

Space Renaissance Academy Interview - 14/07/2020

For the SR Academy Mentorship Programme

Prof. Paul Ziolo, Psychohistorian



Paul Ziolo (Psychohistorian, Space Renaissance UK)

Mika Curtis (Space Renaissance UK)

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Mentor's Presentation: Paul Ziolo
Psychohistorian at Prime Radiant Associates
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Mika Curtis (MC): Could you tell us about the birth of your interest for human expansion into space?

Paul Ziolo (PZ): My childhood was spent close to St. Mawgan aerodrome in Cornwall - then a site for testing experimental aircraft. Need I say more? I was given 'Dan Dare' Radio Station at the age of 3 (or thereabouts) which led (in the long term) to an interest in astronomy, astrophysics & cosmology. Frequent visits to Goonhilly Downs (Cornwall), led to an interest in radio astronomy, while an old-fashioned (therefore superbly lethal) chemistry set led to an interest in astrobiology. Finally, while doing postgraduate work in Toronto, Canada, I obtained a C8 Celestron telescope and joined a local astronomy club & AAVSO.

MC: What is your personal history and academic background (if any)?

PZ: As a teenager I read Asimov's *Foundation Trilogy* → this created a lifelong commitment to psychohistory.

I also studied Toynbee, Spengler, Sorokin etc. and numerous studies on civilisational collapse. I later studied musicology (medieval and serial music) at

Glasgow (B.Mus), later in Warsaw and Krakow (MSc.). Then computer science and AI at Toronto's CSRG (Computer Systems Research Group) and at MIT (2 PhD's). Then finally psychology and psychohistory at Liverpool (PhD no. 3).

I believe that an understanding of psychohistorical forces is absolutely crucial for the space programme to succeed, and that a basic knowledge of psychohistory will distinguish the real deep space pioneers of the future from today's so-called 'astronauts'.

MC: What is your peculiar vision of space, and of humankind's place/destiny in the cosmos?

PZ: A full answer is contained in my *Nine Configurations of Being* (Prime Radiant Publications 2017). In brief:

It has frequently been said that we should 'first solve our problems here on Earth' before 'bombing off into the wild blue yonder'. I say we will *never* solve our 'problems here on Earth' *until* we have established a permanent foothold in deep space. Only then will we have gained a sufficiently expanded range of technologies, a greatly extended resource base and a sufficiently augmented sense of reverence and wonder in relation to the 'matrix of mystery' in which we are embedded, that will enable us both to tackle the deep problems in planetary ecology that currently threaten our survival *and* to face the Abyss of Being that lies beyond our collective experience. Without this evolutionary leap, there will be no human future.

What we call 'humanity' is part of a wave of organically-embodied sentience which is continually pushing back the frontiers of space and time while 'surfing' on a sea of quantum foam. Although we cannot, at our present stage of development, ascertain the ultimate fate of the Universe with any certainty, we may be sure that *our* collective destiny, along with those of all other sentient species, is intimately bound up with that of the Universe. Some form of final *Synaxis* or *Pleroma* of sentient beings is inevitable.

MC: Do you think humanity is doing everything that is to be done, and that we are on time concerning our evolutionary road to space?

PZ: Humanity's eventual exploration and colonisation of deep space represents an evolutionary leap far greater than that taken by our distant ancestors from sea to land. Such a 'long-jump' will require an extensive period of adaptive adjustment before any further leap into the interstellar domain can be attempted.

Science fiction literature and film reveal that, given our present stage of development we have little sense of perspective, that is to say. we have, as yet, a poor grasp of the realities of time, space, energy, distance and scale, but at the same time

suffer excessively from species- narcissism and species solipsism. These very traits that once conferred adaptive strength during our long history on the Environment of Evolutionary Adaptiveness (EEA) now threaten to become the evolutionary Nemesis of the species.

As I see it, 'natural' humans will *never* colonise space - our posthuman successors will. The issues of hard radiation and zero or micro-G *must* be conclusively solved before humanity can reach even K_2 . This may take another c. 750 - 1000 years - something which may cause dismay to some people, but not to those who are serious about interstellar travel. This is what I mean by 'sense of perspective'.

For humanity to become a spacefaring species, efforts to this end must be made on a planetary scale. The idea of competing 'nations' in this context is simply ludicrous. The energy requirements are too vast. A true 'starship' operating on the Alcubierre drive for instance, would need to have at least the size and mass of a major city in order to cope with Casimir energy densities in a vacuum.

We should also realise that moral and psychological advance are equally as important as technical advance in reaching K_2 and beyond. We will never reach these levels as long as we still struggle with the residue of generic and epigenetic trauma, with our evolutionary drives and with our 'monsters of the Id, and as long as we remain contaminated by Enlightenment' fallacies and errors.

