

Looking Back: The Wonders We Didn't Expect

By Paul Saffo

It has been a wild ride of a century full of expected wonders. Molecular manufacturing became a reality well before 2050, turning all sorts of once-valuable materials into commodities, and yes, we even eventually got flying cars.

But the century also came with a rich harvest of utterly unexpected surprises and the stubborn persistence of some things we thought had been left behind in the twentieth century. Here are a few of the outcomes you never guessed back in 2012:

- **Ownership is so twentieth century.**

My generation looks back with nostalgia on a time when we actually owned things. Compared to 2012, we have access to an astounding bounty of goods and services, but we don't really "buy" things anymore because everything comes with strings (and license agreements) attached. In much the same way that you subscribed to software and e-books, we now "subscribe" to physical objects.

- **Longevity arrived, but with limits and for a price.** Life extension remains a work in progress. Sure, 100 is the new 60, but 130-year-olds remain a curiosity. The debate still rages over whether or not there is a hard-wired limit in the human organism. In the meantime, longevity ain't cheap, and the cost of im-



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mortality rises exponentially as individuals enter their second century.

The result is a new societal divide between the chronological haves and have-nots: The wealthy "old turtles" move at a stately pace, making long-term plans, while the "may-fly" poor die out decades earlier. It has created vexing issues around the distribution of wealth and power.

- **Life everywhere, but where's ET?**

A century's worth of space exploration has turned up all sorts of weird life forms. The extremophiles found in Earth's hellish niches back around 2000 are prosaic compared to the astounding range of what constitutes life on our

nearby neighbors. Life has turned up everywhere we look, with the implication that life just wants to happen no matter how improbable the environment.

We also stopped counting Earthlike planet discoveries early in the twenty-first century, but astoundingly, we still have no clear evidence of ETs—extraterrestrial life forms that we can communicate with—despite a century of searching. Perhaps the answer to Fermi's question ("Where are they?") might be an existentially unnerving realization that we are terribly, profoundly alone. This could, of course, change tomorrow, but in the meantime, we can at least talk to our robots and the count-

less AIs haunting the global noosphere.

- **Discovery has deepened mystery.**

I can't even begin to catalog all that has been discovered in the last century, but with our new knowledge has come a new appreciation of just how vast and mysterious the universe is. J. B. S. Haldane got it right way back in 1927 when he observed that "the Universe is not only queerer than we suppose, but queerer than we *can* suppose."

The astonishing consequence has been a religious resurgence. In 2020, science's relentless explanatory logic had believers on the run, but in the decades that followed, it became clear that an ever stranger, more capacious universe had ample room for the divine, the spiritual, the mystical, and the mysterious.

The result has been a repeat of Jasper's Axial Age on a smaller scale, as new belief systems have proliferated. Many of your late-twentieth-century cults are all respectable and spruced up, and Atheism itself has become a mainstream faith, complete with its own rituals. It all seems a bit less than rational, but like Bohr's horseshoe ("I am told that it will bring good luck whether or not I believe in it"), it gives us comfort as we look out over the giddy vastness that is the frontier of the twenty-second century.