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# Worlds Away From Here

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AND now for some counterprogramming. You probably missed it, what with the Boston Marathon bombing, the ricin-laced letters, the fertilizer plant explosion and an entire city locked down while cops hunted the bombing suspect, but we discovered another world last week. [Two, actually](#) — both somewhat larger than Earth, circling a star with the sadly unromantic name of Kepler 62, 1,200 light-years away.

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These planets are not the first Earth-like bodies astronomers have discovered, but their size and position make them particularly promising candidates to have liquid water — and with it, perhaps, some form of life.

But their promise only adds to a mystery that's been building the further our probes and telescopes have pushed into the unknown. If Earth-like planets are relatively common, as scientists increasingly believe, then where are all the Earth-like civilizations?

This mystery is known as the Fermi paradox, after the physicist Enrico Fermi, who raised it at lunch with fellow scientists in 1950. He pointed out that our Sun is a relatively young star, and billions of other suns are billions of years older. If even a tiny fraction of those suns have planets like ours, and even a tiny fraction of those planets developed life, and even a tiny fraction of those life forms achieved human-level intelligence ... well, the number of civilizations capable of interstellar communication and travel should be theoretically large enough to crowd our galaxy with signals, ships, artifacts.

In which case, Fermi asked, Where is everybody?

The potential answers to this question can feel as numberless as the stars themselves. (The Wikipedia entry on the [Fermi paradox](#) runs to just over 10,000 words.) But two seem particularly plausible. Perhaps life and consciousness are rare enough, mysterious enough, impossible enough, that even multiplying Earth-like worlds a billion times over would not necessarily produce either one again. Or alternatively, perhaps the gulfs between the stars are just too wide to bridge, and our current limited attempts at exploration are as far as any creatures of flesh and blood can ever hope to get.

The first possibility obviously raises theological as well as scientific questions. In one sense, it elevates humanity, restoring us to an almost pre-Copernican position in the cosmos. At the same time, though, plenty of religious believers are untroubled (or even inspired) by the idea of extraterrestrial life, while the possibility that the cosmos might be as empty as it is vast raises troubling questions about what, exactly, its Designer had in mind. (“The eternal silence of these infinite spaces fills me with dread,” wrote the great Christian philosopher Blaise Pascal.)

Maybe, an optimistic believer might venture, the cosmos only seems empty because we haven’t fulfilled our destiny and populated it. But here the second possible answer to Fermi’s paradox intervenes: What if it can’t be populated at all? What if our own solar system is as far as we’ll ever get?

Obviously that’s not a question we’re presently equipped to answer, after less than 60 years of spaceflight. But it haunts our era in subtle, unacknowledged ways.

There’s a sense in which Frederick Jackson Turner’s 1893 argument about how the idea of the frontier shaped American history can apply to the entire modern project. Exploration, expansion, the promise that a better life was just a long voyage away — all of these helped fuel the sense of historical mission, the assumption of perpetual progress, which shaped and defined the modern age.

Go back and read the science fiction of the 1940s and '50s, and you'll be struck by the vaulting confidence that this expansion would continue upward and outward, and that a new age of exploration was just waiting to be born.

Today that confidence has vanished. Our Mars rovers are impressive and our billionaires keep pouring money into private spaceflight, but neither project captures the public's imagination, and the very term "Space Age" seems antique. The Kepler 62 discovery might have earned more headlines at a less horrific moment, but it would have fallen out of the news soon enough.

It's possible that we're less interested in space travel because we feel that it's a luxury good at a time when we have bigger problems here on Earth. But it's also possible that we've gradually turned inward, to our smartphone screens and Facebook profiles, because we know that spaceflight isn't going to get us to another world anytime soon.

Obviously exploration is not a cure for unhappiness or evil. But it can be an antidote to the mix of anxiety and exhaustion that seems to permeate the developed world these days.

And after a week as grimly claustrophobic as this one, with its spasms of nihilistic violence, its frantic online rumor mill, its locked-down Boston streets, it seems worth hoping that the human desire for wider horizons — for new worlds to wonder at, reach for and understand — will someday be fulfilled again.

Time to get to work on that warp drive.