning a mutation in their DNA. This does not make the story itself better or worse, but it does make that aspect of the story a bit “too fantastic,” and possibly less interesting from a science fiction point of view. Based on this, one could establish degrees or an “analogy” (in the Aristotelian sense) of science fiction stories, with some solidly at the center and others at the fringes of the definition, depending on how much effort the author has made to establish the scientific plausibility of the story.

Now following the second element, in other cases what makes a story science fiction is not that it makes up scientific laws or facts, but the *technological applications* of presently

⁴ Yoji Kondo, in a paper delivered to the 1994 meeting of the American Association for the Advancement of Science. Quoted by Frederic Pohl in “Science Fiction: Stepchild of Science.” *Technology Review*, Oct. 1994.

standing scientific knowledge. Sometimes the technology will be based on sound principles, but technically impossible (a futuristic solar cell that charges a vehicle in seconds may be highly unrealistic in terms of what is technically possible), and sometimes the technology will be technically sound, even actual, but very scarce (like the microcameras used in early Bond movies), or plainly unavailable due to our current state of technological development (the space elevator in Kim Stanley Robinson's *Red Mars*).

Science, technology, and plot

What I think is often missed, though, is the importance of the fictional science and technology acting not simply as “dressing,” but to some extent *generating* the conflict that drives the plot. Say we gave the detectives in *Law and Order* a flying car like those in *Blade Runner*, yet changed nothing else: we would have a more “futuristic-looking” series, but nothing in the general goings-on of the series would be substantially affected. But let us add a technological element that *affects* the plot: a device that recovers an image of the last thing a victim saw, or a computer that establishes with a great degree of probability the chances of someone committing a crime, and then we have something new: a whole set of new questions, new narrative possibilities and complications based on the introduction of currently non-existent or highly inaccessible technologies.

I think this element is critical, and it is often overlooked. At the heart of science fiction is not the depiction of a “futuristic” world, but a development of the narrative possibilities opened by fictional scientific developments, or fictional or scarce technologies. They are plot-relevant.

Again, thinking in terms of degrees or analogy is helpful, particularly in order to place (and not be flustered by) the fringe cases. Stories about young children being trained into “supersoldiers” could be considered science fiction, even if no revolutionary technology is present, because the story presupposes the effectiveness of some fictional (and likely abusive) experimental training program. Dystopian fiction and near-future post-apocalyptic stories sometimes stump critics, who go back and forth on whether to consider these genres part of science fiction or genres of their own. Yet the answer is not difficult: if the dystopian or post-apocalyptic situation is brought on or supported by science-fictional elements (a virus, a machine uprising, a social control device), as it is quite common, these genres will overlap with science fiction; but if we were to find cases in which such elements are not present, we would have to conclude that these are technically distinct genres yet overlapping genres. If no such cases existed, we could then classify them as sub-genres. (As it is possible to imagine such scenarios as shaped by fantastic, rather than science-fictional elements, the hypothesis that they can be considered genres on their own seems plausible.)

The problem of defining science fiction by its goals

Often one encounters attempts at defining science fiction by focusing on a specific type of narrative goal or aim. These attempts are often strongly ideological. The stated goal may be to educate about science, thus stories that entertain but don't teach science are not “proper” science fiction. The stated goal may be to reflect on society as it is “now” (as opposed to futurist predictions), thus stories that pitch heroes in bizarre alien

environments, but do not offer much food for thought would not be “proper” science fiction. The stated goal may be to “subvert” society; thus stories of a conservative vent may not be “proper” science fiction. Or fantasy.

The problem with this approach is that, in practice, the reasons why authors choose to tell stories in a science-fictional framework can be *very* diverse. We will find stories that pay little attention to the science or technology itself, while immersing us in deep reflections about human nature in general, or about where society is bound to end if a particular practice, technology, or way of thinking continues to gain ground. We may find authors moved by the prospect of making science more interesting and accessible, generating wonder, providing a comedic look at our everyday lives, or just telling a good, escapist yarn, of worlds being saved and villains being defeated while things blow up left and right.

Attempts at locking down a specific goal as constitutive for science fiction quickly find themselves in a narrow spot when forced to exclude from their definition a large proportion of stories widely (perhaps universally) considered science fiction (or fantasy), and are forced to conclude that these categories are too Protean, that the genres cannot be defined in any meaningful way. Worse, they may generate an elitist view of “true” science fiction, insisting that science fiction must be about moral, philosophical and political ideas, and if not these, then it’s just an imposture, second-class science fiction at best.

