

The Future Is Not Star Trek

I have always loved Star Trek, from the original series beginning in 1969 to the ever present reruns on television just about any day. Admirable characters, a stern but humane Starfleet code to live by, lots of action (but no gore) and the wonder of new frontiers. Traveling in glistening starships several hundred years in the future, facing all types of dangers. Great television, but the reality we are spiraling into will be very different.

First consider the Enterprise crew; basically, they are no different than you or me. Okay, Mr. Data is the exception, but all the others are plain old biological humans, even if wearing Vulcan ears. It's as if technology hadn't progressed over the next centuries. Sure, the hardware is more sophisticated — phasers instead of pistols — but everything seems very familiar.

Consider Captain Picard, the leader of the Enterprise. First of all, he looks like your old high school math teacher. Medium build, medium height, hair just about gone. Nice guy, pretty smart, but no exceptional or unusual powers. Not directly linked to computer intelligence, no implants to enhance his senses, no nanobots in the bloodstream regulating biological processes. Bor-ing!

By the way, how old is Picard? I always wondered about that. With the wrinkles and the hair, he looks late forties, but it's hard to tell. Actually, nobody in the crew seems very old. Hey, they all act age appropriate, and from their conversations, it seems everyone is in the twenty to forty range. It appears they experience about the same aging process as we do here in the first decade of the twenty-first century.

Now that's just ridiculous. In 1900, the average lifespan was about forty-nine years, while now it's pushing eighty. As science continues to learn more about human biological processes, we will develop cures for many of the diseases that cut our lives short. In addition, we will develop a much better understanding of the aging process, enabling us to tune up our bodies and stretch out normal lifespans. Tiny nanobots in our cells will monitor, report and regulate many of our biological processes. By the middle of this century, the average lifespan in the developed nations should be well over one hundred years.

Our bodies will change dramatically during the next few decades. Hell, it's already happening. Look at all the mechanical replacements now available. Hip, shoulder, elbow, tooth, artery and knee replacements are commonplace. Contact lenses and hearing aids enhance our senses. Mechanical legs allow the severely injured to walk, even run, again. I've seen a paralyzed man control his personal computer through thoughts that interface with a network.

How much will we accomplish during the next few decades? Well, for one thing, we will be able to replace virtually any part of our skeleton system. Bone broken, joints wearing out? Replace them. Want to think faster, move with more agility? The nanobots in our cells can become a computer network that responds hundreds of times faster than our neurons. Need more and better information at your fingertips? Forget about fingertips. A wireless interface between nanobots in your brain and computer databanks will allow you pull down whatever processed information you need. How about a second heart? A mechanical heart could reduce the pumping load on your biological heart, maybe take over during a heart attack. Better yet, eliminate the need for a heart with blood cells that power their own mobility.

But that's just the start. Artificial intelligence will eventually dominate biological intelligence. And let me cue you in, it's a short eventually. Here's what I mean. Your brain processes information relatively slowly. Computer hardware is already much faster and the difference is growing year by year. On a pure horsepower basis, AI beats the brain's processing. Of course, you need much more than fast computer hardware, the software has to be in place, too.

Let's separate AI into two classes, weak AI and strong AI. Strong AI is general purpose intelligence, the ability to handle a wide variety of tasks at the same or higher level than a human. Weak AI is designed to process a very limited number of tasks, for instance, playing chess or walking.

Strong AI is still some years away, maybe decades, but weak AI is available in many areas. Most of us know that IBM's Big Blue computer can defeat the best human chess players. Robots can hit a baseball or dance (check out my videos), although not at the level of the best humans. Not yet, anyway.

However, it's clear that we are only a few decades from seeing very intelligent computers approach and then exceed human intelligence. Humans will need to link into networked AI just to stay competitive with our computers. But that's just delaying the inevitable. In the end, our biological brains won't cut it. Blood and flesh is just too slow and inflexible. In the second half of this century, we will be able to download our personal intelligence into robots. Mr. Data isn't too bad an example of what humanity will become.

But the story doesn't end there. Mr. Data's brain, while much faster than a human brain, is still constrained by limited size. A networked intelligence will

outperform a single Mr. Data, so that's the direction science will drive us. Maybe Star Trek has a pretty good example, after all. It's called the Borg.

Please realize a networked intelligence need not be evil. The Borg could very easily be a beneficial superintelligence, with all units working toward a good purpose. Or many good purposes. Each individual would very likely retain his or her unique personality, rather than being stamped out of one mold. A diverse set of androids networked together would seem to have greater survival capabilities than one individual repeated over and over.

And it would be a lot more fun. Imagine how close you would become to the people you love. In addition to the physical intimacy we now enjoy with our flesh and blood bodies, think about the emotional intimacy of joining your lover's mind through the net. Step aside, Vulcan mind-meld!

Misunderstandings would be cleared up, feelings and thoughts immediately transmitted and received. I could describe the sex, but it's not that kind of article.

Maybe the future is Star Trek after all.

About the Author

Dan Ronco's expertise in engineering and computer science infuses his fast-paced techno-thriller *Unholy Domain* with detail and authenticity. His second novel, it warns of the looming clash between religion and advanced science. Visit [Dan Ronco](#).

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