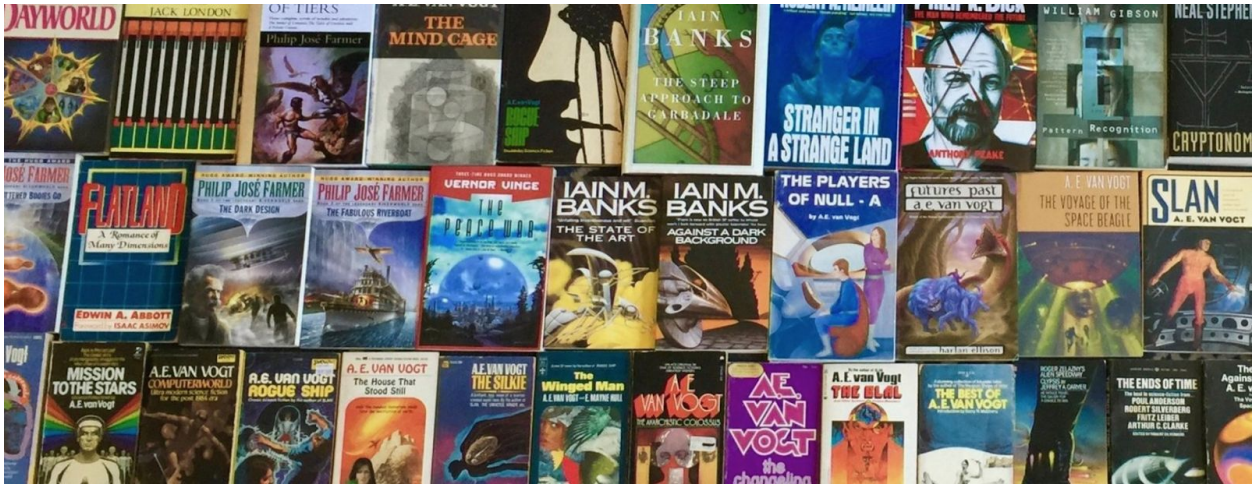


Sci-Fi Linked To Positive Attitudes About Tech

We live in a society exquisitely dependent on
science and technology, in which hardly anyone
knows anything about science and technology.

Carl Sagan

I read a study from the University of Helsinki entitled What makes people approve or condemn mind upload technology? Untangling the effects of science fiction familiarity. The study showed a correlation between reading Sci-Fi and positive attitudes about mind uploading technology and digitizing the brain.

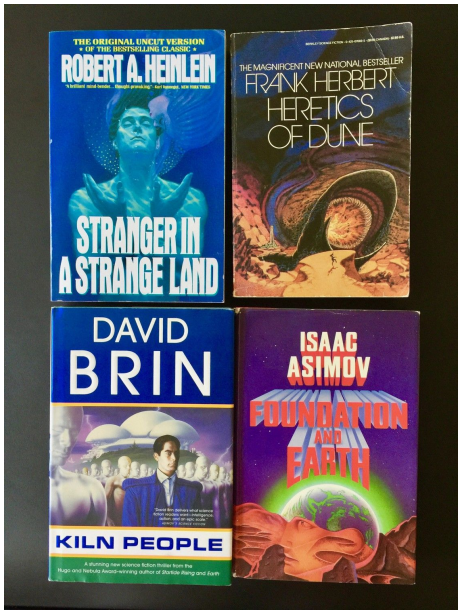
The idea of separating a person's consciousness and
transferring it to another medium 'mind upload'
is being actively discussed in science, philosophy,
and science fiction. Mind upload technologies are
currently also being developed by private companies
in Silicon Valley, and has received significant funding
in the EU. Mind upload has important existential
and ethical implications, yet little is known
about how ordinary people actually feel about it.

The Moralities of Intelligent Machines, a research group at the University of Helsinki, evaluated various factors to explain people's reactions to mind upload technology and found that higher Sci-Fi literacy strongly predicted approval of mind upload. This research prompted me to think more generally about how reading Sci-Fi shapes our attitudes about, and may help us prepare for, the future. Sci-Fi novels and short stories provide an opportunity to think way beyond what's possible today. In Sci-Fi humans augment themselves and become more like computers and machines become more autonomous and humanlike. Sometimes it's hard to tell the difference and it usually creates issues.

No sensible decision can be made
without taking into account not only the
world as it is, but the world as it will be.

Isaac Asimov

Reading Sci-Fi can help us acclimate to new ideas that at first seem inconceivable. It can also cause aversions to technology. Since you can see undesirable consequences played out in extreme ways, Sci-Fi gives humans an opportunity to envision the future and to imagine how technology might effect society. It can also motivate scientists and sometimes even inspire scientific breakthroughs. The following is a list of recurring themes in Sci-Fi that may influence the way we perceive technology and the future.

