

Scientific Rebuttals to Ancient Alien Conspiracy Theories as Popular Alternatives to Biblical History

Abstract: Just as Christian apologists need to rebut the historicity of *The Book of Mormon*, so they need to rebut ‘alternative’ historical claims about so-called ‘ancient aliens’, claims that offer people with a secular worldview a historical counter-narrative to biblical history. Ancient alien theories are intrinsically *convoluted* and highly *ad hoc*, and multiple essential facets of such theories are *disconfirmed* by scientific evidence readily available from *secular* scientific sources. Not only do we lack convincing evidence that ETI’s have visited Earth, but the scientific Search for Extra-Terrestrial Intelligence (SETI) has provided observational evidence that suggests technologically advanced ETI’s simply don’t exist, at least in our cosmic neighborhood. In sum, when it comes to ‘ancient aliens’, it’s the conspiracy theorists, not Christians, who are swimming against the scientific evidence.

Just as Christian apologists need to rebut the historicity of *The Book of Mormon*¹, so they need to rebut ‘alternative’ historical claims about so-called ‘ancient aliens’, claims that offer people with a secular worldview a historical counter-narrative to biblical history. Theories about alien visitors, past or present, are given credence by the intellectually superficial bent of contemporary popular culture. As John A. Keel comments:

The E.T. premise has been promoted by the movies and by the UFO buffs so tenaciously the average person in the street now sort of accepts it, because they haven’t given much thought to it. They don’t realise how much of it is based upon wishful thinking and faulty logic. They have seen the movies or they have heard the UFO buffs on the radio or the TV and they say, ‘Well, that make sense, we’re being visited by aliens.’²

Such beliefs combine a superficial respect for science *per se* with an ignorance cultivated by skepticism towards mainstream religious and/or scientific institutions. In this context, historical claims about ancient aliens get packaged into TV ‘documentaries’ and shared as YouTube clips and Twitter memes which spread through the social media environment like the common cold among H.G. Well’s ill-prepared Martian invaders.

As theologian David Wilkinson observes: ‘The link between extraterrestrial intelligence and a religious quest has had a significant time in the last hundred years, with various new religious movements built on the mythology of aliens.’³ For example, science

¹ YouTube Playlist, ‘Mormonism’, www.youtube.com/playlist?list=PLQhh3qcwVEWjOn4gyNXipluUzVuNsJjI; Peter S. Williams, ‘Mormonism – An Introductory Critique’ <http://podcast.peterswilliams.com/?s=Mormonism>; Kenneth Feder *et al*, ‘Civilizations Lost and Found: Fabricating History - Part One: An Alternate Reality’ www.csicop.org/si/show/civilizations_lost_and_found_fabricating_history_-_part_one_an_alternate_re; Dan Vogel, ‘Book of Mormon Witnesses Revisited’ www.mormonthink.com/vogelwitnesses.htm; J. Warner Wallace, ‘Mormonism’ <http://coldcasechristianity.com/tag/mormonism/>; James A. Beverley, *Mormon Crisis: Anatomy of A Failing Religion* (Pickering, Ontario: Castle Quay, 2013); Stan Larson, *Quest for the Gold Plates: Thomas Stuart Ferguson’s Archaeological Search for The Book of Mormon* (Salt Lake City: Freethinker, 2004); Latayne C. Scott, *The Mormon Mirage: A Former Member Looks at the Mormon Church Today*, third edition (Grand Rapids, Michigan: Zondervan, 2009); Simon G. Southerton, *Losing a Lost Tribe: Native Americans, DNA, and the Mormon Church* (Signature, 2004).

² John Keel in David Clarke, *How UFOs Conquered The World: A History Of A Modern Myth* (Aurum Press, 2015), 243.

³ David Wilkinson, *Religion, And The Search For Extraterrestrial Intelligence* (Oxford, 2017), 13.

fiction author L. Ron Hubbard founded the Church of Scientology in 1952, blending the ‘ancient aliens’ hypothesis with the Dianetics self-help system.

In the mid 1950’s, George King claimed to have been contacted by an alien named Aetherius and founded The Aetherius Society to promote the belief that Jesus was an alien. According to contemporary member Mark Bennett:

it makes much more sense [to many people] to say that Jesus was an interplanetary being who came to Earth to help mankind, than to say that God created a one and only son, who was also himself at a random point in history, who came to come to earth and forgive people their sins for some reason we don’t really know.⁴

Alternatively (and accommodating the existence of two independent historical birth accounts for Jesus⁵), it might be suggested that aliens ‘implanted’ Jesus into Mary’s womb.⁶

The Raelian religion, founded by Claude Vorlignon (a.k.a. Raël), claims humans were created 25,000 years ago by aliens using genetic engineering, and that genetic engineering holds the key to eternal life.⁷ Vorlignon claims aliens visited him in 1973, revealed that they created humans through genetic engineering, and commissioned him to prepare humans for the second coming of their extraterrestrial creators by teaching a message of sexual freedom and eternal life through science:

According to Raël, all life on Earth was created by the Elohim, the same aliens who visited Vorlignon. The Elohim have been appearing to humans for millennia, usually in the guise of angels or gods, passing on their message to humanity through human figures like Buddha and Jesus . . .⁸

In his 1970 book *Chariots of the Gods?*, Erich von Däniken⁹ followed the Reverend John Miller¹⁰ in misinterpreting a vision of the prophet Ezekiel as an encounter with alien machinery; an oft-debunked theory that nevertheless continues to circulate.¹¹

⁴ Mark Bennett quoted by *Alltime Conspiracies*, ‘Was Jesus an Alien?’ www.alltimeconspiracies.com/was-jesus-an-alien/.

⁵ See: Keith Ward, *Evidence for the Virgin Birth* (Christian Evidence Society) http://christianevidence.org/docs/booklets/evidence_for_the_virgin_birth.pdf; Paul Barnett, *Messiah: Jesus – the evidence of history* (Nottingham: IVP, 2009); Brandon D. Crowe, *Was Jesus Really Born Of A Virgin?* (Philadelphia, Pennsylvania: Westminster Seminary, 2013); Douglas Edwards, *The Virgin Birth In History And Faith* (London: Faber & Faber, 1943); J. Gresham Machen, *The Virgin Birth of Christ* (London: James Clark & Co. Ltd., 1958); Colin R. Nicholl, *The Great Christ Comet: Revealing The True Star Of Bethlehem* (Wheaton, Illinois: Crossway, 2015); Charles Quarles, *Midrash Criticism: Introduction and Appraisal* (Lanham, Maryland: University Press of America, 1998); John Redford, *Born Of A Virgin: Proving the Miracle from the Gospels* (London: St Pauls, 2007).

⁶ See: *Alltime Conspiracies*, ‘Was Jesus an Alien?’ <https://youtu.be/Ey4eA0dAAN8>; Glenn Millar, ‘Question: Was Jesus of alien parentage?’ <http://christianthinktank.com/alien2.html>; David Wilkinson, *Science, Religion, And The Search For Extraterrestrials* (Oxford, 2017), 122.

⁷ See: Peter S. Williams, ‘Raelians Successfully Clone Naturalism’ www.arn.org/docs/williams/pw_raeliansclonenaturalism.htm.

⁸ Mike Vago, ‘Greetings from the UFO zealots who say aliens created life on Earth’ (AV Club, 6/24/18) www.avclub.com/greetings-from-the-ufo-zealots-who-say-aliens-created-l-1826940199.

⁹ See: Kenneth L. Felder, ‘Ancient Astronauts’ in Michael Shermer ed., *The Skeptic: Encyclopedia of Pseudoscience - Volume One* (Oxford: ABC-CLIO, 2002), <https://camidrcs.files.wordpress.com/2018/02/skepticencyclopedia1.pdf>.

¹⁰ See: Reverend John Miller STM, ‘Whirling Wheels: A Correlation of Flying Saucers and Visitors from Other Planets in The Bible’ www.jasoncolavito.com/whirling-wheels.html.

¹¹ See: ‘Aliens of the Old Testament– Erich von Däniken: Beyond the Legend’ <https://youtu.be/Vg5R2mFDkZk>; Chris White, ‘UFO In The Bible? Ezekiel’ https://youtu.be/gm_6dnptTFA;

The popular TV series *Ancient Aliens*¹²: ‘purports to be an actual, independent, serious documentary series exploring the ancient astronaut theory [and] pays lip service to being “scientific”.’¹³ *Ancient Aliens* offers up a mixture of ‘claims unsupported by evidence, leading questions [and] random facts marshalled with circular logic into self-referential ‘theories’.’¹⁴ As Vernon Macdonald writes: ‘Every Ancient Aliens episode, whether dealing with ancient civilizations, artifacts or legends is always made up of some noxious combination of willful deception, wild speculation, and at times just plain stupidity.’¹⁵

Popular Belief in Aliens

The impulse to re-interpret religion by invoking extra-terrestrial intelligences (ETI’s) gains legitimacy from the fact that speculation about alien life (including intelligent aliens) is a scientifically respectable past-time known as astrobiology. Since the early 1960’s, astrobiology has included the empirical research of the Search for Extra-Terrestrial Intelligence (SETI).¹⁶

Many people agree with atheist Richard Dawkins that ‘there probably is intelligent life elsewhere in the Universe.’¹⁷ A 2017 survey conducted in 24 countries showed that 47 percent of 26,000 respondents believed:

in the existence of intelligent alien civilizations in the universe . . . Russians were the biggest believers — with whopping 68 percent saying they think intelligent alien life exists, trailed closely by Mexicans and Chinese respondents. The Netherlands ranked as the most skeptical of life beyond Earth, with only 28 percent of Dutch survey-takers entertaining in the possibility, according to the findings.¹⁸

In 2017, a survey of 1700 Americans reported that 47% of those surveyed said they believe in aliens, 39% said they believe aliens have visited Earth before and 18% said they believed in alien abduction.¹⁹ According to recent polling:

More than one in two people in the UK, Germany and the US believe there is intelligent life out there in the universe. The next time the subject comes up at the dinner table and you hear sniggers when someone admits they believe in aliens, it is

Kyle Butt, ‘Ezekiel’s Vision: An Alien UFO?’

www.apologeticspress.org/apcontent.aspx?category=11&article=1061; Tim Callahan, ‘The Spaceships of Ezekiel’ www.skeptic.com/eskeptic/05-07-28/; J.F. Blumrich, *The Spaceships of Ezekiel* (Corgi, 1974).

