

# Come out, come out, wherever you are



## Types cast Seth Shostak's guide to fictional aliens

### Alien

This vicious creature, with more teeth than a bandsaw, would never survive in the galactic gene pool. Its eggs sit around on worthless planets, hoping an ailing spacechild will find and investigate. The eggs explode in an intruder's face, implanting an alien embryo. After a hasty gestation, the creature emerges: its own case of saucer delivery, bursting from the host's chest. This is similar to the repulsive reproductive cycle of the ichneumonid wasp. Imagine it's making human babies required a biologically compatible visitor from another world. It's far more efficient to find a partner for reproduction at the pub. Alien's scheme is going to have a very low yield.

### Daleks

Americans like anthropomorphic aliens; the British prefer Daleks, who resemble oversized salt shakers with smallpox. These aggressive creatures, the mutated remnants of a nuclear war on their home planet, roll around in tank-like epidermises. But if they're advanced enough to manage interstellar contact, why can't they do some genetic engineering and burden themselves of those debilitating mutations? Their metal mantles seem unsuited to locomotion on anything rougher than a studio floor. Imagine Daleks at the beach. Flitting an extra motor and a 25¢ metal tinny bag would at least make it useful for vacuuming the living room.

You never write, you never call...  
Tim Radford on the puzzle of the absent alien: inspiration for art and astronomers and soon to star in a Science Museum exhibition

IT became a star without ever turning up for an audition. Alien life is the ultimate paradox: everybody knows what an alien looks like but no one has ever seen one. The universal neighbourhood could be crawling with citizens but none ever popped round to say hi.

The extraterrestrial has spawned good books, mediocre art and bad movies; provoked serious speculation and a new science called astrobiology; and triggered a 400-year religious and philosophical debate, all without putting in a single appearance. If life exists on Earth – a nondescript planet orbiting an undistinguished star in a neither-here-nor-there galaxy in an ordinary corner of the universe – then it ought to exist on at least some other planets around a proportion of other

stars in at least a selection of other galaxies. There are at least 200bn galaxies, and each may be home to 200bn stars. Even if the evolution of a sentient, intelligent, technologically aware civilisation is rare, the firmament should still be fizzing with life.

But, as the physicist Enrico Fermi once asked, in a question now known as Fermi's paradox: "Where is everybody?" The alien is one of two possible answers to life's great question: is all this just for us? But if the alien exists, then alien civilisations would have begun to ask themselves the same question perhaps a billion years ago. The heavens should be ringing with long-distance calls, the galaxy buzzing with randomly directed robot probes. Forget about UFOs, Area 51 and the Men in Black: nobody so far has tried to get in touch.

That hasn't stopped humans hoping for a call from Alpha Centauri or An-

dromeda Central. A new exhibition – it will open in October – in preparation at the Science Museum in London will underscore just how ardent that hope has been. Contemporary humans have populated the heavens with Little Green Men and Mister Merciless, Mr Spock, the Klingons and the Borg, Daleks and Monsters from Mars, the Pod People and the Thing from Outer Space but wistful wondering about other worlds began a long time ago: before Copernicus, Galileo and others had firmly established that Earth was a planet, just like Venus or Mars.

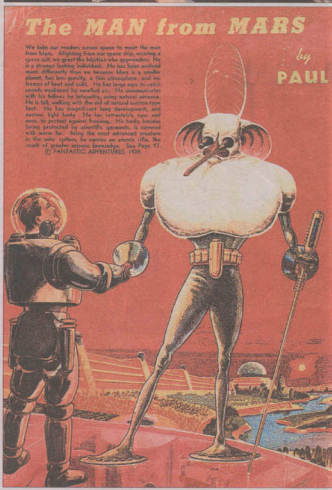
Epicurus wrote to Herodotus in 300BC proposing there could be "infinite worlds both like and unlike this world of ours" inhabited by "living creatures and plants and other things we see in this world". Kepler thought it highly probable that Jupiter was inhabited and Christian Wolff in 17th century even worked out what a Jovian

might look like. If bodily size was proportional to the eye, and the square of the diameter of the pupil was inversely proportional to the intensity of available light, and if Jupiter was 26½ times further from the sun it would get 5/26 times the available light so, bingo, a Jovian would need to be 1,400ft tall.

The astronomers Herschel and Bode proposed that even the sun might be inhabited, Benjamin Franklin wondered

about the conditions of the people who lived on Mercury, so close to the sun; and a Scottish clergyman called James Dick in 1826 speculated there might be 2.4bn inhabited worlds within the visible universe. In 1837, he went further. He reasoned that the population density of England at 290 souls per square mile meant 53 billion lived on Venus and more than 8 trillion people might dwell on the rings of Saturn.

Puzzlingly, until 1898, when HG Wells wrote *The War of the Worlds* and supposed an invasion of technologically superior, malevolent Martians, human attitudes to citizens of other planets were mostly benign. Emily Bick, curator in South Kensington and one architect of the exhibition on the science and psychology of aliens, reckons that Europeans began to project their fears of the unknown on aliens at about the time they completed their exploration of the globe.



Cover  
story