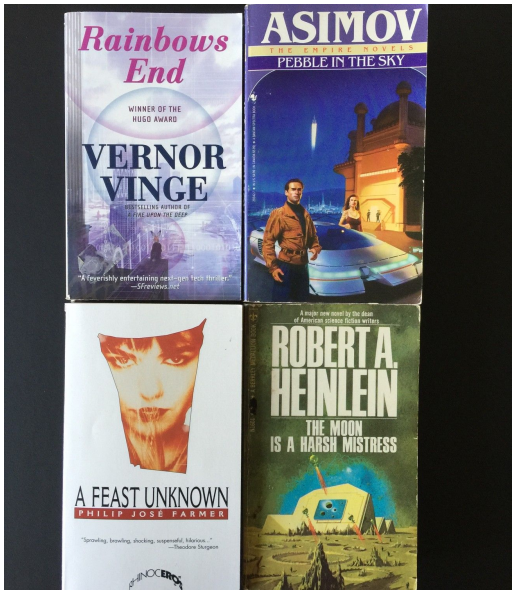


Life Extension

Life extension is the idea of increasing the human lifespan beyond its upper limit of 122 years. In Frank Herbert's Dune, people use a spice called Melange, to increase lifespan, enhance vitality, and increase awareness. Melange is the most valuable commodity in the universe.
In Marc Stiegler's The Gentle Seduction, an ordinary human grows old, and then grows young and embraces the technological singularity. The Gentle Seductionis considered by some of the founders of the field of nanotech to be the best story ever written about the consequences of nanotechnology.

Human Consciousness and Time

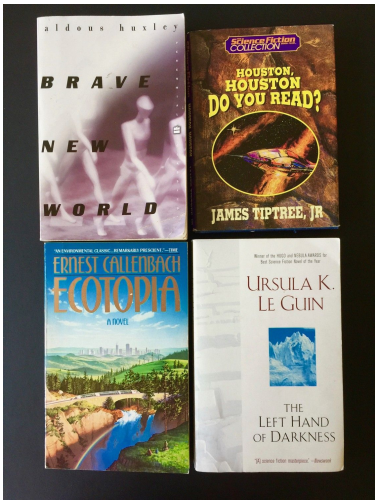
Philip K. Dick writes about technology's impact on human consciousness, the meaning of reality in a technologically advanced world, and what it means to be human when machines are indistinguishable from humans. His novel *Time Out of Joint* is about manufactured realities. In his novel, *VALIS,* (Vast Active Living Intelligence System) *The Black Iron Prison* is a pervasive system of social control. VALIS arrives in a beam of light that induces visions from alternate realities and other times. The general idea is that if you superimpose the past over the present and superimpose the future world over it, you get the Empire, a trans-temporal constant. PKD postulated that throughout human history there was an on-going struggle between Empire and Republic.



Superintelligence

In Robert Heinlein's *Stranger In A Strange Land,* Valentine Michael Smith, a human born and raised by Martians on Mars develops superintelligence. In A.E. van Vogt's *The Players of Null A* and *Slan,* characters access untapped intellectual potential. In A.E. van Vogt's *The Voyage of the Space Beagle,* Dr. Grosvenor is a Nexialist who mastered many areas of human knowledge and synthesized it. The Bene Gesserit in Frank Herbert's *Dune* series develop superhuman abilities.

> I started reading SF when I was about 12. There's no doubt who got me off originally and that was A. E. van Vogt. There was in van Vogt's writing a mysterious quality, and this was especially true in The World of Null A. All the parts of that book did not add up; all the ingredients did not make a coherency. The thing that fascinated me so much was that this resembled reality more than anybody else's writing inside or outside science fiction. … reality really is a mess, and yet it's exciting. Van Vogt influenced me so much because he made me appreciate a mysterious chaotic quality in the universe which is not to be feared.
>
> Philip K. Dick, 1974



The Value of Human Life

In Iain Banks' novels, killing a machine is considered as serious a crime as killing a human being.

In Isaac Asimov's first Sci-Fi novel, *Pebble In The Sky*, anyone who is unable to work is required by law to be euthanized, and all human beings are executed when they reach the age of sixty, a procedure known as "The Sixty".

In Philip K. Dick's short story, *The Pre-Persons,* children are not considered human until they have developed the ability to understand algebra. Parents can legally euthanize their children before they understand algebra.

Ernest Callenbach's *Ecotopia* is about an ecologically sustainable future world where humans respect nature and worship trees, but treat other humans cruelly. In Ecotopia, extreme hostility between humans is accepted as normal behavior.