¹² See: Jon Coumes, ‘Ancient Aliens is Everything That’s Wrong With America’ *The AWL* (September, 2017) www.theawl.com/2017/09/ancient-aliens-is-everything-thats-wrong-with-america/; Jason Colavito, *Ancient Aliens: Unauthorized Reviews*, www.jasoncolavito.com/ancient-aliens-reviews.html; Jason Colavito, *A Critical Companion to Ancient Aliens Series 3 & 4* (Lulu, 2012).

¹³ Jason Colavito, *A Critical Companion to Ancient Aliens Series 3 & 4* (Lulu, 2012), 6.

¹⁴ *Ibid.*, 33 & 54.

¹⁵ Vernon Macdonald, *Ancient Aliens Exposed: Debunking UFOs, Ancient Astronauts and Other Unexplained Mysteries* (Kindle, 2013), 91.

¹⁶ Daniel Oberhaus, ‘A Brief History of Scientists Searching for Extraterrestrial Life’ *Vice* (4th December, 2015) www.vice.com/en_us/article/jmaawd/a-brief-history-of-scientists-searching-for-extraterrestrial-life-124.

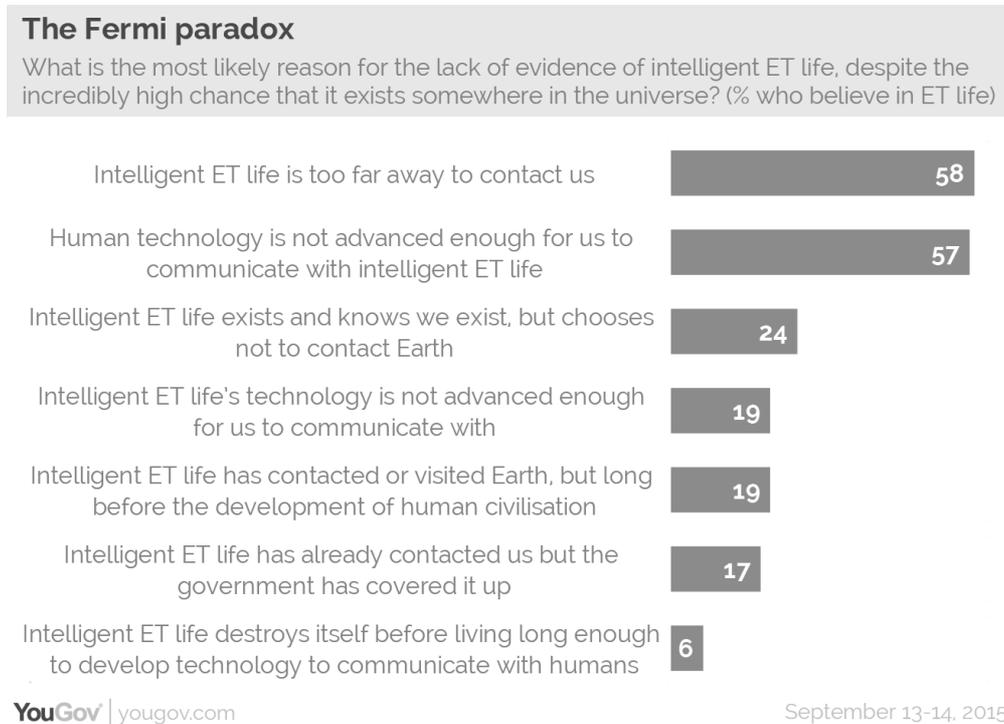
¹⁷ Richard Dawkins in Russell Stannard, *Science and Wonders* (Faber and Faber, 1996), 73.

¹⁸ Amanda Woods, ‘Half of humans believe in alien life, study says’ *New York Post* (8th December, 2017) <https://nypost.com/2017/12/08/half-of-humans-believe-in-alien-life-study-says/>.

¹⁹ Alejandro Rojas, ‘New survey shows nearly half of Americans believe in aliens’ *Huffington Post* (2nd August, 2017) www.huffingtonpost.com/entry/new-survey-shows-nearly-half-of-americans-believe-in_us_59824c11e4b03d0624b0abe4.

worth remembering that it is not a fringe belief to think there is intelligent life out there – it is the mainstream viewpoint across the western world.²⁰

Those who believe in aliens give a range of responses to the so-called ‘Fermi Paradox’ (noted by scientist Enrico Fermi) generated by belief in extra-terrestrials despite our lack of direct evidence for their existence²¹:



(Note that the way in which this polling company asked this question presumes that there is an ‘incredibly high chance that [alien life] exists somewhere in the universe’!)

Given this cultural background, even if they don’t believe the sort of ‘aliens explain away the supposedly supernatural elements of the Bible’ theories advanced by the likes of von Däniken, many will think that since alien conspiracy theories have at least one foot in ‘scientific reality’, they are *at least no less plausible* than supernatural explanations of the same data. This viewpoint is expressed by journalist David Clarke:

If someone visits a church or mosque to worship we tend to treat their faith with respect. But if they visit a hilltop to charge a prayer battery on the orders of Master Artherius we write them off as ‘crackpot’ or ‘UFO nut’. I could not see why the beliefs of those who claim that flying saucers bring messages from the gods should be regarded as any less genuinely held, or unbelievable, than the tenets of any other religion.²²

Christian apologists shouldn’t argue that the Artherians’ beliefs are less ‘genuinely held’ than are Christian beliefs, but they should argue be that they are more ‘unbelievable’ than Christian beliefs.

²⁰ YouGov.uk ‘You are not alone: most people believe that aliens exist’ <https://yougov.co.uk/news/2015/09/24/you-are-not-alone-most-people-believe-aliens-exist/>.

²¹ Ibid.

²² Clarke, *How UFOs Conquered The World: A History Of A Modern Myth* (Aurum Press, 2015), 193.

An instructive example of the need for Christian apologetics to engage with this issue comes from a question posed by an audience member after a talk on the resurrection by William Lane Craig:

I do find . . . the hypothesis that Jesus Christ was taken up into heaven by aliens to be as plausible as the resurrection. You know, I think one of them is absurd, but so's the other one, so what makes one more plausible than the other?²³

As Craig replied, in contrast to the resurrection hypothesis, the ancient alien hypothesis is:

ad hoc and . . . implausible . . . In fact . . . given the religio-historical context of Jesus' life and teachings, the hypothesis that the God of Israel raised Jesus from the dead fits like a hand in a glove, whereas the alien abduction hypothesis is, as I say, completely *ad hoc* and out of left field and doesn't do anything to illuminate the religio-historical context. And I think this is especially true if, as I say, you have independent reasons to believe in the existence of God . . . so that we've already got the existence of a supernatural being in place when we come to the evidence for the resurrection. [That] would be analogous [to,] if before we came to the evidence for the resurrection, you already had good evidence that there are these extra-terrestrial aliens who've come to earth . . . That would make [the alien hypothesis] more plausible, if there were some evidence for that, but there just isn't; so I think the God hypothesis is much more plausible than that.²⁴

The Drake Equation

The existence of extra-terrestrial life *of any kind* is an open question; let alone the existence of *intelligent* alien life with the *means, motive* and *opportunity* to participate in a religious conspiracy on planet Earth in the first century AD! Contrary to popular opinion, 'Of the search for *intelligent* life in particular, many scientists are skeptical.'²⁵

The 'Drake Equation' (devised by American astronomer and astrophysicist Frank Drake) suggests that the number of detectable alien civilizations (N) can be estimated by multiplying:

- the rate of formation of stars suitable for life (R*)
- the fraction of those with planets (fp)
- the number of those planets that are suitable for life (ne)
- the fraction of these planets where life actually evolves (fl)
- the fraction of these on which intelligent life evolves (fi)
- the fraction of these that develop civilizations that produce detectable signs of their existence (fc)
- the length of time in which such civilizations will produce detectable signs of their existence (L)

²³ William Lane Craig, 'Is the Resurrection Hypothesis Really As Absurd as the Alien Hypothesis?' <https://youtu.be/QW97epVeN7Y>.

²⁴ Ibid.

²⁵ Geoff Watts, 'Is There Life on Other Planets?' In *Big Questions In Science*, edited by Harriet Swain (London: Jonathan Cape, 2002), 203.

