

ALIENS

Science asks: Is Anyone Out There?

Edited by Jim Al-Khalili

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Monsters, Victims, Friends: Aliens in Science Fiction Writing

Ian Stewart

If it is just us, seems like an awful waste of space.

– Carl Sagan, *Contact*

‘On and on Coeurl prowled ... Jagged black rock and a black, lifeless plain took form around him. A pale red sun peered above the grotesque horizon ... His great forelegs twitched with a shuddering movement that arched every razor-sharp claw. The thick tentacles that grew from his shoulders undulated tautly. He twisted his great cat head from side to side, while the hair-like tendrils that formed each ear vibrated frantically, testing every vagrant breeze, every throb in the ether.

‘There was no response. He felt no swift tingling along his intricate nervous system. There was no suggestion anywhere of the presence of the id creatures, his only source of food on this desolate planet. Hopelessly, Coeurl crouched, an enormous catlike figure silhouetted against the dim, reddish sky line, like a distorted etching of a black tiger in a shadow world.’

In a few sentences, A. E. van Vogt introduces an alien world, an alien monster, and a disturbing sense of menace. ‘The Black Destroyer’ was published in *Astounding Science Fiction* in July



1939. Inspired by Darwin's voyages, it was expanded into the novel *The Voyage of the Space Beagle*.

Aliens are not just literary furniture; they are usually present to make a point. It may be trite (it can be wise/foolish [delete where inapplicable] to fear the unknown) or subtle (do not assume that strangers share our attitudes and customs). It may be political (maltreatment of aliens as criticism of human colonialism or racism), or social (normal behaviour of 'filthy' aliens illuminating our puritanical tendencies, as in Brian Aldiss's *The Dark Light Years*, whose aliens wallow communally in their own excreta because it provides essential lubricants for their skin). Van Vogt's main point was to advocate holistic thinking as opposed to narrow specialism. He embodied this idea in a fictional and lightly sketched approach to knowledge, which he called nexialism. The ship's nexialist, the sole crew member proficient in this new field, is constantly discriminated against by his more narrowly specialist companions, who see his all-encompassing field of science as vague and flaky. But it is nexialism that ultimately leads to the catlike beast's defeat.

Van Vogt's story lies firmly within one of the main categories for SF about aliens: *first contact*. In these tales, humans and aliens, each blissfully unaware of the other's existence, meet. The main thrust of the story is how they handle the experience. The fun comes from devising unusual circumstances for the encounter, inventing imaginative aliens, and playing these two ingredients off against each other.

Another common category is *alien invasion*, a militaristic form of first contact. In most cases, *they* are aware of *us*, but we are not aware of them until the 10-kilometre spaceship is hovering over Washington/Berlin/Tokyo, backed up by a vast invasion fleet. The progenitor of all such stories is H. G. Wells's *The War of the Worlds*, in which Martians land their cylindrical spaceships near London. Their appearance is horrific: 'a big, greyish, rounded bulk, about the size of a bear ... [it] glistened like wet

leather ... There was a mouth under the eyes, the brim of which quivered and panted, and dropped saliva.' The Martians attack with tripod fighting machines and a deadly heat-ray; a swarm of refugees heads out of the capital towards the coast. We learn that the Martians are little more than disembodied brains with 16 tentacles, which feed on fresh blood. Ultimately humans are saved by a Martian blunder: the invaders have no immunity to earthly bacteria.

Sometimes we are the invaders. A classic instance is Robert Heinlein's *Starship Troopers*, in which human armies drop from the heavens to exterminate alien races (referred to by derogatory terms like 'skinnies' and 'bugs'), with extreme violence, zero compassion, and every indication of relish. The book appears to be a propaganda vehicle for Heinlein's right-wing views, and was and still is offensive to many. However, irony is easily misread, and it has never been totally clear whether Heinlein was advocating crass militarism or exposing its immorality. The book remains controversial more than fifty years after it was published. Its aliens are cardboard caricatures, but we see them only through the eyes of the troopers who are slaughtering them.

Sometimes the alien invaders are benevolent. The classic story here is Arthur C. Clarke's *Childhood's End*. As their spaceships hover silently above Earth's major cities, the Overlords enforce peace on humanity without ever appearing in person. Only when our world has become a Utopia do they reveal themselves: they are black, with leathery wings, horns, a barbed tail – the race-memory image of devils. We are told, firmly, 'The stars are not for Man.' We are too untrustworthy to join the Overmind, the collective of galactic races. But the Overlords evolve a new breed of ethically superior human, and when they leave they take the children with them.

