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We May Not Have Flying Cars Yet, But Visioneers Are Inventing a New Future

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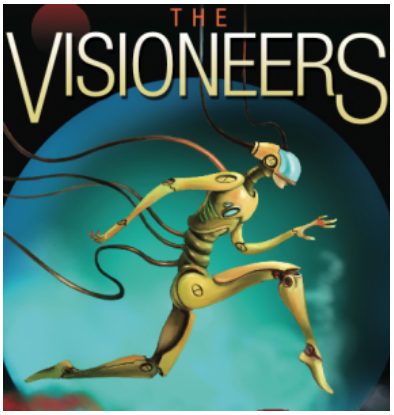

Google the phrase "Peter Thiel innovation is dead" and you'll tune into a conversation launched when the venture capitalist claimed that technological innovation in America is stalled. Thiel isn't the only one with a dour assessment. George Mason University economist Tyler Cowen makes similar points in his book *The Great Stagnation*. In their analysis, it's not just the pace of innovation that is a problem but its very nature. Thiel's pithy assessment – "We wanted flying cars; instead, we got 140 characters" – reflects a wide-ranging dissatisfaction of how yesterday's techno-dreams seemed to have fallen short.

Regardless of whether one agrees with such pronouncements, the attention they've received demands we take a fresh and closer look at the innovation ecosystem. Some denizens of the ecosystem are as easy to spot as colorful birds in a tropical forest – university scientists, corporate engineers, CEOs, investors, and patent lawyers. However, another less observed species can also shape the evolution of innovation in unexpected and sometimes important ways.

If we look at the broader history of technology, we see rare individuals who

have had a clear and strong vision of an expansive future created by technologies they studied, designed, and promoted. Pushing beyond hand-waving and podium speculations, their activities can produce actual things: prototypes, models, patents, and computer simulations. Just as importantly, these people also built communities and networks so they could connect their radical ideas for the technological future to interested citizens, writers, politicians, and business leaders. Think Nikola Tesla in the 1890s or Wernher von Braun in the 1930s or Doug Engelbart in the 1960s.

A neologism of "visionary" and "engineer," *visioneer* captures the hybrid nature of these technologists' activities. The visionary aspect is central – these are people who aren't simply imagining a faster airplane or a new electronic gadget. They present a vision of society as a whole that could be altered, shaped, and improved by technologies they see as necessary and even inevitable. The engineering element is just as, if not more, critical. Visioneers base their imaginings on detailed engineering studies and technical designs. They also engage in another form of engineering as they build communities of supporters and patrons. At its core, visioneering entails developing a broad and comprehensive vision for how the future might be radically changed by technology, doing research to advance this vision, and promoting one's ideas to the public and policy makers in the hopes of generating attention and perhaps even realization.

Visioneers and the communities of researchers, futurists, and entrepreneurs they attracted have often existed at the blurry border between scientific fact, technological possibility, and optimistic speculation. Their design, imagining, and promotion form part of a longer chain of technological enthusiasm that has marked so much of America's history. They are important to the growth, diversification, and health of today's technological ecosystems.

Nonetheless, visioneers and their supporters are not immune to the lures of profit, celebrity, and sensationalism. And, as their ideas receive wider attention and publicity, they must work to defend the purity and original goals of their visions. In the 1970s, Princeton physicist Gerard O'Neill achieved international recognition by advocating settlements and factories located off-world. O'Neill's visioneering for the "humanization of space" might seem pure sci-fi today – space colonies? really...? But when seen in the context of the immediate post-Apollo era when fears of overpopulation and resource shortages permeated public discussion and pop culture, O'Neill's ideas appear less far-fetched. However, when Timothy Leary (yes, *that* Leary) tried to put his own spin on O'Neill's visioneering, the Princeton scientist was obliged to draw distinctions between his own radical ideas, grounded as they were in physics and engineering, and the former LSD guru's spacey interpretation.

Today, we can see someone like Elon Musk as a "visioneer" – someone who combines scientific or engineering prowess (in Musk's case, a degree in physics) with an expansive view of how new technologies could upend traditional economic models and shape the future. Musk's recent successes with SpaceX is a realization, in some ways, of the vision O'Neill had circa 1975 for alternative paths to explore space and expand people's presence there.

Visioneers can play an increasingly important role in building the technological ecosystems of tomorrow. The Singularity University's programs are one way that this could be encouraged (although SU's educational approach to entrepreneurship is distinctly shaped by neoliberal economics).

By combining broad views of the future with technical skills, experience, and research, visioneers take speculative ideas out of the hands of sci-fi writers and technological forecasters and put them on firmer ground. Although visioneers' ideas may sit outside the mainstream, their work secures a beachhead for exploratory notions. By inspiring (or provoking) people, visioneering reveals the future as a terrain made rough by politics and economics as well as people's hope and anxiety.

So – is innovation dead? Coming back to Peter Thiel's catchphrase, we DO have flying cars. The first ones flew in the 1930s, in fact. But, using the much-lamented flying car as proxy for expectations of the future that didn't happen as planned, we see that achieving success demands more than just showing that something is technically possible. Visioneering helps capture the diverse set of activities required to push the frontiers of innovation.

We want and need people to come forward with big ideas. Visioneers can help define the outer edge of what's possible and, if nothing else, push other scientists and engineers to think about what future and its technologies might be like. For visioneers, the past is merely a prototype, a provisional plan for what may become a magnificent and perhaps less limited future.