That is:

- $N = R^* \times fp \times ne \times fl \times fi \times fc \times L$

The value of N derived from this equation tends to owe more to the philosophical assumptions underlying the values assigned to its component parts than to scientific evidence. For materialists, the value of N principally hinges upon whether or not the evolution of sentient life by purely natural processes is a likely occurrence (i.e. upon the value of $fl \times fi$), for even many naturalists argue that (barring intelligent intervention of some kind) the origin and subsequent macro-evolution of life (whether on Earth or elsewhere in the cosmos) is a ‘non-trivial’ contingency that cannot be taken for granted.²⁶

The pre-conditions for eukaryotic plant and animal life aren’t as simple as the ‘star plus rock plus water’ formula popularized by media reports about the discovery of extra-solar planets. According to astrobiologist Lewis Dartnell: ‘complex animal life . . . may only be possible around Sun-like stars, on very Earth-like planets with plate tectonics, oceans of water, continental land, a thick oxygen-rich atmosphere and large moon.’²⁷ Currently, despite the discovery of over 3500 extra-solar planets, no such planet is known besides our own. As Peter Schenkel observes: ‘none of the detected planets around other stars comes close to having conditions apt for creating and sustaining life . . . So far, not one presents conditions favourable for the development of even the most primitive forms of life, not to speak of more complex species.’²⁸

As Harvard biologist Itai Yanai admits: ‘it is fair to say that all origins of life models suffer from astoundingly low probabilities of actually occurring.’²⁹ Atheist philosopher Thomas Nagel takes Dawkins to task over the origin of life:

²⁶ See: YouTube Playlist, ‘The Origin of Life’

www.youtube.com/playlist?list=PLQhh3qcwVEWggFeEP9H7k1Lycfxzv0Sr; YouTube Playlist, ‘Intelligent Design’ www.youtube.com/playlist?list=PLQhh3qcwVEWjckJboK1rfuBKPCHiMFTSO; Stephen C. Meyer, ‘DNA and the Origin of Life: Information, Specification, and Explanation’ www.discovery.org/a/2184; James Tour, ‘An Open Letter to My Colleagues’ *Interface: International Review of Science* (Volume 3, Issue 2, 2nd August, 2017) <http://inference-review.com/article/an-open-letter-to-my-colleagues>; David L. Abel, *Primordial Prescription: The Most Plaguing Problem of Life Origin Science* (Long View, 2015); Douglas Axe, *Undeniable: How Biology Confirms Our Intuition That Life Is Designed* (HarperOne, 2016); Michael J. Behe, *The Edge of Evolution: The Search for the Limits of Darwinism* (New York: Free Press, 2007); Michael J. Behe, *Darwin’s Black Box: The Biochemical Challenge to Evolution*, 10th Anniversary Edition (New York: Free Press, 2006); Donald E. Johnson, *Programming of Life* (Sylacauga, Alabama: Big Mac, 2010); David A. Klinghoffer ed., *Debating Darwin’s Doubt* (Seattle: Discovery Institute, 2015); David A. Klinghoffer ed., *Signature Of Controversy: Responses to Critics of Signature In The Cell* (Seattle: Discovery Institute, 2010); Robert J. Marks II et al, *Introduction To Evolutionary Informatics* (London: World Scientific, 2017); Stephen C. Meyers, *Darwin’s Doubt: The Explosive Origin of Animal Life and the Case for Intelligent Design* (Bravo, 2014); Stephen C. Meyers, *Signature in the Cell: DNA and the Evidence for Intelligent Design* (HarperOne, 2010); Stuart Pullen, *Intelligent Design or Evolution? Why the Origin of Life and the Evolution of Molecular Knowledge Imply Design* (Raleigh, NC: Intelligent Design, 2005).

²⁷ Lewis Dartnell, *Life in the Universe: A Beginner’s Guide, Astrobiology* (Oxford: OneWorld, 2007). See also: YouTube Playlist: ‘The Rare Earth Hypothesis’ <https://youtu.be/dv353dia5uo>; William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003); Peter C. Ward and Donald Brownlee, *Rare Earth: Why Complex Life is Uncommon in the Universe* (Springer, 2009); David Waltham, *Lucky Planet: Why Earth is Exceptional - and What that Means for Life in the Universe* (Icon, 2015).

²⁸ Peter Schenkel, ‘SETI Requires a Skeptical Reappraisal’ *Skeptical Inquirer*, Volume 30.3 (May/June, 2006) www.csicop.org/si/show/seti_requires_a_skeptical_reappraisal.

²⁹ Itai Yanai in Eugene V. Koonin, ‘The cosmological model of eternal inflation and the transition from chance to biological evolution in the history of life’ *Biology Direct* (2007, 2:15) www.biology-direct.com/content/2/1/15.

Dawkins . . . says that there are . . . a billion billion planets in the universe with life-friendly physical and chemical environments like ours. So all we have to suppose [to account for the origin of life on Earth] is that the probability of something like DNA forming . . . is not much less than one in a billion billion . . . [However] no one has a theory that would support anything remotely near such a high probability . . . at this point the origin of life remains, in light of what is known about the huge size, the extreme specificity, and the exquisite functional precision of the genetic material, a mystery . . .³⁰

Eugene V. Koonin (Senior Investigator at the National Center for Biotechnology Information in Bethesda, USA) calculates that: ‘in a finite universe . . . the emergence of a coupled replication-translation system is unlikely to the extent of being, effectively, impossible.’³¹ (To avoid the implication of design, Koonin turns to the *ad hoc* and unparsimonious hypothesis of a multiverse.³²)

Cosmologist Paul Davies concludes: ‘we are probably the only intelligent beings in the observable universe, and I would not be very surprised if the solar system contains the only life in the observable universe. I arrive at this dismal conclusion because I see so many contingent features involved in the origin and evolution of life . . .’³³

According to a 2018 analysis by physicists Anders Sandberg, Eric Drexler and Toby Ord, of the Future of Humanity Institute at Oxford University:

existing calculations for the probability of extra-terrestrial intelligent life . . . rest on uncertainties and assumptions that lead to outcomes containing margins for error spanning ‘multiple orders of magnitude’. Constraining these, as much as possible, by factoring in models of plausible chemical and genetic mechanisms, results, they conclude, in the finding ‘that there is a substantial probability that we are alone’.³⁴

The co-authors highlight:

critical questions regarding the emergence of life from non-living material – a process known as abiogenesis – and the subsequent likelihoods of early RNA-like life evolving into more adaptive DNA-like life. Then there is the essential matter of that primitive DNA-like life undergoing the sort of evolutionary symbiotic development that occurred on Earth, when a relationship between two different types of simple organisms resulted in the complex ‘eukaryotic’ cells that constitute every species on the planet more complicated than bacteria.³⁵

They conclude: ‘When we take account of realistic uncertainty, replacing point estimates [in the Drake Equation] by probability distributions that reflect current scientific understanding,

³⁰ Thomas Nagel, ‘Dawkins and Atheism’ in *Secular Philosophy and the Religious Temperament* (Oxford University Press, 2010), 24-25.

³¹ Eugene V. Koonin, ‘The cosmological model of eternal inflation and the transition from chance to biological evolution in the history of life’ *Biology Direct* (2007, 2:15) www.biology-direct.com/content/2/1/15.

³² William Lane Craig critiques the cosmological model that Koonin uses in ‘Vilenkin’s Cosmic Vision: A Review Essay of *Many Worlds in One: The Search for Other Universes*, by Alex Vilenkin’ www.reasonablefaith.org/site/News2?page=NewsArticle&id=7289.

³³ Paul Davies, *The Eerie Silence: Searching for ourselves in the universe* (London: Penguin, 2011), 207.

³⁴ Andrew Masterson, ‘Stop looking for ET: modelling suggests we’re alone in the universe’ *Cosmos* (20th June 2018) <https://cosmosmagazine.com/space/stop-looking-for-et-modelling-suggests-we-re-alone-in-the-universe>.

³⁵ *Ibid.*

we find no reason to be highly confident that the galaxy (or observable universe) contains other civilizations.³⁶

Some scientists invoke panspermia (some even invoke *directed* panspermia) to explain life.³⁷ Richard Dawkins concedes:

It could be that at some earlier time, somewhere in the Universe, a civilization evolved by, probably, some kind of Darwinian means, to a very, very high level of technology, and designed a form of life that they seeded onto, perhaps, this planet. Now that is a possibility, and an intriguing possibility. And I suppose it's possible that you might find evidence for that, if you look at the details of our chemistry, molecular biology, you might find a signature of some kind of designer. And that designer could well be a higher intelligence from elsewhere in the Universe.³⁸

However, within a naturalistic worldview such appeals displace the problem of abiogenesis without solving it.³⁹

Preconditions of Science

It's one thing for aliens to exist, another for them to develop sophisticated technology. As biologist William C. Berger observes: 'Whether here on planet Earth or elsewhere in the universe, the assumption that since science happened once, science ought to happen often is wishful thinking.'⁴⁰

First, 'the march of technological advance from the Stone Age . . . was only possible because of what would appear to be an outrageously fortuitous set of environmental conditions, without which, despite our genius . . . no advance beyond the most primitive stone tools would have been possible.'⁴¹ Biologist Michael Denton explains:

There is . . . every justification for viewing our planetary home with its oxygen-containing atmosphere, large land masses covered in trees, with its readily available and well scattered metal-bearing rocks as an ideal and perhaps unique environment for the use of fire and the development of metallurgy and ultimately the emergence of a technologically advanced complex society . . .⁴²

Second, consider the fact that 'The scientific perspective flowered in Europe as an outworking of medieval biblical theology.'⁴³ Paul Davies comments:

³⁶ Ibid.

³⁷ See: F.H.C. Crick and L.E. Orgel, 'Directed panspermia' (*Icarus* Volume 19, Issue 3, July 1973) www.sciencedirect.com/science/article/pii/0019103573901103; Edward J. Steele *et al.*, 'Cause of Cambrian Explosion - Terrestrial or Cosmic?', *Progress in Biophysics and Molecular Biology* (Volume 136, August 2018) www.sciencedirect.com/science/article/pii/S0079610718300798.

³⁸ Ben Stein, *Expelled: No Intelligence Allowed* (2008).

³⁹ See: 'With New Theory of the Cambrian Explosion, Scientists Reach (Literally) for the Stars' (25th May 2018) <https://evolutionnews.org/2018/05/with-new-theory-of-the-cambrian-explosion-scientists-reach-literally-for-the-stars/>.

⁴⁰ William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003), 270.

