

Xenoarchaeology

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Xenoarchaeology is a [hypothetical](#) form of [archaeology](#) that exists mainly in science fiction works concerned with the [physical](#) remains of past (but not necessarily [extinct](#)) [alien](#) life and cultures. It is not currently practiced by mainstream archaeologists, due to the obvious lack of examples.

Etymology

The name derives from [Greek](#) *xenos* (ξένος) which means 'stranger, alien', and [archaeology](#) 'study of ancients'.

Xenoarchaeology is sometimes called *exoarchaeology*, although some would argue that the prefix *exo-* would be more correctly applied to the study of human activities in a space environment.^[1]

Other names for xenoarchaeology, or specialised fields of interest, include Probe SETI (Search for Extra-Terrestrial Intelligence), extraterrestrial archaeology, space archaeology, SETA (Search for Extra-Terrestrial Artifacts), Dysonian SETI, Planetary SETI, SETT (Search for Extra-Terrestrial Technology), SETV (Search for Extra-Terrestrial Visitation),^[2] extraterrestrial anthropology, areoarchaeology and selenoarchaeology.^[3]

Justification

It is arguably the case that, due to the immense distances between stars, any evidence we discover of extraterrestrial intelligence, whether it be an artifact or an electromagnetic signal, may come from a long-vanished civilization. Thus the entire SETI project can be seen as a form of archaeology.^{[4][5][6]} Additionally, due to the extreme [age of the universe](#), there may be a reasonable expectation for [astrobiology](#) research to produce evidence of extinct [alien](#) life prior to the discovery of alien life itself.^[7]

The study of alien cultures might offer us glimpses into our own species' past or future development.^{[8][9]}

Vicky Walsh argued for the existence of "exo-artifacts" using the [principle of mediocrity](#) and the [Drake equation](#). She proposed that a theoretical and speculative field of archaeology be established in order to test outlandish claims, and to prepare for a time when undeniably extraterrestrial artifacts needed to be analysed.

"If it is possible to construct an abstract archaeology that can be tested and refined on earth and then applied to areas beyond our planet, then the claims for ETI remains on the moon and Mars may really be evaluated in light of established archaeological theory and analysis".^[10]

Ben McGee similarly proposed the creation of a set of interdisciplinary, proactive xenoarchaeological guidelines, arguing that identifying suspected artifacts of [Astrobiology](#) is all that is required to justify establishing a methodology for xenoarchaeology. He emphasized the necessity of proactive xenoarchaeological work in order to avoid future bias, mischaracterization, and information mismanagement, and he cites three scenarios under which such a methodology or set of guidelines would be useful, those being "[Remote sensing](#)" of a potential xenoarchaeological artifact, encountering an artifact during "human exploration," and "terrestrial interception" of an artifact.^[7]

Greg Fewer has argued that archaeological techniques should be used to evaluate alleged UFO landing or crash sites, such as [Roswell](#).^[11]

History

The origins of the field have been traced^[12] to theories about a hypothetical Martian civilization based on observations of what were perceived as [canals on Mars](#). These theories, of which Percival Lowell was the most famous exponent, were apparently inspired by a mistranslation of a quote by [Giovanni Schiaparelli](#).

The 1997 Theoretical Archaeology Group conference featured a session on "archaeology and science fiction".

The 2004 annual meeting of the [American Anthropological Association](#) featured a session *Anthropology, Archaeology and Interstellar Communication*.^[13]

Planetary SETI

Planetary SETI is concerned with the search for extraterrestrial structures on the surface of bodies in the solar system. Claims for evidence of extraterrestrial artifacts can be divided into three groups, the Moon, Mars, and the other planets and their satellites.^[3]

Examples of sites of interest include the "bridge" sighted in the [Mare Crisium](#) in 1953, and the "Blair Cuspids" sighted in 1966. In 2006, Ian Crawford proposed that a search for alien artifacts be conducted on the Moon.^[14]

[Percival Lowell](#)'s mistaken identification of [Martian canals](#) was an early attempt to detect and study an alien culture from its supposed physical remains. More recently, there was interest in the supposed [Face on Mars](#).

The Society for Planetary SETI Research is a loose organization of researchers interested in this field. The organization does not endorse any particular conclusions drawn by its members on particular sites.^[15]

Probe SETI, or SETA

Further information: [Bracewell probe](#)

A great deal of research and writing has been done, and some searches conducted for extraterrestrial probes in the solar system.^[16] This followed the work of [Ronald N. Bracewell](#).

[Robert Freitas](#),^{[17][18][19]} [Christopher Rose](#) and [Gregory Wright](#) have argued that interstellar probes can be a more energy efficient means of communication than electromagnetic broadcasts.^[20]

If so, a solarcentric Search for Extraterrestrial Artifacts (SETA)^[21] would seem to be favored over the more traditional radio or optical searches.

On the basis that the Earth-Moon or Sun-Earth [libration orbits](#) might constitute convenient parking places for automated extraterrestrial probes, unsuccessful searches were conducted by Freitas and Valdes.^{[22][23]}

Dysonian SETI

In a 1960 paper, [Freeman Dyson](#) proposed the idea of a [Dyson sphere](#), a type of extraterrestrial artifact able to be searched for and studied at interstellar distances. Following that paper, several searches have been conducted.^[24]

In a 2005 paper, Luc Arnold proposed a means of detecting smaller, though still mega-scale, artifacts from their distinctive [light curve](#) signature.^[25] (see [Astroengineering](#)).

