

Excerpts from Cosmos, Episode 13
“Who Speaks for Earth?”
By Carl Sagan

Which aspects of our nature will prevail is uncertain. Particularly when our visions and prospects are bound to one small part of the small planet Earth. But up there in the cosmos an inescapable perspective awaits. National boundaries are not evident when we view the Earth from space. Fanatic ethnic or religious or national identifications are difficult to support 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.

There are not yet obvious signs of extraterrestrial intelligence and this makes us wonder whether civilizations like ours rush inevitably, headlong to self-destruction.

I dream about it. And sometimes they're bad dreams.

In the vision of a dream I once imagined myself searching for other civilizations in the cosmos. Among a hundred billion galaxies and a billion trillion stars life and intelligence should have arisen on many worlds. Some worlds are barren and desolate on them life never began or may have been extinguished in some cosmic catastrophe.

There may be worlds rich in life but not yet evolved to intelligence and high technology. There may be civilizations that achieve technology and then promptly use it to destroy themselves. And perhaps there are also beings who learned to live with their technology and themselves. Beings who endure and become citizens of the cosmos.

Then, suddenly silence, total and absolute. But the dream was not yet done. Had we destroyed our home? What had we done to the Earth? There had been many ways for life to perish at our hands. We had poisoned the air and water. We had ravaged the land. Perhaps we had changed the climate. Could it have been a plague or nuclear war?

I remembered the galactic computer. What would it say about the Earth? There was our region of the galaxy. There was our world. I had found the entry for Earth. Humanity, third from the sun. They had heard our television broadcasts and thought them an application for cosmic citizenship. Our technology had been growing enormously. They got that right.

About six global powers. The potential to become one planet. Probability of survival over a century, here also less than 1%. So it was nuclear war. A full nuclear exchange. There would be no more big questions. No more answers. Never again a love or a child. No descendants to remember us and be proud. No more voyages to the stars. No more songs from the Earth.

I saw East Africa and thought a few million years ago we humans took our first steps there. Our brains grew and changed. The old parts began to be guided by the new parts. And this made us human with compassion and foresight and reason. But instead, we listened to that reptilian voice within us counseling fear, territoriality, aggression.

We accepted the products of science. We rejected its methods.

Maybe the reptiles will evolve intelligence once more. Perhaps, one day, there will be civilizations again on Earth. There will be life. There will be intelligence. But there will be no more humans. Not here, not on a billion worlds.

Every thinking person fears nuclear war and every technological nation plans for it. Everyone knows it's madness and every country has an excuse. There's a dreary chain of causality.

The bomb dropped on Hiroshima killed 70,000 people. In a full nuclear exchange in the paroxysm of global death the equivalent of a million Hiroshima bombs would be dropped all over the world. In such an exchange not everyone would be killed by the blast and firestorm and the immediate radiation.

There would be other agonies: Loss of loved ones, the legions of the burned and blinded and mutilated, the absence of medical care, disease, plague, long-lived radiation poisoning of the soil and the water. The threat of tumors and stillbirth and malformed children. And the hopeless sense of a civilization destroyed for nothing. The knowledge that we could have prevented it and did not.

The global balance of terror pioneered by the U.S. and the Soviet Union holds hostage all the citizens of the Earth. Each side persistently probes the limits of the other's tolerance, like the Cuban missile crisis the testing of anti-satellite weapons, the Vietnam and Afghanistan wars.

The hostile military establishments are locked in some ghastly mutual embrace. Each needs the other.

But the balance of terror is a delicate balance with very little margin for miscalculation. And the world impoverishes itself by spending a trillion dollars a year on preparations for war. And by employing perhaps half the scientists and high technologists on the planet in military endeavors.

How would we explain all this to a dispassionate extraterrestrial observer? What account would we give of our stewardship of the planet Earth? We have heard the rationales offered by the superpowers. We know who speaks for the nations.

But who speaks for the human species? Who speaks for Earth?

From an extraterrestrial perspective, our global civilization is clearly on the edge of failure in the most important task it faces: Preserving the lives and well-being of its citizens and the future habitability of the planet.

A new consciousness is developing which sees the Earth as a single organism and recognizes that an organism at war with itself is doomed.

We are one planet.

One of the great revelations of the age of space exploration is the image of the Earth, finite and lonely somehow vulnerable, bearing the entire human species through the oceans of space and time.

Alexandria was the greatest city the Western world had ever seen. People from all nations came here to live, to trade, to learn. On a given day these harbors were thronged with merchants and scholars, tourists. It's probably here that the word "cosmopolitan" realized its true meaning of a citizen, not just of a nation but of the cosmos. To be a citizen of the cosmos.

Here were clearly the seeds of our modern world. But why didn't they take root and flourish? Why, instead, did the West slumber through 1000 years of darkness until Columbus and Copernicus and their contemporaries rediscovered the work done here?

I cannot give you a simple answer but I do know this: There is no record in the entire history of the library that any of the illustrious scholars and scientists who worked here ever seriously challenged a single political or economic or religious assumption of the society in which they lived.

The permanence of the stars was questioned. The justice of slavery was not. Science and learning in general were the preserve of the privileged few. The vast population of this city had not the vaguest notion of the great discoveries being made within these walls. How could they? The new findings were not explained or popularized. The progress made here benefited them little. Science was not part of their lives. The discoveries in mechanics, say or steam technology, mainly were applied to the perfection of weapons, to the encouragement of superstition, to the amusement of kings. Scientists never seemed to grasp the enormous potential of machines to free people from arduous and repetitive labor.

The intellectual achievements of antiquity had few practical applications. Science never captured the imagination of the multitude. There was no counterbalance to stagnation, to pessimism, to the most abject surrender to mysticism. So when, at long last the mob came to burn the place down, there was nobody to stop them.

Star stuff, the ash of stellar alchemy had emerged into consciousness. We are a way for the cosmos to know itself. We are creatures of the cosmos and have always hungered to know our origins to understand our connection with the universe.

How did everything come to be? Every culture on the planet has devised its own response to the riddle posed by the universe. Every culture celebrates the cycles of life and nature. There are many different ways of being human.

But an extraterrestrial visitor examining the differences among human societies would find those differences trivial compared to the similarities.

We are one species. We are star stuff, harvesting starlight.

Our lives, our past and our future are tied to the sun, the moon and the stars. Our ancestors knew that their survival depended on understanding the heavens. They built observatories and computers to predict the changing of the seasons by the motions in the skies.

We are, all of us descended from astronomers.

These are some of the things that hydrogen atoms do given 15 billion years of cosmic evolution. It has the sound of epic myth. But it's simply a description of the evolution of the cosmos as revealed by science in our time.

And we, we who embody the local eyes and ears and thoughts and feelings of the cosmos, we've begun, at last, to wonder about our origins. Star stuff, contemplating the stars, organized collections of 10 billion-billion-billion atoms contemplating the evolution of matter tracing that long path by which it arrived at consciousness here on the planet Earth and perhaps, throughout the cosmos.

Our loyalties are to the species and the planet. We speak for Earth. Our obligation to survive and flourish is owed not just to ourselves but also to that cosmos, ancient and vast from which we spring.