⁴¹ Michael Denton, *Fire Maker: How Humans Were Designed to Harness Fire and Transform Our Planet* (Discovery Institute, 2016), 614. See also: Parker *et al.*, 'The Pyrophilic Primate Hypothesis,' 54–63; William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003), 241–244.

⁴² Michael Denton, *Nature's Destiny* (Simon & Schuster, 1998), 394.

⁴³ Vishal Mangalwadi, *The Book That Made Your World* (Thomas Nelson, 2011), p. 223.

See also: YouTube Playlist, 'The Theological Roots of Science'

www.youtube.com/playlist?list=PLQhh3qcwVEWh3jDVYqFFzWSnTbtUeCg3; James Hannam, 'How

It was from the intellectual ferment brought about by the merging of Greek philosophy and Judeo-Islamic-Christian thought that modern science emerged, with its unidirectional linear time, its insistence on nature's rationality, and its emphasis on mathematical principles . . . [Today] even the most atheistic scientist accepts as an act of faith that the universe is not absurd, that there is a rational basis to physical existence manifested as a lawlike order in nature that is at least in part comprehensible to us.⁴⁴

Furthermore, it was Christian belief in the incarnation that elevated 'the dignity of matter and of manual work . . . Modern science was possible only when investigators became willing to dirty their hands in workshops and laboratories, and only when they began to see all material things, which have been created by God, as good in themselves.'⁴⁵ In sum:

The origin of modern science and technology depend on a precise configuration of economic, cultural, philosophical, and theological precursors, and an unusually long-lasting and stable warm climate. Technology requires dexterity and a level of capacity to communicate that, of millions of known species of life, only humans possess. It also requires access to an oxygen-rich atmosphere, dry land, and concentrated ores. The laws of physics did not uniquely determine any of these. Until these factors came together, no civilization developed technology advanced enough to harness radio communication. And even on Earth, this has happened only once. What justification do we have for assuming that it's an inevitable result of life, even intelligent life, everywhere?⁴⁶

Hence, as astrophysicist John Gribbin concludes: 'the kind of intelligent, technological civilization that has emerged on Earth may be unique, at least in our Milky Way Galaxy.'⁴⁷ It would certainly seem that the burden of proof is on the ancient alien theorist.

Christianity Led To The Rise Of Modern Science' www.equip.org/article/christianity-led-rise-modern-science/; William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003), 251-270; Allan Chapman, *Slaying The Dragons* (Lion, 2013); Edward Grant, *A History Of Natural Philosophy* (Cambridge, 2007); James Hannam, *God's Philosophers* (Icon, 2010); Peter Harrison, *The Bible, Protestantism and the Rise of Natural Science* (Cambridge, 2008).

⁴⁴ Paul Davies, 'Physics and the Mind of God' www.firstthings.com/article/1995/08/003-physics-and-the-mind-of-god-the-templeton-prize-address-24.

⁴⁵ Robert C. Koons, 'Science and Theism: Concord, not Conflict' <http://robkoons.net/media/69b0dd04a9d2fc6dffff80b3ffffd524.pdf>.

⁴⁶ Guillermo Gonzalez and Jay W. Richards, *The Privileged Planet: How Our Place In The Cosmos Is Designed For Discovery* (Regnery, 2004), 287-288. See also: William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003); Lewis Dartnell, *Life in the Universe: A Beginner's Guide, Astrobiology* (OneWorld, 2007), chapter eight; Michael Denton, *Fire Maker: How Humans Were Designed to Harness Fire and Transform Our Planet* (Discovery Institute, 2016); Michael Denton, *Nature's Destiny* (Simon & Schuster, 1998); John Gribbin, *Alone In The Universe: Why Our Planet Is Unique* (Wiley, 2011), 204; Stephen Webb, *Where Is Everybody? Fifty Solutions To The Fermi Paradox And The Problem Of Extraterrestrial Life* (Copernicus, 2010), 211-232.

⁴⁷ John Gribbin, *Alone In The Universe: Why Our Planet Is Unique* (Wiley, 2011), xiv.

Close Encounters?

Reports about alien space-craft, visitations and abductions (whether ancient or modern) fail to meet that burden of proof, because they are susceptible to mundane explanations.⁴⁸

According to psychologist Susan A. Clancy:

alien-abduction memories are best understood as resulting from a blend of fantasy-proneness, memory distortion, culturally available scripts, sleep hallucinations, and scientific illiteracy, aided and abetted by the suggestions and reinforcement of hypnotherapy.⁴⁹

The hypothesis that alien abduction experiences are delusional is supported by several recorded cases in which people have reported ‘full-blown abduction experiences whilst other witnesses could see that the individual in question had not physically gone anywhere. Instead, they appear to have either lost consciousness or to be in a trance state’.⁵⁰

Upon investigation, the vast majority of Unidentified Flying Objects (UFOs) become Identified Flying Objects of a non-alien nature. That some UFOs remain *unidentified* is, like the existence of unsolved crimes, hardly supportive of the hypothesis that ETI’s exist. As physicist Stephen Webb notes, ‘the percentage of ‘inexplicable’ UFOs does not vary much within the overall number of sightings . . . whether it is a busy year or a quiet year for UFO sightings, the IFO/UFO ratio is about the same’⁵¹, which is ‘not at all what one would expect

⁴⁸ See: YouTube Playlist, ‘Aliens & UFOs’

www.youtube.com/playlist?list=PLQhh3qcwVEWixwhvDhbqSoO3qcIK7zu5;

Nsikan Akpan and Joshua Barajas, ‘7 times that science explained aliens’ www.pbs.org/newshour/updates/7-times-aliens-explained-science/; Susan Blackmore, ‘Abduction by Aliens or Sleep Paralysis?’

www.csicop.org/si/show/abduction_by_aliens_or_sleep_paralysis; Susan Blackmore and Marcus Cox, ‘Alien Abductions, Sleep Paralysis and the Temporal Lobe’ www.susanblackmore.co.uk/articles/alien-abductions-sleep-paralysis-and-the-temporal-lobe/;

Kenneth L. Feder, ‘Help! I’m Being Followed by Ancient Aliens!’

www.csicop.org/si/show/help_im_being_followed_by_ancient_aliens; Christopher C. French, ‘Close encounters of the psychological kind’ <https://thepsychologist.bps.org.uk/volume-28/october-2015/close-encounters-psychological-kind>;

Christopher C. French *et al*, ‘Psychological aspects of the alien contact experience’

<https://research.gold.ac.uk/4223/2/French%20et%20al%20Aliens%20with%20Effect%20Sizes%20Accept...pdf>;

Erich Goode, ‘What About Alien Abductions?’ www.psychologytoday.com/blog/the-paranormal/201205/what-about-alien-abductions;

Joe Nickell, ‘Abductions and Hoaxes: The Man Who Attracts Aliens’ www.csicop.org/si/show/abductions_and_hoaxes;

John T. Omohundro, ‘Von Däniken’s Chariots: A Primer in the Art of Cooked Science’

www.csicop.org/si/show/von_dauml_nikenrsquo_s_chariots_a_primer_in_the_art_of_cooked_science;

Kaja Perina, ‘Alien Abductions: The Real Deal?’ www.psychologytoday.com/articles/200303/alien-abductions-the-real-deal;

Susan A. Clancy, *Abducted: How People Come To Believe They Were Kidnapped By Aliens*

(Harvard University Press, 2005); David Clarke, *How UFOs Conquered The World: A History Of A Modern Myth*

(Aurum Press, 2015); James Colavito, *The Cult Of Alien Gods: H.P. Lovecraft and Extraterrestrial Pop Culture*

(New York: Prometheus, 2005); Christopher C. French, ‘Alien contact and abduction claims’ in David

Groome and Ron Roberts ed.’s, *Parapsychology: The Science of Unusual Experience*, second edition (London:

Routledge, 2017); Robert Sheaffer, *UFO Sightings: The Evidence* (Prometheus, 1998); Stephen Webb, *Where Is*

Everybody? Fifty Solutions To The Fermi Paradox And The Problem Of Extraterrestrial Life (Copernicus,

2010), 29-34; Peter White, *The Past Is Human* (London: Angus and Robertson, 1976).

⁴⁹ Susan A. Clancy, *Abducted: How People Come To Believe They Were Kidnapped By Aliens* (Harvard

University Press, 2005), 138. See also: Christopher C. French, ‘Alien contact and abduction claims’ in David

Groome and Ron Roberts ed.’s, *Parapsychology: The Science of Unusual Experience*, second edition (London:

Routledge, 2017), 48-64.

⁵⁰ Christopher C. French, ‘Alien contact and abduction claims’ in David Groome and Ron Roberts ed.’s,

Parapsychology: The Science of Unusual Experience, second edition (London: Routledge, 2017), 63.

