

Exploring the Universe

by [Robert Lewis](#) (April 2024)



Photo of the Eagle Nebula taken by Hubble in 1995

*We shall not cease from exploration.
And the end of all our exploring will be to arrive
where we started.*

And know the place for the first time. –T.S. Eliot

Time ... perpetually perishing parts of succession.
–Thomas Hobbes

Man's curiosity knows no bounds. From his humble nomadic beginnings, we find Homo sapiens ceaselessly, compulsively, obsessively looking beyond his known world for better worlds. This has been his way in the world, self-driven to make known the unknown, the success of which relieves him of the fear and anxiety that feed off and fester in the unknown.

In approximately 2000 BC (Mycenaean era), millennia before the Age of Reason, the desire to explain and demystify the unbound, unknown world resulted in the birth of the mythopoeic universe and its constellation of gods and goddesses. Hostage to the multitudinous contingencies of life, man was not constituted to get from one day to the next without accounting for random events of nature—earthquakes, volcanic eruptions, tsunamis—against which there is no pre-emption or escape. Thus, the twin-terrors of thunder and lightning were transmuted into the language of the angry gods while the goddesses of fertility and the gods of war were invented to explain the giving of life and its protection. But under the auspices of the Greeks, beginning in 500 BC, the mythopoeic world could not withstand the development and formalization of logic and mathematics, just as in our time religion has been steadily declining since the Industrial Revolution, albeit continuing to exercise a modicum of influence in the less developed world.

When the unknown is rendered known, man happily discovers he is able to make wiser, more pragmatic decisions in every aspect of his life; and once accomplished he is rewarded with an endorphin high, which he apparently can't get enough of. Thus, our curiosity, the urge to explore and make familiar the

unfamiliar, is written into our DNA and is cognate with the survival instinct.

If once upon a time man knew next to nothing about the world other than the territory he occupied, he has now mapped not only every inch of the planet but, thanks to continuing developments in telescope technology (Hubbell 1990, Webb 2021) he has begun tentatively to explore the depths of outer space.

However, because of inferior science and technology, man has not physically travelled farther than the limits of his planet and its not so faraway moon (3 days by spacecraft), the hard facts of which remain a continuing source of frustration because he cannot inhabit, make more familiar the faraway stars and galaxies detected by his prosthetic eye, the telescope.

Many of man's technological inventions have been directly inspired by his curiosity to explore unknown environments. Submarines, submersibles and sonar devices were conceived to more thoroughly explore the earth's oceans. But even today, our knowledge of the ocean depths is painfully limited by our inadequate technology which is why only a handful of people have visited deepest part of the ocean, the Mariana trench, and only 5% of the ocean floor has been mapped. Despite much heralded advances in space travel, man has never set foot on the relatively speaking nearby planets, much less explored the depths of space thousands of light years away.

When we ponder the unfathomability of distant galaxies, some of which are millions of light years away, measured against the paltry human life span of 80 years, we must conclude that we will never be able to explore, despite the wishful imaginings of science fiction (Star Trek), the universe and its countless galaxies. And for this cul-de-sac state of affairs, we accuse the limitations of human intelligence, whose highest IQs, ranging between 140 and 200, are restricted to 0.32 per cent of the population.

To better understand the existential significance of IQ, think of what an Einstein can accomplish compared to someone with a 100 IQ, or what that IQ can accomplish compared to a dumb animal. From the point of view of any animal, whose IQ is absolute zero, human accomplishment is immeasurable.

The most accurate indicator of any life form's intelligence is measured by its ability to intelligently, not reflexively, manipulate a given environment. For this reason, IQ should be first and foremost, an existential rather than intellectual distinction. As an abstract quantification, it represents a potential that is still-born in the absence of performance and achievement. It is not only by the numbers that we know human IQ dwarfs ant IQ. We only have to compare human architecture measured against any ant colony to grasp their incommensurability, just as a species with an average IQ of 10,000 would exponentially surpass human accomplishment in every respect.

