BOOKS & ARTS

S. SHOSTAK/SETI INST.

Radio telescopes at California's Allen array survey the sky for extraterrestrial signals.

Is there anybody out there?

Paul Davies's latest book argues that the search for intelligent life beyond Earth should be expanded. **Chris McKay** considers why we should look closer to home — perhaps even in our DNA.

The Eerie Silence: Renewing Our Search for Alien Intelligence/Are We Alone In The Universe?
by Paul Davies
Houghton Mifflin Harcourt/Allen Lane: 2010. 256 pp/264 pp. $27/£20

The project to search for extraterrestrial intelligence, known as SETI, will have been running for 50 years this April. So far we've heard nothing. In *The Eerie Silence*, astrophysicist Paul Davies suggests that now is a good time to reassess the programme, re-examine the assumptions and craft new approaches.

Although he is not actively involved in SETI operations, Davies is no stranger to the clan. As chair of the SETI task group that is charged with coordinating a response should an alien signal be found, he gives us a refreshing inside view without being partisan.

Davies reviews the current SETI project: a lot of listening to nothing by radio telescopes pointed at nearby stars. He gives a penetrating analysis of the assumptions that underlie SETI and the entire enterprise of searching for life beyond Earth. The key word here is assumptions: there is no evidence for any life beyond Earth, much less intelligent life. Yet, as Davies points out, the search is solidly founded.

There are reasons to think that life is common and that intelligence may follow suit; equally, there are arguments to the contrary. Davies gives a clear and up-to-date summary of the search for life in all its forms — from scouring Earth for microscopic aliens, through the search for signs of life on Mars and on to possibilities of life and intelligence on planets beyond the Solar System.

He is careful to separate the question of life from intelligent life, and from life that might have the technology to broadcast. These distinctions are often blurred by SETI practitioners, who are primed to think of radio telescopes as a natural product of intelligence and life. Davies cautions that on Earth we have one example of life, one example of intelligence and one example of a culture that led to one set of broadcasting technologies.

The lack of a signal after 50 years of listening has several explanations. Life might be so improbable that Earth is the only planet on which it is hosted. If life is common, then intelligence might be so rare that humans are the only such occurrence in the Galaxy. Davies suggests that it may actually be science, rather than life or intelligence, that is unique to Earth. Alternatively, extraterrestrial signals could be everywhere, but unrecognizable by us. Most ominously, the eerie silence may be due to the inability of all past technological civilizations to survive their own technology.

My own guess is that life is common in the Galaxy but that the intelligence to look for it is rare — and possibly unique to Earth. Because these questions must be answered if we are to understand our place in the Universe, the search must go on.

Although supporting the current quest, Davies recommends bold and sometimes bizarre avenues of exploration. For example, if migratory Galactic civilizations passed this way some time ago, they might have posted an alien message in our DNA or depleted our region of the Universe of some resource, such as (undiscovered) magnetic monopoles. Perhaps they left a device in the Solar System as a calling card, and are patiently waiting for us to discover and activate it. There are many places to look, many ways to expand the search.

Davies devotes pages to what will happen if a signal is received and how we should respond. Most readers will find these questions remote and hypothetical — not least because once a signal is received, events are likely to be quickly taken out of the hands of the astronomers.

The greatest joy of *The Eerie Silence* is the ending, in which Davies gives his own perspective. He splits his personality into three: scientist, philosopher and human. As a scientist, he is sceptical that we will detect extraterrestrial life, yet he finds that possibility plausible as a philosopher and longs for it to be true as a human. Read at least this page, even if you do not have time for the rest of this excellent book. ■

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