⁵¹ Stephen Webb, *Where Is Everybody? Fifty Solutions To The Fermi Paradox And The Problem Of*

Extraterrestrial Life (Copernicus, 2010), 31.

if the ‘inexplicable’ UFO sightings represent alien craft.’⁵² On the basis of this data, Robert Sheaffer concludes: ‘the apparently unexplainable residue is due to the essentially random nature of gross misperception and misreporting.’⁵³

Astronomer Seth Shostak notes:

Our technology for documenting alien spacecraft . . . is substantially better than even a few decades ago . . . fabulous cameras are in the hands of nearly two billion smartphone users world-wide. And yet the UFO photos are as blurry and muddy as ever. You’d think at least a few people could make snaps that aren’t ambiguous or hoaxed. And I haven’t mentioned the surveillance provided by the 1,100 active satellites in orbit above our heads.⁵⁴

According to a 2009 briefing prepared by the RAF’s Air Command for Defence Minister Rob Ainsworth: ‘no UFO sighting reported to [the Ministry of Defence] has ever revealed anything to suggest an extraterrestrial presence or military threat to the UK . . .’⁵⁵

In sum: ‘The field of UFOlogy has failed to produce one concrete example of an alien visitation . . . the burden of proof remains squarely on the UFOlogists.’⁵⁶

An Accumulating Evidence of Absence

Paul Davies notes that ‘we can be pretty sure that there are zero prospects for intelligent life arising on any other planet in the solar system.’⁵⁷ Since the early 1960’s, scientists have been searching for intelligent extraterrestrials beyond the solar system. Over a half century of this ‘search for extra-terrestrial intelligence’ (SETI) – ‘mainly in the radio, but occasionally in the infrared and increasingly in the visible’⁵⁸ - has thus far produced a null result, despite rapid technological improvements in the field.⁵⁹ Historian of science George Basalla reports that ‘Many SETI supporters expected extraterrestrial contact well before the coming of the millennium.’⁶⁰ Consequently, as Stephen Webb observes: ‘the continuing silence, despite intensive searches, is beginning to worry even some of the most enthusiastic proponents of SETI.’⁶¹

Philosopher David Lamb argues:

Generous estimates of the number of planets with intelligent communicative life suffered a serious setback in 1992 following the completion of a radio search conducted by D.G. Blair . . . The search covered the neighbourhoods of 176 stars . . . within forty light years of the Earth. No signal was detected. The negative results

⁵² Ibid.

⁵³ Robert Sheaffer, ‘An examination of the claims that extraterrestrial visitors to Earth are being observed’ in Ben Zuckerman and Michael H. Hart ed.’s, *Extraterrestrials: Where are they?* (Cambridge, 2009), 20-28.

⁵⁴ Seth Shostak, ‘Whatever happened to UFO sightings?’ *SFGate* (2nd September, 2015) www.sfgate.com/science/article/UFO-sightings-down-extraterrestrial-intelligence-6481669.php.

⁵⁵ Quoted by Clarke, op cit, 122-123.

⁵⁶ Ian Ridpath, ‘Flying Saucers Thirty Years On’ *New Scientist* (July 14th 1977), 79.

⁵⁷ Davies, op cit, 17.

⁵⁸ Webb, op cit, 101.

⁵⁹ See: Webb, *ibid*, 88-105.

⁶⁰ George Bassala, *Civilized Life In The Universe* (Oxford, 2006), 167.

⁶¹ Webb, op cit, 25.

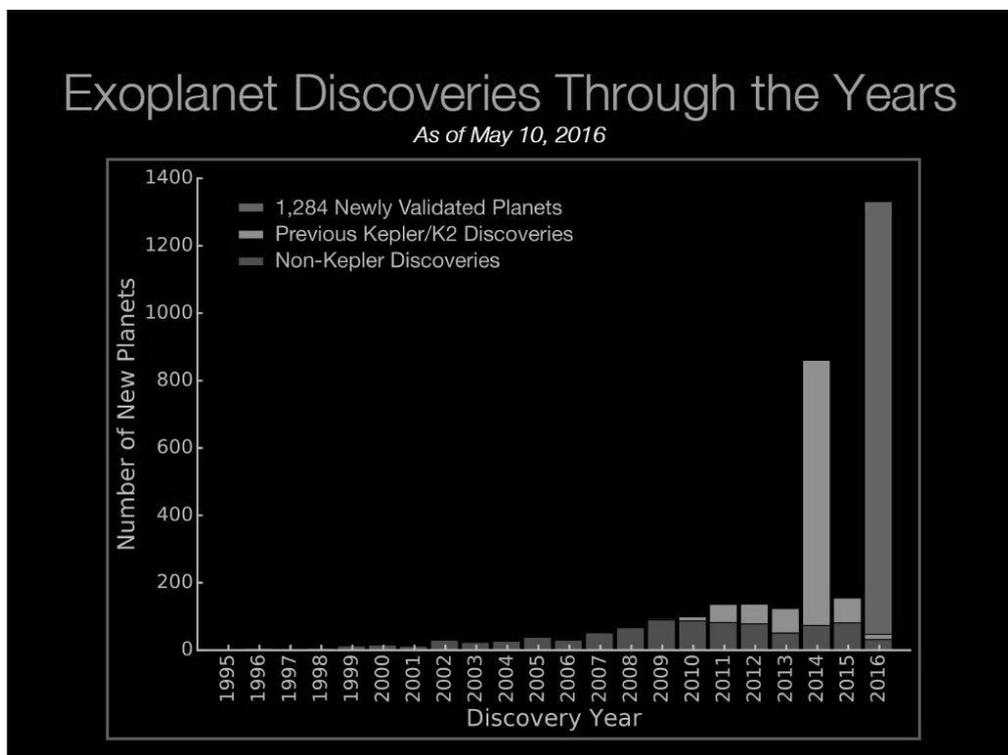
weaken [the] assumption that technological intelligence will inevitably emerge through enough time on an Earth-sized planet near a Sun-like star.⁶²

Likewise, writing over a dozen years ago in *Skeptical Inquirer*, Peter Schenkel observed:

Since project OSMA I in 1959 by Frank Drake, about a hundred radio-magnetic and other searches were conducted in the U.S. and in other countries and a considerable part of our sky was scanned thoroughly and repeatedly, but it remained disappointingly silent . . . If a hundred searches were unsuccessful, it is fair to deduce that estimates of a million or many thousands ETI are unsustainable propositions.⁶³

Of particular note: ‘Between 1995 and 2004, Project Phoenix used radio telescopes to look at hundreds of Sun-like stars within a couple of hundred light years of Earth without detecting any sign of alien civilization.’⁶⁴ Schenkel concludes that: ‘Earth may be more special, and intelligence much rarer, than previously thought.’⁶⁵

More recent SETI projects, especially since the launch of the Kepler space telescope, have had the advantage of being guided by hard data about extra-solar planets.



NASA <https://commons.wikimedia.org/wiki/File:ExoplanetDiscoveries-Histogram-20160510.jpg>

⁶² David Lamb, *The search for extraterrestrial intelligence: A Philosophical Investigation* (London: Routledge, 2001), 55.

⁶³ Peter Schenkel, ‘SETI Requires a Skeptical Reappraisal’ *Skeptical Inquirer*, Volume 30.3 (May/June, 2006) www.csicop.org/si/show/seti_requires_a_skeptical_reappraisal.

⁶⁴ Jim Al-Khalili, *Aliens - Science Asks: Is There Anyone Out There?* (Profile, 2016), 3.

⁶⁵ Schenkel, op cit.

A recent targeted search of ‘86 Kepler Objects of Interest . . . hosting [164] planet candidates judged to be most amenable to the presence of Earth-like life’⁶⁶ looked for narrow band radio emissions but found ‘No signals of extraterrestrial origin . . . no evidence of advanced technology indicative of intelligent life’,⁶⁷ thus ‘placing limits on the presence of intelligent life in the galaxy . . .’⁶⁸

The Berkeley SETI Research Center ‘Breakthrough Listen’ project published its first results in 2017, explaining in a press release that they’d ‘examined data on 692 stars from the primary target list . . . Eleven events rose above the pipeline threshold for significance, but further detailed analysis indicates that it is unlikely that any of these signals originate from artificial extraterrestrial sources.’⁶⁹

In 2018 a paper by Jean-Luc Margot *et al* detailed the results of ‘A Search for Technosignatures from 14 Planetary Systems in the *Kepler* Field with the Green Bank Telescope at 1.15–1.73 GHz.’⁷⁰ Focusing on 14 planetary systems, 858,748 candidate narrowband radio signals were analysed from within c. 420 and c. 13000 light-years of Earth, producing a short-list of 19 candidate signals. However, ‘All of these candidates were observed in more than one direction on the sky, thereby ruling them out as extraterrestrial signals.’⁷¹

In recent decades, several extensive searches for alien *optical* emissions have been conducted. In December 2000, a Harvard-Smithsonian SETI project reported that almost 20,000 observations of nearly 5,000 sun-like stars had ‘found no evidence for pulsed optical beacons from extraterrestrial civilizations.’⁷² In a 2015 paper, University of California Berkeley astronomers Nathaniel K. Tellis and Geoffrey Marcy ‘present a search for laser emission coming from point sources in the vicinity of 2796 stars, including 1368 Kepler Objects of Interest (KOIs) that host one or more exoplanets’ and note: ‘We did not find any such laser emission coming from any of the 2796 target stars.’⁷³ In a 2017 paper, Tellis and Marcy report being unable to detect any optical signatures from advanced civilizations in over 67,000 individual spectra produced within the planetary regions of 5,600 stars in the Milky Way:

We searched high resolution spectra of 5600 nearby stars for emission lines that are both inconsistent with a natural origin and unresolved spatially, as would be expected from extraterrestrial optical lasers . . . We found no such laser emission coming from the planetary region around any of the 5600 stars. As they contain roughly 2000 lukewarm, Earth-size planets, we rule out models of the Milky Way in which over

⁶⁶ Andrew P.V. Siemion *et al*, ‘A 1.1 to 1.9 GHz SETI Survey of the Kepler Field’, *Astrophysical Journal* (2013)

www.researchgate.net/publication/235359333_A_1.1_to_1.9_GHz_SETI_Survey_of_the_Kepler_Field_I_A_Search_forNarrow-band_Emission_from_Select_Targets.

⁶⁷ *Ibid*.

⁶⁸ *Ibid*.

⁶⁹ See: ‘Breakthrough Listen Initiative Publishes Initial Results’ <https://breakthroughinitiatives.org/News/10>.

⁷⁰ Jean-Luc Margot *et al*, ‘A Search for Technosignatures from 14 Planetary Systems in the *Kepler* Field with the Green Bank Telescope at 1.15–1.73 GHz’ *Astronomical Journal* (April 25th, 2018) <http://iopscience.iop.org/article/10.3847/1538-3881/aabb03>.

