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Gravity. Such a familiar concept, present in every language and culture, yet one that scientists have struggled to understand for millennia. It is the overarching miracle connecting everything, everywhere, forever in the Universe. Universal in every sense. As humans, we may think of it as the hidden force that keeps us firmly planted on Earth, the reason why the Earth orbits the Sun, or the interaction that allowed the Milky Way and its hundreds of billions of stars to form. But that barely hints at its true significance. Gravity is the reason why the Universe itself can even exist and evolve. It elevates space and time from mere pieces of scenery into central actors in the unfolding drama of reality. As we embrace gravity, we can't help but also pit ourselves against it: leaping, floating, or flying as we pursue brief moments of freedom from its command. I, for one, have been chasing gravity my entire life—seeking, like so many scientists who have come before me, to unravel its deepest mysteries.

Imagine yourself alone in the cockpit of a small, single-engine aircraft, patiently orbiting on the tarmac for the local ferry air