To attain Solar or Interstellar levels, we will need the insights of psychohistory. Psychohistory teaches us to distinguish deep structure from surface variance. It explains the unique psychological origins of our collective 'drive to the stars'. It explains why our civilisation is currently failing, and what we can do to minimise the social catastrophe of collapse, at least in part. Psychohistory can, however, be very disturbing, as it contains deep-level insights concerning human origins, psychology and history which may elicit profound anxieties and which therefore cannot be revealed in the context of this discussion.....

We should understand that television shows such as *Star Trek*, *The Expanse*, *Babylon 5*, *Battlestar Galactica*, *Deep Space Nine* etc. are really not of much use in envisioning our future other than showing us a Future that is merely a 'canvas on which we paint our desires'.

Nevertheless, despite all this, if the $K_0 \rightarrow K_2$ Transition is to be realised, it would seem imperative to establish some kind of

permanent foothold in deep space (that is, beyond the Earth-Moon system) before the constraint and error catastrophes currently affecting global civilisation precipitate a catabolic systems collapse to the point where recovery to our present level may be severely compromised by key resource depletion.

To this end we might establish a '*Chrysalis*' - that is, a transgenerational task-oriented group capable of navigating the chaos and turbulence of the coming Dark Age and hopefully, of sowing the seeds of renewal at a suitable moment in the future. It is entirely possible that the SRI could become the 'seed' or foundation stone of such a '*Chrysalis*'.

If we wish to direct our own future evolution we might consider following the example of Eliezer Ben-Yehuda, Zionist and founder of the Hebrew language revival in Palestine in the 1880's and start with the roots of our species formation - infancy and early childhood. The main task of the '*Chrysalis*' here on Earth might be the education of very young children in advanced scientific fields such as quantum mechanics and thermodynamics. Recent research into early childhood education has shown this to be quite feasible using special methods such as graphics, stories and physical play - methods that appeal directly to the young child's curiosity about life and the Universe as well as to the special gifts children possess at that age, such as an instinctive feeling for topology, and for whom the paradoxes and seeming contradictions of deep science - things that vex adults so completely - are accepted as natural. By focussing in this way on the very young we might considerably shorten the aforementioned time taken to achieve the $K_0 \rightarrow K_2$ transition.

MC: How do you think you can motivate and inspire young generations to do better than what previous generations have done so far in order to sustain human expansion into space?

PZ: Young people are justifiably anxious to 'change' a world they perceive as flawed and unsatisfactory. They should take heart and understand that it is indeed possible to 'change the world'. "*History can indeed be changed,*" wrote Asimov in *Second Foundation*, "*only slowly, and with great effort*". He goes on to say that "*the time taken to achieve historical change is inversely proportional to the number of people seeking to effect that change*", that is, the more agents of change - the faster the transformation. In the complex and uncertain world of today therefore, young people should take comfort in one of the deepest theorems of complexity science - the theorem stating that complex evolving systems are extremely sensitive to initial conditions - and know from this that with steadfast dedication and long-term commitment, radical change is indeed possible.

The key, as I have said, is to establish a transgenerational task-oriented group capable of working across decades or even centuries in order to realise a transcendent goal. This '*Chrysalis*' must be structured and managed in such a way as to avoid the traps and pitfalls that always engulf new initiatives in a late-phase culture, that is to say, *dilution* of the group's goal, *dispersion* of the goal, *degradation*, *dissipation*, or *degeneration* of the group itself as well as *appropriation* of the group's goal for private ends.

MC: Could you send a short message inviting students to adopt some of our themes for graduate theses and to join the Space Renaissance Academy?

PZ: It is likely that every spacefaring species in our galaxy (and in others) has had to undergo trials and calamities similar to those we have endured in our own history before gaining sufficient maturity to advance to Solar (K_2) - and then Interstellar (K_3) status. Delta-v is *not* the only issue in space science. Before they were ready to face the horrors and wonders of deep space, any supposedly 'advanced' extraterrestrial species would have had to learn three things: first, how to acquire *universal compassion* and a *vibrant, empathic appreciation of the infinite potentialities of Being*, second, how to gain a *consummate perspicacity or understanding* of planetary and cosmic-scale ecology and thermodynamics, and third, how to maintain a *steadfast commitment* to working towards their evolutionary destiny of moving beyond their home planet. In addition, they would have come to an understanding of what is meant by a 'species' and that it is the *species* that is the primary focus of cosmic evolution, not the individual. In a future space arcology for instance, it is likely that 'humans' (as we currently understand the term) would no longer be the 'dominant' species. We would have become like mitochondria within a vast machinic entity that would have become fully sentient in its own right.

'They' are out there, boys and girls - moreover, they are calling to us, and saying "get over yourselves and come on up - the weather's fine!"

So let's hear their message - and in the words of Jean-Luc Picard, let's 'make it so'!

See the interview video at <https://youtu.be/1UDJB7DS1Lo>