⁷¹ *Ibid*.

⁷² Paul Horowitz *et al*, ‘Targeted and All-Sky Search for Nanosecond Optical Pulses at Harvard-Smithsonian’ <http://seti.harvard.edu/oseti/oseti.pdf>.

⁷³ Nathaniel K. Tellis and Geoffrey Marcy, ‘A search for optical laser emission using keck HIRES’ *Publications of the Astronomical Society of the Pacific* (2015), 127.

0.1% of warm, Earth-size planets harbor technological civilizations that, intentionally or not, are beaming optical lasers toward us.⁷⁴

Astronomers have also searched at the galactic level for the energetic signatures of any civilizations using much of a galaxy's starlight to satisfy their power requirements:

- In 1999 the *Journal of the British Interplanetary Society* reported the results of one such search, noting: 'For a sample of 137 galaxies, no such outliers are found.'⁷⁵
- In 2015 a Swedish study of 1359 spiral galaxies detected no signs of galactic scale civilization.⁷⁶
- Also in 2015, another research group published the results of their extensive search for 'the thermodynamic consequences of galactic-scale colonization.'⁷⁷ According to *Scientific American*: 'After examining some 100,000 nearby large galaxies a team of researchers lead by The Pennsylvania State University astronomer Jason Wright has concluded that none of them contain any obvious signs of highly advanced technological civilizations.'⁷⁸

This evidence isn't evidence for the cosmic absence of technologically advanced alien life *per se* (the observable universe is a *very* big place to search), but it does disconfirm the hypothesis that technologically advanced alien civilizations abound in or around our slice of space and time⁷⁹, which conclusion in turn disconfirms historical theories involving extraterrestrial visitors. Philosopher David R. Koepsell affirms that there are about 500 [sun-like 'G' class] stars within a one-hundred light-year radius of us: 'and so far, listening to them, we have heard nothing, although we have observed nearly 100 planets in that vicinity.'⁸⁰

⁷⁴ Nathaniel Tellis and Geoffrey Marcy, 'A Search for Laser Emission with Megawatt Thresholds from 5600 FGKM Stars' <https://arxiv.org/pdf/1704.02535.pdf>.

⁷⁵ J. Annis, 'Placing a limit on star-fed Kardashev type III civilisations' *Journal of the British Interplanetary Society*, Vol. 52, No. 1 (1999), 33-36 www.jbis.org.uk/paper.php?p=1999.52.33.

⁷⁶ See: E. Zackrisson *et al*, 'Extragalactic SETI: The Tully-Fisher Relation As A Probe Of Dysonian Astroengineering In Disk Galaxies' *The Astrophysical Journal*, 810:23 (12pp), 2015, September 1 <http://iopscience.iop.org/article/10.1088/0004-637X/810/1/23/pdf>.

⁷⁷ Lee Billings, 'Alien Supercivilizations Absent from 100,000 Nearby Galaxies' *Scientific American* (April 17th, 2015) www.scientificamerican.com/article/alien-supercivilizations-absent-from-100-000-nearby-galaxies/.

See: Roger L. Griffith *et al*, 'The G Infrared Search For Extraterrestrial Civilizations With Large Energy Supplies' *The Astrophysical Journal Supplement Series*, 217:25 (April, 2015) <http://iopscience.iop.org/article/10.1088/0067-0049/217/2/25/pdf>.

⁷⁸ Ibid. See also: 'The Fermi Paradox and Our Search for Alien Life' *SciShow Space* <https://youtu.be/5tjnuVheDoY>.

⁷⁹ See: Claudio Grimaldi, 'Detection probability of non-natural signals in the Galaxy' www.claudiogrimaldi.com/seti.html; Brian Koberlein, 'Alien Signals We Discover Could Be The Echoes Of Dead Worlds' *Forbes* (12th April 2018) www.forbes.com/sites/briankoberlein/2018/04/12/alien-signals-we-discover-could-be-the-echoes-of-dead-worlds/#2e543ed0f3a5; Claudio Grimaldi and G.W. Marcy, 'Area coverage of expanding E.T. signals in the galaxy: SETI and Drake's N' www.researchgate.net/publication/323410411_Area_coverage_of_expanding_ET_signals_in_the_galaxy_SETI_and_Drake%27s_N; Marko Horvat, 'Calculating the probability of detecting radio signals from alien civilizations' <https://arxiv.org/pdf/0707.0011.pdf>.

⁸⁰ David R. Koepsell, 'Drake Vs. Fermi: Skepticism And SETI' (12th April, 2016) https://centerforinquiry.org/blog/drake_vs-_fermi_skepticism_and_seti/. See: 'G stars within 100 light-years' (2005) www.solstation.com/stars3/100-gs.htm. According to David Wilkinson, Project Phoenix surveyed '1,000 nearby stars similar to our Sun, out to a distance of 100 light-years.' – *Science, Religion, And The Search For Extraterrestrial Intelligence* (Oxford, 2017), 89.

The Fermi Paradox

The non-existence of technologically advanced ETI's is the *simplest* answer to 'the Fermi paradox – the contradiction between the apparent absence of aliens, and the common expectation that we should see evidence of their existence.'⁸¹ William Borucki, principal investigator of NASA's planet-hunting Kepler mission comments: 'We have . . . no visits, no communications we've picked up . . . the evidence says, no one's out there.'⁸² Observing that 'we've seen no convincing evidence of other civilizations among the stars in our skies', astrobiologist Lewis Dartnell concludes that technologically sophisticated intelligent life 'may well be vanishingly rare in the Galaxy.'⁸³ Andrew Norton, Professor of Astrophysics at the Open University concurs that 'intelligent, communicating life may well be extremely rare . . .'⁸⁴ David Wilkinson concludes:

The Fermi paradox seems to indicate that the Galaxy is not teeming with alien civilizations . . . we are either currently alone as an intelligent civilization in our Galaxy or . . . civilizations are relatively few and quite late developers in the history of the Milky Way. This would receive support from those biologists who stress the unlikely evolution of intelligent life on other worlds.⁸⁵

Space is Big

Even if technologically sophisticated ETI's exist, they probably lack the means of visiting us. Dawkins reckons that intelligent life 'is probably extremely rare and isolated on far-flung islands of life, like a celestial Polynesia' and consequently concludes that 'Visitations to one island by another are hugely more likely to be in the form of radio waves than visitations by corporeal beings.'⁸⁶ Indeed, our *closest* extra-solar star (Proxima Centauri⁸⁷) is 4.22 light years away!⁸⁸

Dartnell comments that 'The laws of physics . . . strongly constrain movement across the vast gulfs between stars.'⁸⁹ Although atheist physicist Lawrence M. Krauss finds it 'hard to believe that we are alone'⁹⁰, he calculates that 'Energy expenditures beyond our current

⁸¹ Webb, op cit, ix.

⁸² Borucki quoted in Ben Westcott, '“No One's Out There”: We're Likely Alone in the Milky Way, says Shaw Prize Astronomy Winner as he Visits Hong Kong for Award Ceremony' *South China Morning Post* (24th September, 2015) www.scmp.com/news/hong-kong/health-environment/article/1860781/no-ones-out-there-shaw-prize-astronomy-winner-says.

⁸³ Lewis Dartnell, '(Un)welcome Visitors: Why Aliens Might Visit Us' in Jim Al-Khalili ed., op cit, 25.

⁸⁴ Andrew Norton, 'Ross 128 Mystery Signals Aren't From Aliens' *Newsweek* (18th July, 2017) www.newsweek.com/ross-128-mystery-signals-aliens-what-happens-638172.

⁸⁵ Wilkinson, op cit, 115.

⁸⁶ Richard Dawkins, *Science In The Soul* (Black Swan, 2018), 210.

⁸⁷ Proxima Centauri is a red dwarf star that probably doesn't have any habitable planets. See: Lina Tran, 'An Earth-like Atmosphere May Not Survive Proxima b's Orbit' www.nasa.gov/feature/goddard/2017/an-earth-like-atmosphere-may-not-survive-proxima-b-s-orbit/; Katie Mack, '“Goldilocks” planets might not be so nice' *Cosmos* (6th January, 2017) <https://cosmosmagazine.com/space/goldilocks-planets-might-not-be-so-nice/>; Nicola Davis, 'Proxima b: could we live on this newly found planet – or could something else?' *The Guardian* (27th August, 2016) www.theguardian.com/science/2016/aug/27/proxima-b-could-we-live-on-this-newly-found-planet-or-could-something-else.

⁸⁸ One light year is the distance light travels in one year, being 'roughly 9.5 billion km or 5.9 billion miles' - Gribbin, op cit, 1.

⁸⁹ Dartnell, op cit, 31.

