

## It's time to start reading hard science fiction again

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Filed to: [BOOKS](#) 11/14/13 11:12am

I write science fiction and fantasy, but mostly my work is classified as "hard" science fiction. I've found that there are many readers who know and love hard science fiction, but I think just as many are determined to avoid it, convinced that the hard stuff is not for them. Why? They just don't know what hard science fiction is, and what it can be.

What makes a story "hard"? Everyone involved has an opinion. My own definition is simple and inclusive. Hard SF is science fiction that extrapolates future technologies while trying to adhere to rules of known or plausible science.

Of course definitions of what is possible or plausible can be seriously squishy. In my *Nanotech Succession* books people commonly make "ghosts" of themselves, virtual equivalents let's say. Is it possible to replicate a personality in a virtual environment? Who knows? But it's not flat-out forbidden, like exceeding the speed of light, and it's not treated as magic. So these books happily wear the label of hard SF.



As a handy rule, let's say that hard SF does not allow for magic or supernatural events, and that many of us are made skeptical if FTL or synthetic gravity fields appear in a story. (And yes, I'm aware that many hard SF writers have devised clever responses to the FTL problem.)

So if you play the SF game within some variation of this very simple rule set, that's hard SF. No big deal, right?

### Common Misconceptions

And yet there are some common misconceptions about hard science fiction. Here are a few.

*Hard science fiction is about science, technology, and engineering.*

Well yes, it *can* be, but mostly it's about the implications of science, technology, and engineering and how all of it affects people. In Gregory Benford's far-future *Great Sky River*, the galaxy is overrun by an unknowable machine intelligence, while the remnant human population, despite their enhancements, exists on the edge of extinction. It's a remarkable setting, but the story is about the people: their flaws, their vulnerabilities, their ingenuity, and their love for one another.

*Hard science fiction is written from the point of view of scientists.*

It's true that it's fairly common to find scientists writing hard SF, and why not? Scientists generally have great imaginations, along with curious and questioning natures. Science fiction lets them pose thought experiments in dramatic form while working within some real-ish world limits. But that doesn't mean they write from a scientist's point of view. They might. They might not. But whether they do or not, why would that automatically be a turn off? Scientists can be very interesting people!

Full disclosure: I have a bachelor's degree in zoology, but I'm not a scientist. Among all my novels I can think of one main character (Virgil in *Limit of Vision*) who is a scientist.

*Hard science fiction is of interest only to scientists.*

I hope not! Good heavens. Surely the world and where it might be going is a subject that could interest anyone with a curious mind? The incredible, intricate mechanisms of life? and technology? I mean, *smart phones*? Despite all the negatives, our world is utterly amazing.

*Hard science fiction takes a science degree to understand.*

In any genre, some writers are more difficult to get into than others. Some books are more challenging than others. As an example, Greg Egan's *Incandescence* is heavy on the physics of an extreme environment, but it's a fascinating read as the characters work out the peril of their situation. The best writers will help you to understand the science when it matters.

### **Why Do We Have to Call It "Hard"?**

I think the term "Hard SF" is a marketing disaster. The implication to the uninitiated is that it's "hard" to read, so why bother trying? You'd have to be a brainiac to get into that stuff, right? (And doubtless many long-time readers want to be thought of as brainiacs, and a lot of them actually are, so there's that.) Still. Why actively discourage readers?

Then of course there are the sexual jokes which, honestly, I'm sure are beloved by many in the subgenre. I don't plead innocence. I have muttered darkly to myself, when faced with another's success, "Mine is harder than his." But it's easy to see how this might turn off potential readers.

Another, related, term is "[mundane science fiction](#)"—a subset of hard science fiction in which interstellar travel doesn't come into play because it's considered unrealistic. As a term, "mundane" is a practical impossibility. This means that "mundane" stories are set on Earth or within the solar system, in a future without aliens. Don't these restrictions seem grossly limiting? Given the vastness of both time and the solar system, they're really not limiting at all, and yet . . . *mundane*? Doesn't that have the implication of "boring"? To me, the term is another marketing disaster.

### **Toward an Extrapolative Fiction**

So I've lately taken to calling this stuff "extrapolative" fiction, because that's what we're doing. We're extrapolating from the world we know, to tell stories of what could be, in futures that are strange and wondrous and compelling and yet still in some sense possible, still reachable, without relying on a magical-as-yet-unknown element. It's not that we're trying to predict the future, we just want to explore it, and there's a wide range of space and time open to our investigation...

[Source]

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