Personally I reject that view: wide-eyed wonder, I would argue, can be as legitimate a goal for a writer as social revolution. Writers may be moved to tell stories for all sorts of reasons; the better their craft, the better they will achieve their particular narrative goal. To validate only one type of goal (be it moral, political, aesthetic, intellectual or commercial) is to ignore the multilayered quality of human experience. My definition, however, does not get tangled up in that difficult but interesting discussion: as long as there are science-fictional elements fundamental to the plot, we can recognize the story as science fiction.

Defining “fantasy”

Fantasy, as a form of fiction (i.e., a narrative genre), is also characterized by breaking with reality, as known and understood by the author or by the intended audience; but it does so at a different level than science fiction. What I propose here as the key distinction is that *fantasy willfully departs from a deeper, metaphysical understanding of reality, without trying to ground this departure on an application of current scientific understanding*. When Harry Potter brandishes his wand and says “*expelliarmus*,” the text does not invite us to think that a combination of sound waves and telekinetic powers is exciting the air molecules around the opponent’s wand. *That* would be a science-fictional explanation. Science fiction is bound by what is scientifically possible; an author intentionally writing within the limits of this genre will often push the boundaries of what is considered scientifically possible – explaining outlandish powers as the result of radiation, evolution, nanites, technology “advanced beyond our wildest dreams” – but the intention remains. Instead, the text invites us to understand that a fictional universe like Harry Potter’s, much as it may resemble ours, is different in that magic *works*. It is not that wizards have such advanced technology that it

is “indistinguishable from magic”: power is imbued in objects not by carefully concealed microchips but by charms, rituals, spells, channeled raw willpower, imps and captive spirits, knowing the true names of things, love and kindness.

This is also why fantasy is a much older genre. The view that our universe, miracles aside, is bound by strict natural laws, took shape slowly; the view that a scientifically correct understanding of the world needs to exclude all “supernatural” interventions (let us call it a “naturalist” view) is rather recent, going just a couple centuries back. Science fiction as a genre emerges at this time; it operates (when not hybridized) chiefly in a naturalist universe. Fantasy breaks with this naturalist view, by inserting the supernatural and making it a factor in the narrative. In this, it distinguishes itself from science fiction. But the range of metaphysical laws that can be broken is much broader: fantasy can break up with the distinction between names and things, things and their attributes, with logic itself! This allows for a much more significant rupture with reality, creating possibilities not just for wilder stories, but also for many-layered symbolism. I can trap death in a jar, sell my shadow or my soul, converse with old trees, wear a heart made of stone, trick the wind with clever wordplay, make time forget itself. I do not need to spend time explaining how such things are “scientifically” (that is, “naturalistically”) possible. They don’t need to be.

Thus we may define *fantasy* as a literary genre in a similar way:

Fantasy (as a literary genre) is:

(1) A literary genre (2) characterized by a story with fictional elements (3) taking place in a world in which some of the metaphysical laws and rules governing that world are (intentionally) different from how the author, and the intended audience, understand the world to really be. (4) This rupture has to some extent have a bearing on the plot.

Most of this has already been explained when discussing science fiction, but here are some quick remarks: First, I am tempted to put a little bit less weight on the last element, the bearing of fantasy elements on the plot, as opposed to their weight in science fiction. In constructing science fiction stories, I think authors have generally a strong sense that the scientific and technological elements *make* to some extent the story – the characters just “activate” them – whereas in fantasy, being a broader realm, authors may just choose to color slightly with it (e.g., in a “fantastic realism”) what might otherwise could work as a regular story. The fantastic elements then contribute more to the tone than to the plot itself. This is more of a feeling than anything else, though, and I am willing to hear arguments to the contrary.

Secondly, I establish a contrast between the fantastic elements and how “the author, and intended audience, understand the world to really be.” This is because I am focusing on fantasy as an intentional genre, meaning that the author *wants* to create a fantastic effect by knowingly introducing what she perceives as fantastic elements, expecting that the audience, sharing this basic world view, will recognize these elements as such. (A story could be *unintentionally* fantastic if, for example, it included elements that the audience disbelieved, but not the author.)

In third place, it is possible to have a *hybrid* story, with both fantastic and science-fictional elements. A typical example is the *Star Wars* universe (at least in its original trilogy). Travel to distant star systems is explained through the concept of “hyperspace,” not magical portals; droids are advanced technological beings, not golems. But next to this technological milieu we have the Force, that guides destinies and allows for supernatural feats of prescience and distant communication, and that also seems to have a moral stake in the battle of good against evil.