⁹⁰ Krauss, op cit, p. 127.

wildest dreams would be needed'⁹¹ to facilitate interstellar travel and so concludes that 'we probably don't have to worry too much about being abducted by aliens.'⁹²

What about interstellar travel using a so-called 'warp' drive (which hypothetically circumvents the light-speed limit by 'warping' space)? Krauss argues that the energetic requirements for such a drive are prohibitive:

The gravitational field near the surface of the Sun is miniscule in terms of the kind of gravitational effects required to perturb space-time [in the way required by a warp drive] . . . One way to estimate how much energy would have to be generated is to imagine producing a black hole of the size of the [fictional *Star Trek* ship] *Enterprise* – since certainly a black hole of this size would produce a gravitational field that could significantly bend any light beam that travelled near it . . . it would take more than the total energy produced by the Sun during its entire lifetime to generate such a black hole.⁹³

What about interstellar travel via a so-called 'wormhole'? In 2016 Ping Gao and Daniel Jafferis of Harvard University and Aron Wall of Stanford University described how 'a new species of traversable wormhole'⁹⁴ could *theoretically* result from the quantum coupling of two black holes linked by Hawking radiation, such that 'something tossed into one will shimmy along the wormhole and, following certain events in the outside universe, exit the second [albeit as Hawking radiation!].'⁹⁵ Whilst the authors note that quantum coupling 'allows information to be recovered from black holes', they also note it means that 'the wormhole doesn't offer any superluminal boost . . .'⁹⁶ Professor Robert Matthews comments:

calculations based on the wormhole types studied so far suggest that using them would actually be slower than simply travelling directly through space . . . The laws of nature seem to insist that wormholes can either perform amazing feats but collapse in an instant, or be traversable but useless.⁹⁷

Krauss cautions: 'My understanding of wormholes is that we have no idea how to make them stable and traversable without exotic unknown forms of energy, so any discussion of traversable wormholes as realistic travel devices is highly speculative at best.'⁹⁸

Nobel Prize winning theoretical physicist Kip Thorne muses that 'If a wormhole can be held open, the precise details of *how* remain a mystery',⁹⁹ and states: 'I doubt the laws of physics permit traversable wormholes . . .'¹⁰⁰ He concludes: 'there are very strong indications that wormholes that a human could travel through are forbidden by the laws of physics . . .'¹⁰¹

⁹¹ Ibid., 128.

⁹² Ibid.

⁹³ Krauss, op cit, 60. See also: Michael White, *The Science Of The X Files* (London: Legend, 1996), 18-19.

⁹⁴ Natalie Wolchover, 'Newfound Wormhole Allows Information to Escape Black Holes' *Quanta Magazine* (23rd October, 2017) www.quantamagazine.org/newfound-wormhole-allows-information-to-escape-black-holes-20171023/.

⁹⁵ Ibid.

⁹⁶ Ibid.

⁹⁷ Robert Matthews, 'Through The Wormhole' in *Focus* (June, 2018), 44.

⁹⁸ Krauss, quoted by NBC News, 'Interstellar Reality Check'.

⁹⁹ Kip Thorne, *The Science of Interstellar* (New York: W.W. Norton & Company, 2014), 132.

¹⁰⁰ Ibid., 136.

¹⁰¹ Kip Thorne, quoted by Nola Taylor Redd, 'What is a Wormhole?' www.space.com/20881-wormholes.html.

Wormholes remain purely ‘hypothetical constructs’.¹⁰² According to Dr Eric Christian and Dr Louis Barbier:

Wormholes are allowed to exist in the math of ‘General Relativity’ . . . [So, if] general relativity is correct, there may be wormholes. But no one has any idea how they would be created, and there is no evidence for anything like a wormhole in the observed Universe.¹⁰³

Krauss concludes: ‘physics cannot give us what we need to roam the galaxy.’¹⁰⁴ Once again, a heavy burden of proof falls upon anyone claiming aliens have visited Earth.

Space is Dangerous

Colliding with even very small objects can be hazardous in space, and this problem gets worse the faster one goes. At twenty percent of light-speed ‘even individual atoms can damage the vehicle, and a collision with a bit of dust could be catastrophic.’¹⁰⁵

Exposure to cosmic radiation causes cancer:

A recent study of the 24 astronauts who left Earth’s low orbit on Nasa’s Apollo missions in the 60s and 70s showed that they were five times more likely to die of heart disease than the astronauts who didn’t enter deep space – a result scientists think may have been caused by excessive radiation exposure. Astronauts on missions at the [International Space Station] are shielded from too much radiation by Earth’s atmosphere and magnetic field. But on a trip to Mars, humans would be exposed to radiation from the sun and from high-energy particles called galactic cosmic rays, which degrade DNA and drastically increase cancer risk.¹⁰⁶

The faster one travels, the worse this problem becomes:

as spaceship velocities approach the speed of light, interstellar hydrogen H . . . turns into intense radiation that would quickly kill passengers and destroy electronic instrumentation. In addition, the energy loss of ionizing radiation passing through the ship’s hull represents an increasing heat load that necessitates large expenditures of energy to cool the ship. Stopping or diverting this flux, either with material or electromagnetic shields, is a daunting problem. Going slow to avoid severe H irradiation sets an upper speed limit of $v \sim 0.5 c$. This velocity . . . would not substantially assist galaxy-scale voyages. Diffuse interstellar H atoms are the ultimate cosmic space mines and represent a formidable obstacle to interstellar travel.¹⁰⁷

¹⁰² Al-Khalili, *Paradox: The Nine Greatest Enigmas in Physics* (Black Swan, 2013), 203.

¹⁰³ NASA, ‘Space Physics: Wormholes, Time Travel, and Faster-Than-Speed-of-Light Theories’ https://helios.gsfc.nasa.gov/qa_sp_sl.htm.

¹⁰⁴ Krauss, op cit, 61.

¹⁰⁵ John Timmer, ‘Just how dangerous is it to travel at 20% the speed of light?’

<https://arstechnica.com/science/2016/08/could-breakthrough-starshots-ships-survive-the-trip/>.

¹⁰⁶ Marisa Taylor, ‘Heart disease, depression and blindness – the hazards of deep space travel’ *The Guardian* (29th July, 2016) www.theguardian.com/lifeandstyle/2016/jul/29/space-travel-side-effects-scott-kelly-nasa-mars-astronauts-ross-3-mins.

¹⁰⁷ William A. Edelstein and Arthur D. Edelstein, ‘Speed kills: Highly relativistic spaceflight would be fatal for passengers and instruments’ *Natural Science*, Vol.4 No.10 (October, 2012) www.scirp.org/journal/PaperInformation.aspx?paperID=23913.

In short: ‘there’s a natural speed limit imposed by safe levels of radiation due to hydrogen, which means [biological beings] couldn’t travel faster than half the speed of light unless they were willing to die almost immediately.’¹⁰⁸ Of course, one might avoid the physiological (and psychological) problems of space travel¹⁰⁹ by sending robots, but that wouldn’t negate the threat radiation poses for electronics, or the heat load it creates.

Even if technologically sophisticated aliens existed and had the means to visit Earth, why would they? As Dartnell observes: ‘humanity has only been detectably civilised [that is, broadcasting radio waves] for about a century . . .’¹¹⁰

Hypothetical Technology

Suppose, for the sake of argument, that ETI’s did visit first century Israel. Might they have used hypothetical technology to fake Jesus’ ‘resurrection’ and other miracles? Might a ‘matter transporter’ *a la* Star Trek have been used to remove Jesus from the tomb so he could be brought back to life somehow (using ‘science’) before being beamed into the upper room to surprise the disciples, and so on?

Given the scientific problems facing such hypothetical technology, that seems unlikely. Krauss explains:

building a transporter would require us to heat up matter to a temperature a million times the temperature at the centre of the Sun, expend more energy in a single machine than all of humanity presently uses, build telescopes larger than the size of the Earth . . . and avoid the laws of quantum mechanics.¹¹¹

As Davies warns: ‘Speculation about alien super-civilizations doing super-science and deploying super-technology is certainly great fun, but it needs to be tempered with a healthy skepticism.’¹¹²

Conclusion

Ancient alien conspiracy theories are intrinsically *convoluted* and highly *ad hoc*, and multiple essential facets of such theories are *disconfirmed* by scientific evidence readily available from *secular* scientific sources.

The scientific evidence strongly suggests that (on a naturalistic worldview) extra-terrestrial life is unlikely to exist. Even if it does, it seems unlikely it would develop into intelligent life. Even if intelligent extra-terrestrial life exists, it seems unlikely it would be blessed with the ecological and cultural preconditions for the development of science and the advanced technological application thereof. Even if technologically advanced ETI’s exist, there are significant physical and psychological barriers to interstellar travel. Even if

¹⁰⁸ Jamie Condliffe, ‘Super-Fast Space Travel Would Kill You in Minutes’ *Gizmodo* (11/05/2012) <https://gizmodo.com/5957697/super-fast-space-travel-would-kill-you-in-minutes>.

¹⁰⁹ Ed Regis, ‘Interstellar Travel as Delusional Fantasy [Excerpt]’ *Scientific American* (October 3rd, 2015) www.scientificamerican.com/article/interstellar-travel-as-delusional-fantasy-excerpt/. Philosopher David R. Koepsell writes that: ‘As a radio-communicating species, our presence would so far only be known to other radio-listening species within a 100 light year radius of us. There are about 500 [‘G’ type] stars within that radius, and so far, listening to them, we have heard nothing, although we have observed nearly 100 planets in that vicinity.’ – ‘Drake Vs. Fermi: Skepticism And SETI’ (12th April, 2016) https://centerforinquiry.org/blog/drake_vs-_fermi_skepticism_and_seti/.

¹¹⁰ Dartnell, *op cit*, 33.

¹¹¹ Lawrence M. Krauss, *The Physics of Star Trek* (Flamingo, 1996), 83.

¹¹² Davies, *op cit*, 151.

technologically advanced ETI's able and willing to engage in interstellar travel exist, it's unlikely that they'd visit *us*, let alone in our pre-industrial past, let alone that they'd use their entirely hypothetical technology to fake Jesus' resurrection. The compound improbability of such a sequence of events is staggering.

Moreover, not only do we lack convincing evidence that ETI's have visited Earth, but the scientific Search for Extra-Terrestrial Intelligence has provided observational evidence that suggests technologically advanced ETI's simply don't exist, at least in our cosmic neighborhood.

In sum, when it comes to 'ancient aliens', it's the conspiracy theorists, not Christians, who are swimming against the scientific evidence.

