

Science fiction not only is good fun but also serves a serious purpose, that of expanding the human imagination. We can explore how the human spirit might respond to future developments in science, and we can imagine what those development.

There is a two-way trade between science fiction and science. Science fiction suggests ideas that scientists include in their theories, but sometimes science turns up notions that are stranger than any science fiction. Black holes are an example, greatly assisted by the inspired name that the physicist John Archibald Wheeler gave them. Had they continued with their original names of “frozen stars” or “gravitationally completely collapsed objects,” there wouldn’t have been half so much written about them.

One thing that science fiction has focused attention on is travel faster than light. If a spaceship were restricted to flying just under the speed of light, it might seem to the crew that the round trip to the center of the galaxy took only a few years, but 80,000years would have passed on Earth before the spaceship’s return. So much for going back to see your family!

Fortunately, Einstein’s general theory of relativity allows the possibility for a way around this difficulty: one might be able to bend, or warp, space and time and create a shortcut between the places one wanted to visit. It seems that such warping might be within our capabilities in the future. There has not been much serious scientific research along these lines, however, partly, I think, because it sounds too much like science fiction. One of the consequences of rapid space travel would be that one could also travel back in time. Imagine the complaint about the waste of taxpayers’ money if it were known that the government were supporting research on time travel. For this reason, scientists working in this field have to hide their real interest by using technical terms like “closed timeline curves” that really mean time travel. Nevertheless, today’s science fiction is often tomorrow’s science fact. The science behind science fiction is surely worth investigating.

*From The Physics of Star Trek by Lawrence Krauss, Stephen Hawking, HarperClooins Publishers