Since the universe, from its origins to its purpose, is as unknown as it is unexplored, we cannot rule out the possibility that somewhere there exists a species whose average IQ is 1000, or 10,000, beside which our best (Einstein's 200), would hardly register.

Therefore, it is certainly not beyond the realm of possibility that a life form with an IQ of 10,000 would be able to extend its lifespan indefinitely, which would allow it to traverse intergalactic space and, to an uncertain extent, render known what is presently unknown of the universe. If our curiosity to explore outer space is frustrated by IQ and limited human life span, a species with an IQ of 10K might not be hampered by these restrictions.

In order to meaningfully explore and inhabit the universe, that life form would have to be able to survive hundreds of thousands of years of space travel. To most effectively rationalize the confounding distances that describe the reach

of the universe, that life form would have to take on the likeness of light, which travels at 186,000 miles/second. At that speed, it would still require, for example, 2,537 million years to travel from the Milky Way to the nearby Andromeda Galaxy, which, to state the outrageously obvious, renders the human life span spectacularly unfit in terms of the basic criteria required for intergalactic travel. However, if a superior intelligence could convert matter (a life form) into energy (light), and then be able to reconstitute this demarcated segment of light back to its original state upon arrival at a pre-determined destination, intergalactic travel would indeed be possible, which would allow intelligent life to explore the universe much as intelligence allows Homo sapiens to explore the planet earth.

However daunting, if not impossible, are the challenges that lie ahead, there have been small but significant advances. Thanks to the amalgamation of bio-genetics and computer technology the human genome has now been sequenced, which allows for gene markers that correspond to specific traits, especially those related to disease, to be located on a chromosome. By analogy, perhaps one day it should be possible for a beam of light to be mapped or segmented such that a life form converted into energy will occupy a defined position or segment of a trackable beam so that it can be reconstituted back to its original life form.

If this, ad extremum, smacks of the stuff of science fiction, it is only because the IQ required for this kind of achievement represents a leap of faith and/or impossibility that logic must refuse. It remains to be seen, beyond its calculating capacity, whether AI will be able to meaningfully reconfigure human DNA and render it fit for intergalactic travel.

Pierre Teilhard de Chardin, in *The Phenomenon of Man*, observes that the one constant in the history of life, and by extension the universe, is that life continues to evolve into more and

more complex forms, and that intelligence, that is the power to manipulate environments, is increasing over time. There is no reason, theoretical or empirical, to believe that this trend will suddenly reverse.

If there is a prime mover or cosmic intelligence, which for a growing number of theists represents a more rigorous, logical conception of deity, life on the planet earth has evolved to the point where it can rationally contemplate it, and reject the puerile stories that have served as the bedrock of conventional religions. Human intelligence can not only question itself, but ask questions of its ultimate purpose and the nature of its relationship to everything that is that constitutes the universe.

If we hope to make known to ourselves the universe, if intergalactic travel is to become more than a pipe-dream, the first order of the day, of life, of intelligence, will be to convert matter into energy and then back into its original state.

Since life forms on earth have become becoming observably more complex and intelligent over time, we can theoretically conclude that one day life will be able to meaningfully explore, that is inhabit, the universe, and that the creative intelligence that inheres in the universe will become significantly better understood than it is now. With the noted exception of a few deep thinkers and astrophysicists, man can do no better than explain the world through the myths and fairytales of the major and minor religions.

Against this still very settled and stubborn ignorance, it could be argued that secularism, like the first moonwalk, represents one small step for mankind in making better known the many worlds that constitute the universe.

As monotheists presided over the inevitable collapse of the mythopoeic universe, theists are witnessing the precipitous

decline of conventional religion in favour of informal or private belief systems that are more consonant with the recent findings and discoveries of astronomy and cosmology.

If the DNA-deep spirit of curiosity that resides uniquely in man should one day find a home in species that are vastly more capable and intelligent, the great unknown, like a halo that surrounds the universe, will be breached and the exploring life forms will take on its likeness.

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