

last it reaches us and its being beats through our brains and arteries . . . It is possible to believe that all the past is but the beginning of a beginning, and that all that is and has been is but the twilight of the dawn. It is possible to believe that all that the human mind has ever accomplished is but the dream before the awakening . . . Out of our . . . lineage, minds will spring, that will reach back to us in our littleness to know us better than we know ourselves. A day will come, one day in the unending succession of days, when beings, beings who are now latent in our thoughts and hidden in our loins, shall stand upon this earth as one stands upon a footstool, and shall laugh and reach out their hands amidst the stars.

—H. G. Wells, "The Discovery of the Future," *Nature* 65, 326 (1902)

THE COSMOS WAS DISCOVERED ONLY YESTERDAY. For a million years it was clear to everyone that there were no other places than the Earth. Then in the last tenth of a percent of the lifetime of our species, in the instant between Aristarchus and ourselves, we reluctantly noticed that we were not the center and purpose of the Universe, but rather lived on a tiny and fragile world lost in immensity and eternity, drifting in a great cosmic ocean dotted here and there with a hundred billion galaxies and a billion trillion stars. We have bravely tested the waters and have found the ocean to our liking, resonant with our nature. Something in us recognizes the Cosmos as home. We are made of stellar ash. Our origin and evolution have been tied to distant cosmic events. The exploration of the Cosmos is a voyage of self-discovery.

As the ancient mythmakers knew, we are the children equally of the sky and the Earth. In our tenure on this planet we have accumulated dangerous evolutionary baggage, hereditary propensities for aggression and ritual, submission to leaders and hostility to outsiders, which place our survival in some question. But we have also acquired compassion for others, love for our children and our children's children, a desire to learn from history, and a great soaring passionate intelligence—the clear tools for our continued survival and prosperity. Which aspects of our nature will prevail is uncertain, particularly when our vision and understanding and prospects are bound exclusively to the Earth—or, worse, to one small part of it. But up there in the immensity of the Cosmos, an inescapable perspective awaits us. There are not yet any obvious signs of extraterrestrial intelligence and this makes us wonder whether civilizations like ours always rush implacably, headlong, toward self-destruction. National boundaries are not evident when we view the Earth from space. Fanatical ethnic or religious or national chauvinisms are a little difficult to maintain when we see our planet as a fragile blue crescent fading to become an inconspicuous point of light against the bastion and citadel of the stars. Travel is broadening.