

# SPACE MIGRATION, SPECIES SURVIVAL, AND GLOBAL RESPONSIBILITY: RECOGNIZING THE NEED TO FACILITATE MIGRATORY ESCAPE VELOCITY

**Dr. George S. Robinson**

There are many comparatively parochial reasons for accelerating both national and international space activities, competitive and cooperative (even those involving humankind in space environments such as the International Space Station). Nevertheless, domestic, international, and global policy makers tend to give short shrift.., even ignore completely.., the cosmic clock ticking with ever-increasing speed as a reflection of its interplay with the evolutionary progress of contemporary humankind.., of *Homo sapiens sapiens*. The reality of that steadily ticking clock compromises the survivability of biological and biotechnological “sentience,” of humankind “essence,” or abstract conceptualization/perception relating to the as yet empirically unknown. But time itself, truly *is* of the essence for the survival of current humankind and its transhuman<sup>[1]</sup> and biotechnologically altered post-human descendants.

The escape velocity of humankind migration off Earth into near and deep space needs a properly placed economic and private sector/public sector catalyst to enhance the relative speed of that velocity. How much longer Earth will be able to sustain life cannot be an ignored question or issue. On the shaky assumption that Earth will not first be destroyed by an asteroid strike or yet to be identified potentially cataclysmic event, the end of the planet’s ability to sustain life as we currently know it will occur between 1.7 billion and 3.25 billion years. The necessary conditions for the existence of human and other complex carbon-based Earth indigent life forms, unless successfully bioengineered to withstand cataclysmic events, will occur sometime during that period of time.

Interestingly, the U.S. National Aeronautics and Space Administration (NASA) established an organizational entity with the ultimate intent of spinning it out from under NASA influence and control -- the Space Propulsion Synergy Team (SPST). The objective was to create a forum of technology developers and users of technology related to the U.S. space program who could “bridge the communications gap” between and among the members without concern for any chilling effect imposed by governmental and industry oversight. The members work primarily in the areas of concept design development, testing and operations, and program/project management. These members, as well as academic experts and others called upon from time to time, continue to have extensive experience in working with contractors, government departments and agencies to help “bridge the communications gap” frequently existing between and among representatives of these various disciplines.

In 2013, the SPST published an article, authored by the president of the organization, in the journal, Space and Evolution (SPAevo), entitled, “The Justification for Human Space Development and Habitation beyond Low Earth Orbit: An Invitation for an open National and

Global Dialogue.”<sup>[2]</sup> The article attempted to refocus and emphasize national and international space efforts on the critical need to enhance and facilitate human space migration efforts as essential for the ultimate survival of the human species and its trans-human and post-human descendants. While the primary focus was on the essential nature of space migration for increasing the chance for survival of humankind’s genome, the article also redirected attention to using this dictate of nature for saving and enhancing the presently diminishing leadership of the United States in most aspects of space-related activities., unmanned as well as manned. The article and subsequent draft White Paper emphasize that the international community, as well as NASA, is “losing extremely valuable time critical for planning and executing habitation beyond low Earth orbit”. This was considered particularly true as “Earth becomes ever less capable of supporting [an exponentially increasing] human population growth”, along with the terminal competitive activities affiliated with overcrowding experienced by any biotic entity competing for resources necessary for genome., and at the very least genetic coding and sequencing., survival and perpetuation.<sup>[3]</sup>

And the clock keeps ticking., for a while longer. Not science fiction.

Under President Barack Obama, the current U.S. space policy does not seem to notice, let alone accept, the critical nature of space migration by the human species. Most ongoing space research and development by the government must depend significantly on international cooperation, both public and private, or a reasonable combination of both. For the present, traditional space-related research and development funding in the U.S. is being diverted to other perceived short- and long-term requirements. Further, past international cooperative programs sponsored by NASA are diminishing in number and importance as current and former partners are withdrawing into their own national efforts, or working with new partners.

These political realities, along with the increasingly limited fiscal opportunities and a current shattering of world economies, makes the necessity of effective global collaboration in ensuring and enhancing escape velocity for human species migration and that of its altered descendants surviving off-Earth, a somewhat questionable prospect; not to mention the most difficult task of convincing the stay-at-home human population to support this migration. But, again, nothing is forever., not even Earth.

In the SPST article and White Paper expanding on the issue of space migration and species survival that was distributed to members of Congress, the Executive Branch, and the general public, SPST recognized this need, but, perhaps unfortunately, in a seemingly more nationalistic rather than global context (i.e., species survival was the motivating construct for funding that is necessary to restore and then maintain U.S. leadership in space exploration, migration, and settlement). The comparatively precious little time available to ensure the maintenance and restoration critical for the necessary planning and accomplishment of permanent humankind habitation beyond low-Earth orbit is being lost. And again, what the White Paper failed to address was the most difficult and fundamental task of convincing the general stay-at-home world population that it would be they who must support the survival of a few select individuals.