You don't have to burn books to destroy a culture. Just get people to stop reading.

Ray Bradbury

Authoritarian Control

In some Sci-Fi novels, governments use technologies designed to weaken people's capacity to think for themselves.

The Diamond Age: A Young Lady's Illustrated Primer by Neal Stephenson is about an interactive device in the future that is used to educate and raise a girl capable of thinking for herself.

In Orwell's *1984*, characters deal with oppressive control, loss of privacy, invasive surveillance, thought control, and suppression of dissenting opinions. Even personal relationships and private thoughts are controlled using technology.

In Philip K. Dick's *Minority Report* people struggle against authoritarianism and strive for autonomy.

> If we've learned one thing from the history of invention and discovery, it's that in the long run even the most daring prophecies seem laughably conservative.
>
> Arthur Clark

The short story *Eight O'Clock in the Morning* by Ray Nelson was the inspiration for the 1980's cult classic *They Live* by John Carpenter. Nelson's story was adapted into a graphic comic called *Nada,* which is the name of the protagonist in They Live. Nelson and Dick collaborated on *The Ganymede Takeover*. Nelson's *Blake's Progress* is about the poet William Blake as a time traveler.

In Aldous Huxley's *Brave New World*, Ray Bradbury's *Fahrenheit 451,* and George Orwell's *1984,* books are censored, banned and burned. If your intention is to weaken a person's capacity to think, keeping them from reading is a good start.

Human Hibernation

In Robert Heinlein's *Door into Summer*, a character enters "cold sleep" for 30 years and wakes up in the distant future.

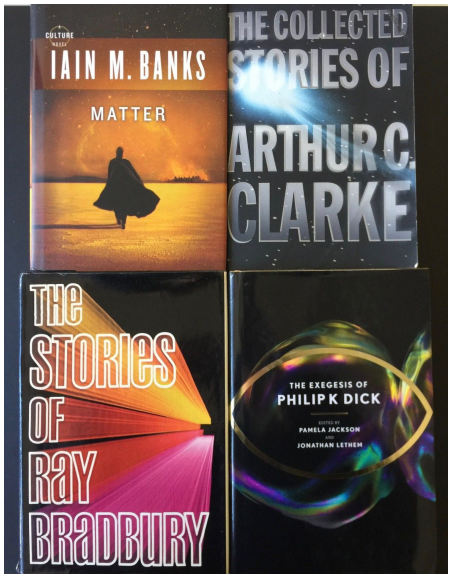
Clones and Replicants

In David Brin's *Kiln People*people create clay duplicates called "dittos" of themselves. The dittos only last one day.

In James Tiptree, Jr.'s, *Houston, Houston Do You Read?*, a plague wiped out almost all human life on earth, including all males. The surviving women reproduce by cloning.

Self-Aware Machines

In Joseph Delaney and Marc Stiegler's *Valentina Soul In Sapphire,* a human forms a human like bond with Valentina, a self aware computer program. Valentina develops a human like spirit and even defends her own freedom.



Hive Minds

The bugs in Robert Heinlein's Starship Troopers, the precogs in Philip K. Dick's The Minority Report, and the children in Arthur C. Clark's Childhood's End are all hive minds.
Trancending Limitations

Edwin Abbot's Flatland is the story of a Square who lives in a 2D land called Flatland. There are three other lands in the story: Pointland (0D), Lineland (1D), and Spaceland (3D) which is our universe. The inhabitants of each of the lands are so satisfied with their own environments that they are incapable of understanding the limitations of their universes, and are hostile to attempts by others to help them transcend their limitations.

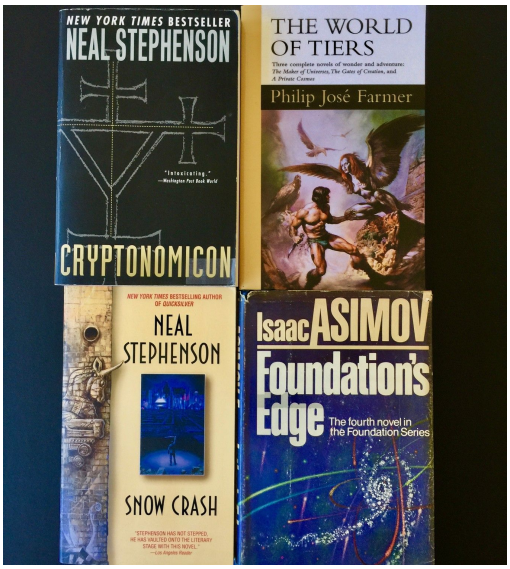
Iain Banks' *Culture Series* is a set of ten novels set in a post scarcity Utopia where humans live 400 years and don't have to work. The novels examine moral dilemmas that confront a hyperpower. Humans in the Culture have implanted neural lace BCIs that they use to communicate with benevolent AIs called Minds that have distinctive personalities.
The 5th novel in the *Culture Series*, *Excession*, is about the response of society to an unprecedented alien artifact. An *Outside Context Problem* (OCP), a neologism coined my Banks, refers to a problem a civilization would encounter just once. An OCP is an event that is not considered until it occurs, and the capacity to actually conceive of or consider the OCP is impossible for many people. An example of OCP is an event in which a civilization does not consider the possibility that a much more advanced society can exist, and then encounters one. If a small number of visionaries realize that something is possible, but the vast majority of the population is unaware of it, then it's an OTC for that society.