Recommended Resources

Watch: William Lane Craig, 'Is the Resurrection Hypothesis Really As Absurd as the Alien Hypothesis?' <https://youtu.be/QW97epVeN7Y>

YouTube Playlist, 'Aliens & UFOs' www.youtube.com/playlist?list=PLQhh3qcwVEWixwhvDhbqSoO3qcIK7zu5

YouTube Playlist, 'The Origin of Life' www.youtube.com/playlist?list=PLQhh3qcwVEWggFeEP9H7k1Lycfcxzv0Sr

YouTube Playlist: 'The Rare Earth Hypothesis' www.youtube.com/playlist?list=PLQhh3qcwVEWiLU4H5kBr2JzSAzfiITRst

YouTube Playlist, 'Physical Preconditions of Science & Technology' www.youtube.com/playlist?list=PLQhh3qcwVEWiEbtcuD5f8bK0DHH31Lg6Y

YouTube Playlist, 'The Theological Roots of Science' www.youtube.com/playlist?list=PLQhh3qcwVEWh3jDVYqFFzWSnTbtUeCg3

Read: J. Annis, 'Placing a limit on star-fed Kardashev type III civilisations' *Journal of the British Interplanetary Society*, Vol. 52, No. 1 (1999), 33-36 www.jbis.org.uk/paper.php?p=1999.52.33

Susan Blackmore, 'Abduction by Aliens or Sleep Paralysis?' www.csicop.org/si/show/abduction_by_alien_or_sleep_paralysis

Kyle Butt, 'Ezekiel's Vision: An Alien UFO?' www.apologeticspress.org/apcontent.aspx?category=11&article=1061

Tim Callahan, 'The Spaceships of Ezekiel' www.skeptic.com/eskeptic/05-07-28/

Jason Colavito, Ancient Aliens: Unauthorized Reviews, www.jasoncolavito.com/ancient-aliens-reviews.html

Jamie Condliffe, 'Super-Fast Space Travel Would Kill You in Minutes' <https://gizmodo.com/5957697/super-fast-space-travel-would-kill-you-in-minutes>

Jon Coumes, 'Ancient Aliens is Everything That's Wrong With America' www.theawl.com/2017/09/ancient-aliens-is-everything-thats-wrong-with-america/

William Lane Craig, 'UFOs' www.reasonablefaith.org/media/reasonable-faith-podcast/ufos/

Diego Cuoghi, 'The Art of Imagining UFOs' www.diegocuoghi.com/arte-ufo/SKEPTIC_CUOGHI_ARTUFO_complete.pdf

William A. Edelstein and Arthur D. Edelstein, 'Speed kills: Highly relativistic spaceflight would be fatal for passengers and instruments' *Natural Science* (Vol.4 No.10, October 2012) www.scirp.org/journal/PaperInformation.aspx?paperID=23913

Christopher C. French, 'Close encounters of the psychological kind' <https://thepsychologist.bps.org.uk/volume-28/october-2015/close-encounters-psychological-kind>

Erich Goode, 'What About Alien Abductions?' www.psychologytoday.com/blog/the-paranormal/201205/what-about-alien-abductions

Guillermo Gonzalez, 'Would Extraterrestrial Intelligent Life Spell Doom for Christianity?' www.equip.org/article/would-extraterrestrial-intelligent-life-spell-doom-for-christianity/

Roger L. Griffith *et al*, 'The \hat{G} Infrared Search For Extraterrestrial Civilizations With Large Energy Supplies' *The Astrophysical Journal Supplement Series*, 217:25 (April, 2015)
<http://iopscience.iop.org/article/10.1088/0067-0049/217/2/25/pdf>

James Hannam, 'How Christianity Led To The Rise Of Modern Science' www.equip.org/PDF/JAF3384.pdf

Marko Horvat, 'Calculating the probability of detecting radio signals from alien civilizations' <https://arxiv.org/pdf/0707.0011.pdf>

David R. Koepsell, 'Drake Vs. Fermi: Skepticism And SETI' (12th April, 2016)
https://centerforinquiry.org/blog/drake_vs-_fermi_skepticism_and_seti/

Karl Mamer, 'Toronto Aetherius Society: Jesus, Venusians, and some bad astronomy (Part 1)' www.skepticnorth.com/2012/01/toronto-aetherius-society-jesus-venusians-and-some-bad-astronomy-part-1/
– 'Toronto Aetherius Society: His Master's Voice, stuff that goes boom, and a lack of proof (Part 2)' www.skepticnorth.com/2012/01/toronto-aetherius-society-his-masters-voice-stuff-that-goes-boom-and-a-lack-of-proof-part-2/

Jean-Luc Margot *et al*, 'A Search for Technosignatures from 14 Planetary Systems in the *Kepler* Field with the Green Bank Telescope at 1.15–1.73 GHz' *Astronomical Journal* (April 25th, 2018)
<http://iopscience.iop.org/article/10.3847/1538-3881/aabb03>

Joe Nickell, 'Navy Pilot's 2004 UFO: A Comedy of Errors' *Skeptical Inquirer* (Volume 42.3, May/June 2018)
www.csicop.org/si/show/navy_pilots_2004_ufo_a_comedy_of_errors

Joe Nickell, 'Abductions and Hoaxes' www.csicop.org/si/show/abductions_and_hoaxes

Cathal O'Connell, 'Alien megastructure 'discovery': A Review of the Facts' *Cosmos* (31st August, 2016)
<https://cosmosmagazine.com/space/alien-megastructure-discovery-a-review-of-the-facts>

John T. Omohundro, 'Von Däniken's Chariots: A Primer in the Art of Cooked Science'
www.csicop.org/si/show/von_daumlknikenrsquos_chariots_a_primer_in_the_art_of_cooked_science

Kaja Perina, 'Alien Abductions: The Real Deal?' www.psychologytoday.com/articles/200303/alien-abductions-the-real-deal

Peter Schenkel, 'SETI Requires a Skeptical Reappraisal' *Skeptical Inquirer*, Volume 30.3 (May/June, 2006)
www.csicop.org/si/show/seti_requires_a_skeptical_reappraisal

Seth Shostak, 'Whatever happened to UFO sightings?' www.sfgate.com/science/article/UFO-sightings-down-extraterrestrial-intelligence-6481669.php

Andrew P.V. Siemion *et al*, 'A 1.1 to 1.9 GHz SETI Survey of the Kepler Field'
www.researchgate.net/publication/235359333_A_1.1_to_1.9_GHz_SETI_Survey_of_the_Kepler_Field_I_A_Search_for_Narrow-band_Emission_from_Select_Targets

Peter S. Williams, 'Raelians Successfully Clone Naturalism'
www.arn.org/docs/williams/pw_raeliansclonenaturalism.htm
– 'Christianity, Space and Aliens' www.bethinking.org/human-life/christianity-space-and-aliens

Bob Yirka, 'Wow! mystery signal from space finally explained' <https://phys.org/news/2017-06-wow-mystery-space.html>

E. Zackrisson *et al*, 'Extragalactic SETI: The Tully–Fisher Relation As A Probe Of Dysonian Astroengineering In Disk Galaxies' *The Astrophysical Journal*, 810:23 (12pp), 2015, September 1
<http://iopscience.iop.org/article/10.1088/0004-637X/810/1/23/pdf>

George Bassala, *Civilized Life In The Universe: Scientists On Intelligent Extraterrestrials* (Oxford University Press, 2006)

William C. Berger, *How Unique Are We? Perfect Planet, Clever Species* (Prometheus, 2003)

Susan A. Clancy, *Abducted: How People Come To Believe They Were Kidnapped By Aliens* (Harvard University Press, 2005)

David Clarke, *How UFOs Conquered The World: A History Of A Modern Myth* (Aurum Press, 2015)

James Colavito, *The Cult Of Alien Gods: H.P. Lovecraft and Extraterrestrial Pop Culture* (Prometheus, 2005)
 – *A Critical Companion to Ancient Aliens Series 3 & 4* (Lulu, 2012)

Lewis Dartnell, *Life in the Universe: A Beginner's Guide, Astrobiology* (OneWorld, 2007)

Paul Davies, *The Eerie Silence: Searching for ourselves in the universe* (Penguin, 2011)

Michael Denton, *Fire Maker: How Humans Were Designed to Harness Fire and Transform Our Planet* (Discovery Institute, 2016)

Christopher C. French, 'Alien contact and abduction claims' in David Groome and Ron Roberts ed.'s, *Parapsychology: The Science of Unusual Experience*, second edition (Routledge, 2017)

Terence J. Kelly SJ and Hilary D Regan ed.'s, *God, Life: Intelligence & the Universe* (ATF, 2002)

Guillermo Gonzalez and Jay W. Richards, *The Privileged Planet: How Our Place In The Cosmos Is Designed For Discovery* (Regnery, 2004)

John Gribbin, *Alone In The Universe: Why Our Planet Is Unique* (Wiley, 2011)

David Lamb, *The search for extraterrestrial intelligence: A Philosophical Investigation* (Routledge, 2001)

Robert Sheaffer, *UFO Sightings: The Evidence* (Prometheus, 1998)

Michael Shermer ed., *The Skeptic: Encyclopedia of Pseudoscience - Volume One* (Oxford: ABC-Clio, 2002),
<https://camidrcs.files.wordpress.com/2018/02/skepticencyclopedia1.pdf>

David Waltham, *Lucky Planet: Why Earth is Exceptional - and What that Means for Life in the Universe* (Icon, 2015)

Peter C. Ward and Donald Brownlee, *Rare Earth: Why Complex Life is Uncommon in the Universe* (Springer, 2009)

Stephen Webb, *Where Is Everybody? Fifty Solutions To The Fermi Paradox And The Problem Of Extraterrestrial Life* (Copernicus, 2010)

Peter White, *The Past Is Human* (Angus and Robertson, 1976)

David Wilkinson, *Science, Religion, And The Search For Extraterrestrial Intelligence* (Oxford, 2017)