Attack of the midichlorians, or why it is good to keep these distinctions clear

Ignoring this distinction put George Lucas in some hot water, and he is still getting scalded. This was clear from the audience’s gut reaction to the introduction of the “midichlorians” in *The Phantom Menace*, first of the *Star Wars* prequels – the word still making its rounds in meme culture, as shorthand for “even the great can *really* botch things up,” while fans claim to have “edited it out of their headcanon.” In the movie, two Jedi take a blood sample from young Anakin to check his “midichlorian count,” and discover with surprise that the reading is “off the chart.” This seemingly innocuous statement seemed to indicate that the ability to sense and wield the Force could be scientifically tested and quantified, a move possibly intended to bring the mysterious Force more clearly – though not completely – into the realm of science fiction. The move brutally backfired: it was widely interpreted as a betrayal of the most mystical aspects of the Force. In the original movies, highly advanced technology is ubiquitous, and mostly commanded by the oppressive Empire. Yet, as intimidated by the villainous Darth Vader, there is something more powerful than technology. It is this power that gives the “small guy” the strength to face the largest technological forces and overcome them. Command over this power involves not sophisticated technology (other than, of course, light sabers), but self-knowledge, discipline, self-control, virtue, sacrifice. Yet in making the Force quantifiable, even if indirectly, Lucas changed its nature. He made it into a quasi-natural phenomenon, and “balance in the Force” no longer the focus of a battle between good and evil, but more of a matter of action-reaction. As a concept, it significantly lost its capacity to inspire. Particularly surprising to me was how quickly the regular audience, not trained in philosophy, intuitively picked this up. It was a sin (not the only one in that movie, perhaps not the worst one) for which George Lucas is still atoning.

More positively, though, the differences between science fiction and fantasy can be seen as enriching and fruitful, in that the genres offer diverse possibilities for philosophical reflection. This is useful to know for authors who are at least partially driven by the philosophical exploration of specific themes. The theme of *Beauty*, for example, can be explored through the symbolism of the sirens’ song, which drives even the most wary of mariners to shipwreck, or by the story of the nightingale’s singing, which made a night – or perhaps a hundred years – pass in an instant. An author attempting to create the same effect while staying within the boundaries of science fiction, however, would need to refer to fictional neurology or neurochemistry, to pheromones or subconscious conditioning – for we know that “in real life” we don’t lose our wits completely for the sake of a song, not when sober, at any rate, and then there are no wits to lose. But then the story would *not* be about Beauty, but about something else – maybe Free Will and neurological determinism.

Thus, while themes may overlap, some genres are ideal *loci* for specific themes. Fantasy offers incomparable possibilities for the symbolic exploration of such themes as love, life, death, mystery, beauty, sacrifice, our longing to be one with nature, our relation with the transcendent, to mention just a few. Science fiction is more “grounded,” as it needs to stay naturalistic. The wonder it offers is that of the “real” universe – the size of space, the number of the stars, the wonderful possibility of expressing so much of this mathematically. The field is ripe for moral conundrums, for social criticism, for reflections on our relationship with nature and with specific new technologies, or as a laboratory for current social trends. These could also be addressed within fantasy, but normally the symbolism needs more translation.

Finally, let me emphasize that none of this is to say that one genre is better than the other, nor that stories that more “purely” stick to one of the definitions are superior in any way. (In fact, a couple years ago we made the decision to open a section on *philosophy and fantasy* in the Journal. So send us your article!) The criteria for distinguishing the genres *are not criteria for quality*. If one criterion for quality could be proposed, I would go with a broad interpretation of Aristotle in the *Poetics*, in which he subordinates the quality of a play to how well its elements succeed in producing “the tragic pleasure” (*Poetics*, ch. 14). A slow-moving “hard SF” story can make us feel just how ridiculously big space is, how small we are, or how bizarrely subatomic physics behaves, all forms of scientific wonder. A space opera will scratch that itch for adventure and fast-moving plot. A post-apocalyptic drama can make us appreciate again the wonders of running water and convenience stores. These pleasures can combine: a good story can make us contemplate and enjoy together Victorian courage, Eldritch dread, imaginative machinery, puzzling philosophical conundrums, and the need to trust each other. The quality of a story, in the end, is all in the telling.



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