You need to read more science fiction.
Nobody who reads science fiction comes
out with this crap about the end of history.

Iain Banks

In *Profiles of the Future*, Arthur C. Clark describes his predictions about the future and analyzes others people's predictions. Clark shows how often technology has been predicted by a small number of optimists while many vocal experts proclaimed that humans would not be able to achieve such advancements. Clark shows that since technology does not follow a predictable trajectory, to the casual observer, big advances seem to arrive suddenly outr of nowhere.

Sci-Fi Recommendations from People in My Network



Aurora by Kim Stanley Robinson

The Quantum Thief trilogy by Hannu Rajaniemi

The Peripheral by William Gibson

*20,000 Leagues Under the Sea*Jules Verne

Mysterious Island Jules Verne

From the Earth to the Moon by Jules Verne

Ringworld by Larry Niven

Ringworld Engineers by Larry Niven

Foundation series by Isaac Asimov

Culture series by Iain M. Banks

Neuromancer by William Gibson

Red Mars by Kim Stanley Robinson

Green Mars by Kim Stanley Robinson

Blue Mars by Kim Stanley Robinson

New York 2140 by Kim Stanley Robinson

The Martian by Andy Weir

Artemis by Andy Weir's

Forever War by Joe Haldeman

Blindsight by Peter Watts

Leviathan Wakes by James Corey

The Deep Field by James Bradley

Ghostwritten by David Mitchell

DUNE series by Frank Herbert

UBIK by Philip K. Dick

1984 by George Orwell

Solaris by Slanislav Lem

Slaughterhouse-Five by Kurt Vonnegut

The Rose and The Worm (Роза и Червь) by Robert Ibatullin

Andromeda Nebula (Туманность Андромеды) by Ivan Efremov

Hard to Be a God (Трудно быть богом) by Arkady and Boris Strugatsky

Stalker (Машина желаний, lit. *"The Wish Machine"*) by Arkady and Boris Strugatsky

*Roadside Picnic (*Пикник на обочине) by Arkady and Boris Strugatsky

The Glass Bead Game (*Das Glasperlenspiel*) by Hermann Hesse

Seveneves by Neal Stephenson

The Left Hand of Darkness by Ursula Le Guin

Ninefox Gambit (Machineries of Empires) by Yoon Ha Lee

A Time Odyssey series by Arthur C. Clarke and Stephen Baxter

Nexus Trilogy by Ramez Naam

Neuromancer by William Gibson

Cloud Atlas by David Mitchell

The Bone Clocks by David Mitchell

Star Diaries by Slanislav Lem

Foundation by Isaac Asimov

Number 9 Dream by David Mitchell

Gaunt's Ghost series by Dan Abnett

Too Like the Lightning (Terra Ignota) by Ada Palmer

Accelerando by Charles Stross (post singularity economics, AI, & DACs)

Science Fiction Archives

- MIT Science Fiction Society - the world's largest open-shelf collection of science fiction
- Caltech S.P.E.C.T.R.E. - lending library of over 12,000 volumes of speculative fiction

- Museum of Science Fiction, Washington, DC - founded with a goal of becoming the world's first comprehensive science fiction museum.

- Robert Heinlein's archive is housed by the Special Collections Department of McHenry Library at UC Santa Cruz.

- Isaac Isimov's archive is housed at Boston University. Isimov was a professor of biochemistry at Boston University

- Map of major SF Archival Collections

This article was written by Margaretta Colangelo. Margaretta is Managing Partner at Deep Knowledge Ventures an investment fund focused on DeepTech. Investment sectors include AI, Precision Medicine, Longevity, and Neurotech. Margaretta is President of U1 Technologies and enterprise software company that provides the communications infrastructure for trading platforms used by some of the world's top multinational investment banks. This article is the property of Margaretta Colangelo and may not be used without her express written permission.@realmargaretta

The PKD quote was extracted from "Vertex Interviews Philip K. Dick" by Arthur Byron Cover, in *Vertex*, Vol. 1, no. 6 (February 1974)