Fringe theories

A subculture of enthusiasts studies purported structures on the [Moon](#) or [Mars](#). These controversial "structures" (such as the [Face on Mars](#)) are not accepted as more than natural features by most scientists.

Palaeocontact or [ancient astronaut](#) theories, espoused by [Erich von Däniken](#) and others, are further examples of fringe theories. These claim that the Earth was visited in prehistoric times by extraterrestrial beings.

Science fiction

Xenoarchaeological themes are common in science fiction. Works about the exploration of enigmatic extraterrestrial artifacts have been satirically categorized as [Big Dumb Object](#) stories.

Some of the more prominent examples of xenoarchaeological fiction include Arthur C. Clarke's novel [Rendezvous with Rama](#), H. Beam Piper's short story [Omnilingual](#), and Charles Sheffield's [Heritage Universe](#) series.

[Jack McDevitt](#)'s science fiction novels often revolve around human or alien historical and archaeological mysteries.

[*Mass Effect*](#)'s plot revolves around technologies in the form of structures, transportation, buildings and machines left behind by an extinct alien race.

The primary setting of [*Halo: Combat Evolved*](#) takes place on a massive structure created by an ancient, extinct alien super race. These structures feature prominently in the sequels [*Halo 2*](#), [*Halo 3*](#), and [*Halo 4*](#).

Novels

- [*Gateway*](#) by [Fred Pohl](#)
- [*Noon Universe*](#) by [Strugatsky](#) brothers.
- [*2001: A Space Odyssey*](#) by [Arthur C. Clarke](#)
- [*Rendezvous With Rama*](#) by [Arthur C. Clarke](#)
- [*Wasteland Of Flint*](#) by [Thomas Harlan](#)
- [*House of Reeds*](#) by [Thomas Harlan](#)
- [*The Season of Passage*](#) by [Christopher Pike](#)
- [*Broken Angels*](#) by [Richard Morgan](#)
- [*Strata*](#) by [Terry Pratchett](#)
- [*Revelation Space*](#) by [Alastair Reynolds](#)
- [*Grass*](#) by [Sheri S. Tepper](#)
- [*The Voyage of the Space Beagle*](#) by [A. E. van Vogt](#)
- [*The Engines of God*](#) by [Jack McDevitt](#)
- [*The Hercules Text*](#) by [Jack McDevitt](#)
- The novels in the [Heritage Universe](#) by [Charles Sheffield](#)
- [*The Past of Forever*](#) (Children of the Stars, Book 4) by [Juanita Coulson](#)
- [*Saga of Seven Suns*](#) (Most notably Book 1: Hidden Empire) by [Kevin J. Anderson](#)
- [*Heritage Trilogy*](#) by [Ian Douglas](#)
- [*Ringworld*](#) (and its sequels) by [Larry Niven](#)
- [*The Gaea Trilogy*](#) by [John Varley](#)

Short stories

- "Omnilingual" by [H. Beam Piper](#)
- "The Sentinel" by [Arthur C. Clarke](#)
- "At the Mountains of Madness" by [H. P. Lovecraft](#)
- "The Vaults of Yoh-Vombis" by [Clark Ashton Smith](#)

Computer and video games

- [*Sid Meier's Alpha Centauri*](#)
- [*Alien Legacy*](#)
- [*Star Trek: A Final Unity*](#)
- [*RAMA*](#) (based on Clarke's novel)
- [*Freelancer*](#)
- [*FreeSpace*](#)
- [*Wing Commander: Privateer*](#)
- [*The Dig*](#)

- [Doom 3](#)
- [Halo](#) series
- [Mass Effect](#): Mysteries related to an extinct race known as the Protheans figure prominently in the plot and one of the characters you get in your party is a xenoarchaeologist. Also, it's a profitable business, giving rise to various "paleotechnological" companies recovering functioning devices, which are often superior to indigenous technology of the 22nd century.
- [Civilization: Call to Power](#)
- [Star Wars: Knights of the Old Republic](#) (Although the Star Wars saga doesn't take place in our Galaxy or the human timeframe; the game's main concept is discovering traces of an [ancient stellar empire](#) of unknown aliens that existed before the [Galactic Republic](#))
- [Resistance](#)
- [StarCraft](#)
- [Aliens vs. Predator](#)
- [Aliens versus Predator](#)
- [Dead Space](#)
- [Borderlands](#)
- [Metal Fatigue](#)
- [Marathon 2: Durandal](#)
- [The Lacuna Expanse](#): There are many buildings that were left behind on hundreds of thousands of planets by a mysterious species known only as "the Great Race".

Movies

- [Alien](#)
- [Stargate](#)
- [Doom](#)
- [Indiana Jones and the Kingdom of the Crystal Skull](#)
- [Alien vs. Predator](#)
- [Prometheus](#)
- [Destination: Outer Space](#) features a robot that visited Earth over two thousand years ago.^[26]

Television

- [Babylon 5](#)
- [Star Trek](#)
- [Stargate](#)
- [Doctor Who](#)
- [Stargate SG-1](#) and its spinoff [Stargate Atlantis](#)