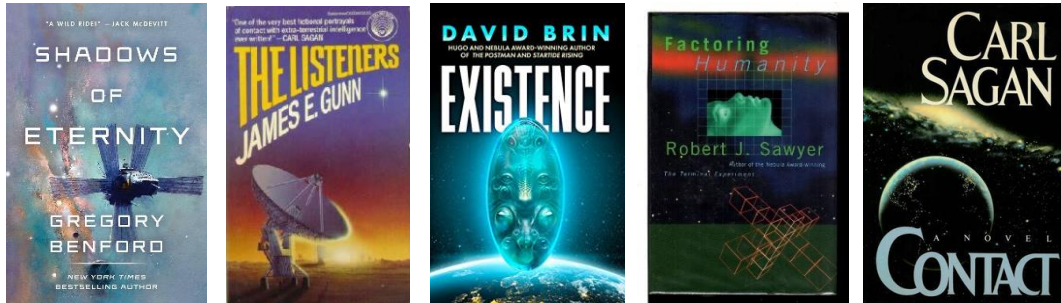


**A Selection of Science Fiction Stories with Reasonable Science
about SETI, Techno-signatures, & the Fermi Paradox**
(SETI = The Search for Extra Terrestrial Intelligence)

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- Anders, Charlie Jane “The Fermi Paradox is Our Business Model” in Horton, R., ed. *Year’s Best Science Fiction and Fantasy 2011*. (2011, Prime.) (On the web at: <https://www.tor.com/2010/08/11/the-fermi-paradox-is-our-business-model/>) An alien species depends on its wealth from all the planets they have seeded with life eventually making intelligent creatures who destroy themselves. Then they can come and harvest all the metals and rare elements they mined/refined.
- Baxter, Stephen “Last Contact” in Dozois, G., ed. *The Year’s Best Science Fiction, 25-2008*, St. Martin’s. In the near future, the acceleration of the universe’s expansion increases to such a degree that even stars in our own galaxy begin to be carried away very fast. Suddenly, SETI scientists pick up many messages: civilizations need to say goodbye.
- Baxter, Stephen *Manifold Trilogy*. Three novels, each with a different answer to Fermi’s Paradox: *Manifold: Time*, 2000, DelRey, in which humans are the only intelligent life; *Manifold: Space*, 2001, DelRey, in which life is everywhere, but doesn’t last long in a hostile universe; *Manifold: Origin*, 2002, DelRey, in which intelligent life is unique to Earth, but there are multiple universes with their own Earths.
- Baxter, Stephen “Turing’s Apples” in Strahan, J., ed. *Eclipse Two*. 2008, Night Shade Books. Complex short story in which a many-layered message from advanced aliens is picked up by a SETI antenna on the far side of the Moon. It contains instructions that ultimately lead us to build an autonomous AI on the Moon, which starts to convert it into a time capsule in the form of a black hole.
- Benford, Gregory “Dance to Strange Musics” in *Year’s Best Science Fiction 4*, ed. David Hartwell. 1999, Eos/HarperCollins. First expedition to Alpha Centauri finds a planet-wide, collective life form that is sending out huge, information-rich SETI messages to one star after another.
- Benford, Gregory “Dark Sanctuary” in *Matter’s End*. 1994, Bantam. This short story, written in 1979, is an early suggestion that alien civilizations may communicate via lasers rather than radio waves. It answers the Fermi Paradox by showing aliens in space colonies, living happily in the asteroid belt.