'Widescreen baroque' stories are set in a Universe already teeming with intelligent life forms, with an established – though often fragile – political order into which humans innocently



blunder, causing mayhem. In David Brin's 'uplift' series (*Sundiver*, *Startide Rising*, *The Uplift War*, plus three later titles), humanity suddenly becomes aware that ancient races carved up the Five Galaxies a billion years ago. There is an elaborate, long-established pecking order; almost literally, because one such race, the cruel and fanatical Gubru, is avian. The sole route for new races to join the galactic club is uplift by existing members, known as patrons, through genetic modification and other technological interference. As payment, the uplifted are indentured to their patron for 100,000 years.

A fourth category is simpler: *alien as monster*. Here the role of the alien is to scare the reader and showcase the indomitable human spirit in the face of dire adversity. Or, more often, to have some mindless fun with gore and extreme violence. Aliens can play several roles simultaneously – Coeurl's is partly that of monster, but mainly to illustrate the superiority of nexialism.

Science-fictional aliens are primarily driven by narrative imperative, with occasional gestures towards scientific realism. There is nothing wrong with that; Shakespeare did the same with regard to historical realism, and it did no harm either to his reputation or his plays. Some SF authors construct an 'invisible book': an elaborate scientifically consistent setting, not presented to the reader in any detail, as deep background for their tales. Hal Clement (Harry Clement Stubbs) was famous for his meticulous planning of entire alien worlds and societies. Other writers leap in regardless and let the world unfold according to the needs of the story, with occasional blunders.

Narrative structure requires humans and aliens to *interact* to create a story. The easy solution is to invent creatures that inhabit, or at least can survive on, Earth-like worlds. More imaginative approaches have also been tried; James White's Sector General stories centre around an intergalactic hospital engineered to provide hundreds of different environments – any extreme of heat or cold, any level of gravity, any kind of atmosphere. All species

have a four-letter classification: humans are DBDG, while Illensan chlorine-breathers are PVSJ. Dr Prilicla, classification SRTT, is an empath, able to sense his patient's feelings.

Most SF aliens fall into a small number of basic categories. Intelligent humanoids are common, often differing from us in relatively trivial ways such as green or blue skin, huge eyes, unusual height, excessive aggression or timidity. The Sirians in Eric Frank Russell's humorous *Wasp* are much like us, but with purple faces, pinned-back ears, and bow legs. This resemblance is crucial to the plot, allowing the minimally disguised Terran James Mowry to infiltrate and sabotage Sirian worlds. Almost as common are aliens like Coeurl, modelled on terrestrial animals but with a few exotic add-ons: cat-like, bird-like, lizard-like, insect-like. The Kzin in Larry Niven's *Ringworld* series (and other 'Known Space' tales) are modelled on tigers, and their gut reaction in tricky situations is 'scream and leap'. They develop over the series and it is fascinating to see them struggling to control their aggressive instincts.

Next in order of strangeness come aliens that differ significantly from terrestrial life forms, but still live on planets. Clement's *Mission of Gravity* sets the standard. Mesklin is a rapidly spinning, highly eccentric ellipsoid, whose distorted shape and centrifugal force cause its surface gravity at the poles to be seven hundred times that at the surface of the Earth. At the equator, however, humans can tolerate the force of gravity for a few hours, because it is 'only' three times as strong as the Earth norm. This makes direct contact between humans and aliens possible. The intelligent Mesklinites are similar to centipedes, keeping low to the ground to survive these huge forces. A galactic research project run from Earth enlists their aid to recover a gravity-probe that has crashed near the South Pole. Their adventures allow Clement to examine the physics of a high-gravity world, and a twist at the end reveals the natives to be a lot smarter than humans think they are!

Alien monsters are often drawn from human mythology, a rich and psychologically resonant source of existential terror.



Ancient cultures often depicted gods as a weird mixture of parts of different creatures, such as a human with a jackal's head, or a winged lion with a human face. Early SF writers often defaulted to similar plug-and-play alien building; Coeurl is part cat, part octopus. It is still the default in SF movies: when it comes to subtlety, Hollywood is about fifty years behind the written word (see Chapter 15).

