Astro-Humanism - A philosophical contribution to the SRI Manifesto.

by Michael Martin-Smith

10/08/2009

Introduction

Our Space Renaissance Initiative is based on the idea that a human(e) civilisation on Earth faces a variety of dangers which threaten collapse and even perhaps human extinction unless Humanity extends its reach - for energy, raw materials, and eventually habitations - beyond the confines of Earth within the next few decades. While most aware people accept that our civilisation faces an existential crisis, there are surprisingly some humans who do NOT believe that Human(e) civilisation is worthy of preservation. Some even call for voluntary self-extermination by advocating mass refusal to breed, or reject technical measures which could preserve civilised life - for example , technologies aimed at detection and prevention of cosmic impacts, acquiring clean plentiful solar energy from Space, thus avoiding climatic change or, even more strongly, creating settlements beyond our planet.

Others, moreover, would accept a denial of life, wealth, and freedom to billions in order to save the Earth or natural order from an excess of Humanity. From acceptance to enforcement would be a short step indeed...

We should, in short, welcome the harsh judgement of a Nature which we have violated, and accept our unworthiness to survive , with grace.

We are therefore confronted with a primary task which we might have thought unnecessary- to address a basic question from which all else follows!

“Why is human life and civilisation so important and worthy of preservation and development?”

My answers are as follows

Astronautical Humanism asserts that human(e) civilisation and its productions of Arts, Sciences, Philosophies and other mental attributes such as Curiosity, Inventiveness, and mental restlessness are an outgrowth of Nature herself, in an evolving- even embryonic- Universe, and serve a clear role . The attempted pitting by anti-humans of Humanity against Nature is pernicious and wrong-headed.

A brief review of the past 13.7 billion years follows!

1/ Since the “Big Bang”, our Universe has shown evolution from simplicity to complexity, often in phase changes- eg successively, energy , matter/energy, early massive stars, galaxies, stars of increasing complexity and "metallicity", planets, biochemistry, complex life and recently, mental life, mind and civilisation.

At the earliest times, matter and energy existed in equilibrium with the four forces (strong and weak nuclear forces, electromagnetic, and gravity, united , contaminated by traces of elementary particles). Cooling rapidly took place, and within three minutes, the first stable charged particles formed in a sea of radiation. At 380,000 years, atoms were formed from charged particles and the Universe became transparent to radiation. Tiny ripples in this background radiation developed over hundreds of millions of years into early protogalaxies in which simple, but massive stars were formed and rapidly exploded as supernovae , contaminating the early Universe with heavier elements. Generations of stars formed heavier elements and dispersed them so that successor stars became more “metallic” – metals in this context being elements above Lithium in atomic mass.

Over billions of years, sufficient dust and dispersed gas clouds containing complex molecules in cool conditions existed to allow planetary formation around multitudes of longer lived stars. This phase could not have taken place until at least two, probably three , earlier generations of stars had been born and exploded, so that we can see an evolution from simplicity to complexity, which some believe to exhibit a phase or stepwise change over time. There was thus a time when galaxies and stars emerged from primordial ripples, when metallic elements and dust arose from generations of stars, when cool molecular clouds allowed planet birth, and so on. Complexity required simple precursors, and like flowers sown in a garden, blossomed at the proper times.

At an unknown time (perhaps on Earth or Mars 4 billion years ago), but, perhaps even earlier in other stellar systems, chemistry became organic chemistry , then biochemistry, and crossed the line we call "Life". This may also have occurred on Europa, Enceladus, and Titan as well as numerous exoplanets or moons yet to be discovered by Corot, Kepler, and other planet seeking instruments, but cool molecular clouds, planets, and highly "metallic " stable stars would have been essential precursor phases.

On Earth at least, simple life prevailed for 3 or more billion years until multicellular life evolved, and we have in effect a phase change to a new order of complexity. It is only within the past 100 million years that we see signs of a new phase in evolution- that of Mind or Consciousness, while culture and civilisation is newer still. Only Mind and civilsation can contemplate its own extinction, while only technical artifice could seek to avert it...

So far as we know, the Human Mind is a very recent development and is unique, in that it can understand the Universe , move out into it, and develop Art, Sciences and Philosophy. Cetaceans are clearly intelligent, but not civilised in this sense. Small raptor dinosaurs set out on the road to Intelligence, but were prematurely extinguished- a clear lesson for us...

2/ We have NO evidence from Search for the ETI or study of UFOs that clearly indicates the presence of any other mindful civilisation in this Galaxy. Of course, this is NOT proof of absence - but it does place upon us a particular value until/unless we are proved not to be alone. Even if ExtraTerrestrial Intelligence is found, our own contribution to an imagined galactic civilisation is likely to be unique and individual. Searches for ETI, by radiotelescope , and more recently optical laser searches, have drawn a blank in half a century, and a leading proponent of ETI, Dr Seth Shostak, has wondered out loud that , if no ETI is found by c 2050, Mind may be much less common in our Universe than we had once hoped...or it may be that the field into which Mind has been sown is only now flowering

3/ Gaia, our living planet , as described by Dr James Lovelock, and as championed- against Humanity- by Earth First environmentalists, has taken some 4 billion years to reach this point. However, Gaia as "Earth Mother" cuts two ways! If Gaia and the idea of an evolving Universe are to make sense, Gaia's role must eventually be procreation, and we are the sole candidate agents for this task. Mind should be seen as the flower of Gaia, and the agent whereby other barren worlds are brought to life, in an enrichment of cosmic evolution. Mind for present purposes means Us...

4/ the collapse/elimination of humane civilisation could therefore be seen as a kind of stillbirth in the phase change model of evolution of our Cosmos - we do after all have a larger role to play, and so must of necessity act to preserve and develop our potential to its full extent. In evolutionary terms, if our Universe is an "embryo", Mind is its emerging nervous system and Astronautics is its mode of spread and development.

5/ Archaic Homo Sapiens from DNA and mitochodrial evidence is about 200,000 years old (Dr Sarah Tishkoff , genetic studies of San tribes in Namibia) including its South African genesis. Fossil evidence points to about 195,000 years old, while migration out of Africa began about 90,000 years ago, while language and culture are more recent still.Hominid species have typically lasted half to one million years. Civilisation dates back to the neo-Lithic about 8-9000 years ago (Catal Huyuk, Turkey) , while human(e)

civilsation, based on science, global exploration, and the First Renaissance, is a mere half millennium old. Astronautics and the "Space Age" is about half a century old. We are therefore a young species, and an even younger civilisation, whose full potential is as yet unfulfilled.

6/ Confinement to Earth risks premature collapse or extinction by economic, Malthusian, violent, despotic, ecological or catastrophic means. Our civilisation is a delicate web which can easily be torn apart, and much less easily rebuilt. (see main body of the SRI Manifesto, and this author's paper, "Can Space Save the Planet?")

In summary, Human(e) civilisation based on Enlightenment values is an absolute, evolutionary advance in the history of our cosmos; it is unsustainable if confined to one planet, ergo it must be dispersed both for its survival and for the further evolution of our Universe.

This means building a future for a biologically meaningful number of humans beyond the Earth while we are able to do so. (cf Prof.Stephen Hawking on the necessity for human spread beyond Earth We can become cosmic gardeners, or cosmic waste matter. It is Space expansion which will decide the issue.