- Benford, Gregory “The Hydrogen Wall” in Hartwell, D. & Cramer, K., eds. *Year’s Best SF* 9. 2004, Eos. In the far future, humans have set up a giant library just to handle all the SETI messages that have been received, especially from civilizations that arose earlier in parts of the Galaxy closer to the center.
- Benford, Gregory “SETI for Profit” (published in *Nature* 24 Apr 2008; available on the Web at: <https://www.nature.com/articles/4521032a.pdf>) A billionaire funds private SETI searches, and when he finds a signal refuses to give out details. Angry scientists and governments then sponsor a huge SETI effort and find a signal, after which the first detection is revealed to be a hoax, designed to spur more SETI work.
- Benford, Gregory *Shadows of Eternity*. 2021, Saga Press. Complex novel that begins at the SETI library of alien messages on the Moon, involves an alien intelligence that demands strange payment for saving humanity from interstellar plasma encroachment, and then opens up into interstellar voyaging.
- Bisson, Terry “They’re Made out of Meat” in Morrow, James, ed. *Nebula Awards* 27. 1993, Harcourt Brace. Machine intelligences are picking up our SETI signals, but are unable to deal with the disgusting fact that we are life made entirely of “meat.” Audio version at: <https://www.wnyc.org/story/168264-theyre-made-out-of-meat/>
- Brin, David *Existence*. 2012, Tor. A complex, multi-faceted novel, in which the discovery of an alien artifact in Earth orbit sets off a series of revelations about extra-terrestrial civilizations out there and how their behavior might answer the Fermi Paradox.
- Brin, David “Lungfish” in *The River of Time*. 1987, Bantam. Interesting contemplation of the many purposes to which alien civilizations might put self-replicating “von Neumann probes” and how conflicts between probes from different civilizations might arise.
- Brin, David “Reality Check” in *Nature* 16 Mar 2000. Proposes an intriguing solution to the Fermi Paradox and why we seem to be alone in the cosmos. Available free on line at: <https://www.nature.com/articles/35005182>
- Chiang, Ted “The Great Silence” in his collection *Exhalations*. 2019, Knopf. A parrot near the Arecibo telescope muses about the Fermi paradox and why humans have tried so hard to contact alien species, and have not tried harder to communicate with parrots.
- Clarke, Arthur “Sentinel of Eternity” is the 1951 short story on which the movie *2001* is based; an alien device on the Moon, which sends signals to its makers, is destroyed by humans, setting off a cosmic alarm. On line: https://archive.org/details/10_Story_Fantasy_v01n01_1951-Spring_Tawrast-EXciter/page/40/mode/2up?view=theater
- Fraknoi, Andrew “The Cave in Arsia Mons” in Cannon, J., ed. *Building Red: Mission Mars*. 2015, Walrus Publ. An alien artifact is found in a natural cave on Mars. Online: <http://bit.ly/fraknoicave>
- Fraknoi, Andrew “Supernova Rhythm” in Brotherton, M., ed. *Science Fiction by Scientists*. 2016, Springer. An advanced civilization can cause stars to explode to make cosmic musical patterns. On line at: https://www.researchgate.net/publication/310397794_Supernova_Rhythm
- Fraknoi, Andrew “The Unwelcome Reply” in *SciPhi Journal*, 2021. A SETI message from Earth gets us a surprising and dispiriting reply. Online: <https://www.sciphijournal.org/index.php/2019/12/20/the-unwelcome-reply/>

- Fraknoi, Andrew “Auction Prospectus” in *SciPhi Journal*, 2022. An alien probe is found in the outer solar system. Available at: <http://bit.ly/auctionprospectus>
- Fraknoi, Andrew “The Listener Between Worlds” in *Wyldblood Magazine* 2023. An alien AI observes Earth civilization. Available at: <http://bit.ly/listenerbetween>
- Fraknoi, Andrew “The Lurker” in *The Worlds Within*, May 23, 2025. Two explorers come across technology from an advanced civilization in our asteroid belt: <https://theworldswithin.net/the-lurker/>
- Fraknoi, Andrew “Who Speaks for Earth?” in *The Worlds Within*, Mar. 20, 2026. The President of the U.S. must bomb a radio telescope with which a religious group is intent on sending an early reply to an extra-terrestrial message: <https://theworldswithin.net/who-speaks-for-earth/>
- Gunn, James *The Listeners*. 1972, Signet. Good early portrayal of a scientifically reasonable radio search, inspired by Sullivan’s book *We Are Not Alone*. (Note that the author is not the James Gunn who is an astronomer.)
- Ivanov, V. “The Secret History of the Greatest Discovery” in Novakova, J., et al. eds. *Life Beyond Us*. 2023, Laksa. While attending astronomy camp as a youngster, an eastern European astronomer discovers life out there that can manipulate the brightness of a star for the purpose of communication.
- Lerner, Edward *Interstellar Net: Origins*. 2014, FoxAcre Press. By a physicist, this tells of a SETI message that soon links humanity into an interstellar internet.
- McDevitt, Jack “Cryptic” in *Standard Candles*. 1996, Tachyon. The director of a SETI project discovers an old message that was not made public because it showed evidence of military coding, and that its senders had interstellar travel. Available at: https://www.baen.com/Chapters/1596061958/1596061958_3.htm
- McDevitt, Jack *The Hercules Text*. 1986, Ace. Flawed, but interesting, novel about radio communication with a distant civilization.
- McDevitt, Jack “Nothing Ever Happens in Rock City” in *Nebula Awards Showcase 2004*, ed. Vonda McIntyre. 2004, ROC/Penguin. The first radio SETI discovery as seen from the perspective of the owner of the liquor store closest to the observatory. Available at: https://www.baen.com/Chapters/1596061958/1596061958_5.htm
- Morton, Oliver “The Albian Message” in *Year’s Best SF 11*, Hartwell, David & Cramer, Kathryn, eds. 2006, Eos. Suggests that the place to search for alien messages is in the human genome.
- Pohl, Fred “Brain Drain” in *Nature Futures*, 23 Nov. 2000: <https://www.nature.com/articles/35044153> Civilizations stop communicating because they download the contents of their brains into machines
- Reed, Robert “The Shape of Everything” in his *The Dragons of Spacetime*. 1999, Golden Gryphon. An old astronomer in a space observatory tells his post-doc that he has discovered that the pattern of star formation in the earliest galaxies shows signs of intelligent arrangement; he believes that some plasma life-forms evolved early in the universe, but, seeing their era about to come to an end, wanted to leave the imprint of their story in the pattern of newly developing stars.
- Reynolds, Alastair “Feeling Rejected” in *Deep Navigation*. 2010, NESFA Press. Brief, clever story in the form of a referee’s report, at a time when our SETI efforts have picked up so many messages, it’s possible to be bored by yet another discovery. On line at: <https://www.nature.com/articles/437788a>