Masters of hard SF – where the science is expected to be correct, save for the time machine, warp drive, or other revolutionary innovation that propels the story – pay a great deal of attention to the physical sciences, but tend to skimp on the biology. There is a good reason for this. You can imagine a new creature, and endow it with a very wide variety of attributes – six legs, five eyes, scales, feathers – without obviously violating any biological principles. In contrast, you can imagine a new chemical element, but you then need a PhD in quantum mechanics to figure out how it behaves. However, this flexibility is deceptive. Biology, too, has constraints, notably evolution. And here, many stories miss a trick. It seems unlikely that van Vogt wondered how his monster *evolved* the ability to suck the life force ('id') from other creatures. His aim was entertainment, not scientific plausibility. Frank Herbert never gave a satisfactory explanation of how the gigantic sandworms in *Dune* could exist on a desert planet, even though a key character was an Imperial Planetologist. Wells assumed that his Martians would be susceptible to terrestrial bacterial infection, without considering the deep evolutionary relationship between parasite and host, and failed to ask whether human blood could plausibly be a source of nourishment for creatures from another world.

Biologically realistic themes are becoming more common, however. *Legacy of Heorot*, by Larry Niven, Jerry Pournelle and Steven Barnes, is rooted in ecology. Humans colonise the fourth planet of Tau Ceti, and name it Avalon. They make their base on Camelot, a small island, to assess the local ecology, which seems benign. But when a calf is found dead with its bones neatly sheared

off, they discover the presence of a predator much like a Komodo dragon, but with a thick spiked tail. Then the monster accelerates to an incredible velocity, and kills one of the colonists. They call it a grendel, after the monster in *Beowulf*. Grendels store an oxygen-rich chemical, *speed*, which powers their unbelievably rapid movement. Initially grendels are seen as mindless monsters, but in the sequel, *Beowulf's Children*, second-generation colonists, born on Avalon, start to understand them better, and the monsters become subtler. The underlying theme of the books is the need to view creatures in the context of their ecosystems. Disrupting a complex network of interactions between species can lead to unforeseen results.

The same is true on a more personal level, a theme that Philip José Farmer explored in 1952 with *The Lovers*, a controversial short story published in *Startling Stories* that examines alien reproductive biology. On the planet Ozagen, inhabited by pale green aliens, the human Hal Yarrow meets Jeanette Rastignac, an entirely human-looking woman. Contrary to the prevailing religion, the Sturch, he has a prolonged and passionate sexual relationship with her. She insists on certain precautions, but he secretly gets round these and she becomes pregnant. Only then does he discover, too late, that she is not human, but an alien mimetic parasite. When her species reproduces, larvae grow inside her body and eat her from the inside. Yarrow's grief triggers a revolt against the Sturch and an Ozagenian insurrection, neither of which assuages his conscience. The mimicry would need to operate on a deep biochemical level for the union to be fertile, but Farmer does pay some attention to the biological underpinnings.

Sex in SF was considered offensive by many in 1952, but by 1979 speculating about the sexual habits of aliens had become mainstream. John Varley's trilogy *Titan*, *Wizard*, *Demon* is set inside a giant wheel-shaped artefact orbiting Saturn, filled with an endless variety of strange creatures. Among them are titanides, like centaurs but with the twist that both the human at the front



and the equine at the back possess functional genitalia. This led him to include a catalogue of combinatorial possibilities going well beyond the *Kama Sutra*, especially when it comes to group sex, with its permutations of foremothers, hindmothers, forefathers, and hindfathers.

The most imaginative aliens are plain weird. In *A Fire Upon the Deep*, by Vernor Vinge, we meet the doglike tines. They have long slender necks and ratlike heads. They operate in small packs, which often behave like a single entity. Each tine has a tympanum, a stretched membrane like a drum, which lets it translate its thoughts directly into sound waves, which it broadcasts to the rest of the pack. Here Vinge is encouraging his readers to use their imaginations, by introducing an apparently supernatural ability and then explaining it in terms of orthodox physics. He also reminds us that aliens could reasonably have abilities very different from our own.

Larry Niven's *Outsiders* thrive in the cold vacuum of space. Their bodies contain liquid helium, and they get their energy thermoelectrically by lying with one end in sunlight and the other in shadow. They are thought to have evolved on a small, intensely cold world; as evidence they have leased Nereid, a moon of Neptune, from the Earth government. They are galactic information sales-entities, specialising in faster-than-light interstellar transport systems. They have no business ethics and will sell anything to anyone if the price is right.