- Sagan, Carl *Contact*. 1985, Simon & Schuster. The discovery of radio signals from extra-terrestrial intelligence leads humanity to re-evaluate its self-image.
- Sawyer, Robert *Factoring Humanity*. 1998, Tor. A radio message from Alpha Centauri helps humanity get in touch with another civilization and itself.
- Sawyer, Robert “Flashes” in *Identity Theft and Other Stories*. 2008, Red Deer Press. The receipt of an encyclopedic radio message from an advanced civilization full of information leads to depression, violence, and suicides on Earth.
- Sawyer, Robert *Rollback*. (2007, TOR) A message from a civilization 19 lightyears away is received by SETI scientists, and turns out to be a survey on issues of morality for which they want many answers. We send a reply, and then their reply is eventually received, with instructions for incubating two baby aliens. Considers some of the issues of altruism and message construction that SETI researchers have been debating.
- Sawyer, Robert “You See, but You Do Not Observe” in *Nebula Awards 31*, ed. P. Sargent. 1997, Harvest. Proposes that the solution to Fermi’s Paradox is that the death of Sherlock Holmes at Reichenbach falls, and subsequent rejection of that death by the public, leading to his return, left the Earth in a kind of Schroedinger’s Cat quandary, from which we must be released before we can be in synch with the rest of the universe and detect radio messages. On line at: <https://sfwriter.com/styousee.htm>
- Shostak, Seth “In Touch at Last” in *Science*, vol. 286, p. 1872 (3 Dec 1999). An astronomer uses the Sun as a gravitational lens to discover an alien transmission which turns out to be a time signal. Author is a key SETI scientist. On line at: <https://faculty.washington.edu/mccurdy/SciencePolicy/Last.pdf>
- Spinrad, Norman “The Helping Hand” in *Full Spectrum 3*, ed. Lou Aronica, et al., 1991, Bantam. An alien message unites humanity, but turns out to be a benevolent lie.
- Stross, Charles “MAXO Signals” (published in *Nature* 8/25/2005) in Halpern, M., ed. *Alien Contact*. (2011, Night Shade Books. A series of encoded SETI signals that have puzzled scientists is revealed to be the interstellar equivalent of the Nigerian fraud scam.
- Varley, John *The Ophiuchi Hotline*. 1977, Dell. In this ambitious novel about a struggle between life-forms that develop on terrestrial and jovian planets throughout the universe, the “hotline” is a series of transmissions to help humanity survive an invasion of the solar system.
- Walker, John “We’ll Return, After This Message” in *Microtimes*, Aug. 23, 1993, p. 80. On line at: <https://www.fourmilab.ch/documents/sftriple/gpic.html> A programmer discovers a SETI message in the human genome.
- Zerwick, C. & Brown H. *The Cassiopeia Affair*. 1968, Curtis. An exploration of the effects that an alien radio message might have on Earth. One of the authors is a geochemist.

Author’s Note: This list makes no pretense at being complete, but simply lists stories that the compiler has read and that seem to be based on good science. For example, I have not listed the recent “3-Body” trilogy by Cixin Liu, whose science errors are significant, and the older works of Stanislaw Lem, whose writing tends to be more philosophical than science-based. Also only works published in English are included.