Arthur C. Clarke's 'Out of the Sun' tells of a huge jet of gas, expelled from the Sun by what today we would probably call a coronal mass ejection; Clarke describes it as 'an explosion of a million H-bombs'. The sole point of the story is the human observers' gradual realisation that the core of that vast mass of gas is, in some weird way, *alive*.

In *Dragon's Egg*, Robert L. Forward outdoes Clement with the cheela, who live on the surface of a neutron star. Such stars consist almost entirely of neutrons, and they form when a large star collapses under its own gravitational field but lacks the

critical mass to become a black hole. The result is about 10 kilometres across with twice the mass of the Sun. Forward's exotic aliens provide a vehicle for exploring the physics of neutron stars, not always convincingly. For example, the storyline requires the cheela to live their lives at breakneck pace, about a million times faster than humans. As justification: the star rotates five times per second, so its 'day' is roughly half a million times shorter than ours. Forward does not explain how this rapid timescale can be consistent with the relativistic effect of the star's huge gravitational field, which slows time to a crawl at its surface. However, he does state that, in his fictional world, the topic is 'still a subject of debate among experts, since the cheela physiology is so drastically different from human physiology'. The timescale allows the cheela's abilities to overtake those of the humans observing them. The students quickly transcend their teachers; discovering five black holes inside the Sun, the cheela benevolently remove them before they devour our star, using technology beyond human comprehension.

Stephen Baxter's Xeelee sequence explores even more esoteric realms of modern physics. The Xeelee can do (very!) heavy engineering with black holes and event horizons, allowing them to manipulate time by constructing closed timelike curves. They use these as a weapon in a vast cosmic war with photino birds, who are made of dark matter and live deep inside stars. Humans, initially unaware of either protagonist, discover the existence of the Xeelee through high-tech artefacts that they have casually discarded. As humans become the second most advanced race in the Universe, a xenophobic doctrine that places survival of the human race above all other considerations leads them to wage a massive war against the Xeelee, ranging across space and time. We remodel ourselves to inhabit other regions of the multiverse, pocket Universes causally disconnected from all others and thus immune to invasion via closed timelike curves.

'How unlike the home life of our own dear queen,' as one of



Victoria's ladies-in-waiting remarked of Shakespeare's *Antony and Cleopatra*. Baxter's meticulous imagination runs well beyond anything that is scientifically likely, but it comes as a welcome antidote to those blinkered astrobiologists who think that all intelligent life must be very like us. Clarke's short story was aimed at the same point: his alien, ejected from the Sun, was powered by electricity, but 'only the pattern is important; the substance itself is of no significance'.

Blurring the boundaries between living and non-living opens up new realms of speculative fiction. In *Great Sky River* and its sequels, Gregory Benford paints a dismal future for humanity: a battle to the death against implacable aliens that are intelligent but not biological. A mechanical culture is dedicated to eliminating organic creatures from the Universe. Remnants of humanity on Snowglade have survived climate change, brought about by dust clouds that the *mechs* deliberately introduced into the planet's orbit, but now the Family must stay continually on the move to evade the malevolent machines. The setting leads to a great deal of high-adrenaline action, but also permits the examination of deeper issues about machine intelligence when one of the principal human characters has to experience what it is like to have a mechanical 'sensorium' – an artificial mind.

Series can change character as the writer develops the underlying themes. In Orson Scott Card's *Ender's Game*, Andrew ('Ender') Wiggin, led to believe he is playing an elaborate computer game, defeats the invading wasp-like Buggers and destroys their homeworld. On learning the truth, he is appalled by his act of xenocide. In the sequel, *Speaker for the Dead*, he discovers that the extermination has not been total by finding the pupa of a Bigger hive-queen. To atone for his sin he becomes a wandering Speaker for the Dead, relating the stories of beings who have died. In an act that most would consider a betrayal of the human race, he secretly carries the pupa with him, seeking a suitable world for the hive-queen to recreate the Bigger race. A series that began as a fairly

standard shoot-'em-up space war moves to a far deeper emotional and ethical level.

On the surface, SF stories about alien creatures and civilisations often appear to be little more than futuristic Cowboy-and-Indian tales, albeit with hardware more interesting than Colt 45s and bows and arrows. But, as the stories described above make clear, the main role of aliens in well-crafted SF is to provide new and imaginative ways to examine what makes us human. Aliens provide problems for us to overcome, and act as a mirror in which we can examine our own faults and foibles. How we treat aliens, or react to their presence, reveals a lot about ourselves.

We have met the alien, and it is us.