Further, the SPST article takes the position that current U.S. leadership “has not provided adequately for a compelling long-term objective with a workable, affordable roadmap – one that is needed to enlist the support of the American people.” Relying on this observation, even though the support of the United States and its scientific leadership in many space-related disciplines remains substantial, the objective must be one of leading toward a global and, ultimately, a trans-global undertaking if we are to create a reasonable expectation of species-kind survival by virtue of the biological dictate of space migration and permanent off-Earth habitation as the most compelling steps toward that survival.

Perhaps an even more subtending factor of space migration is enhancement of the ability of humankind to continue the odyssey of its “essence” and the relative “essences” of its organic predecessors, (i.e., the progressive seeking of the “what” and “why” of Creation and its Creator., the subject of recorded history).

While transitioning from effective short- and long-term international collaboration is essential, that transition also must lay the foundation for a truly global, and then off-Earth trans-global, entity to facilitate the next step; one not constrained by parochial interests and unrelated, debilitating effects of uninformed transitional intergovernmental “politics” and outdated geopolitical delimitations established by constantly changing personally parochial political interests.

If the private sector will be responsible for solidifying and expanding governmental research and development of humankind space migration and settlement, either independently or in reasonable collaboration with an alliance of participating governments, the next step would embrace the structuring of an effective global entity that incorporates and perpetuates the migratory and off-Earth settlement efforts for survival of the human species and its descendants beyond the experimental International Space Station.

Policy-makers and lawyers relying on outdated domestic laws and space-related international treaties do so in large part for the purpose of political interest posturing, and the perpetuation of certain societal representatives of the species. This is particularly clear in the context of drastically imploding national and regional economies, shifting defense alliances, and distracting imposition of policies representing what interest groups believe “ought to be” without identifying and dealing first with “what is”. If these characteristics continue unaltered, they will contribute to a fairly certain loss of the next step in the survival and evolution of Homo sapiens sapiens and its trans-human/post-human descendants.

In the context of focusing upon and developing a creatively effective facilitation and enhancement of a space migration “escape velocity”, the instant author believes that directed capitalism and the free market place, with minimal governmental regulation and involvement in policy formulation, must be explored and pursued as the integral component of managing and directing that escape velocity. Social responsibility of capitalism either exists as an effective., perhaps the most effective., tool for this purpose, or it does not. If there is proper and

significant merit to the role of capitalism and private enterprise, then the ensuing emphasis on a global program directed at humankind space migration should be premised on a strong private sector policy-making capacity and the “exploitation” of access to near and deep space, with a reasonable minimizing impact of commercial regulation imposed by governments. More than ever, it is not that humankind now has access to space for migratory and habitation purposes, but rather how that migration and habitation is implemented.<sup>[4]</sup>

Beyond the next step of globalizing the efforts to facilitate the velocity with which humankind migration and permanent habitation of near and deep space takes place, the most effective approach may well embrace the formulation of a new pseudo-nation in cyberspace; somewhat like the concept leading to off-shore corporations, both for constructive as well as occasionally parochial purposes. What may be most critical at present, however, is the impelling need to attract disciplined and innovative management concepts and methodologies necessary for a globally operating infrastructure that ultimately may lead to a joint private enterprise/ governmental trans-global entrepreneurial entity with quasi-sovereign authority, and perhaps offering a new form of investor citizenship. This approach, although but one suggested for ensuring timely space migration without the impediments of various geopolitical constraints, related and unrelated, would recognize and take advantage of the obstacles and opportunities created by existing cyberspace “nations” operated by cyberpersona.<sup>[5]</sup>

Some of the fundamental questions that must be posed and the answers assessed very carefully when focusing on cyberspace, cyberpersona, and applicable evolving cyberlaw, include those driving factors for off-Earth migration of humankind and/or, just as importantly, the “essence” of humankind and its trans-human and post-human descendants. Although “negative” technologies are potentially shortening the time rather dramatically whereby off-earth alternative ecosystems may be available for humankind migration, adjustment, and survival, humans even now relinquish a significant portion of their individual and collective life support decisions to advancing technology and highly advanced, and advancing, artificial intelligence., in extremis. Computer connections with millions of other interrelated connections globally and off-Earth situated., which cannot be turned off, or even controlled effectively., certainly not in real time., often seem to reflect a willingness of humans to rely to a very large extent on this forum for decision making. In many ways, this type of technology is slowly., perhaps even rapidly, comparatively speaking., usurping, both individually and collectively, human reasoning capacities, whether biotechnologically or without technological assistance. Will this lead to cyberorder or will it result in a cyberanarchy in space that in fact obstructs the potential of a unique cybercorporation designed to facilitate the “escape velocity” of humankind space migration for species-kind survival purposes?

The difficulties involved in formulating a private cybercorporation with quasi-sovereign authority to facilitate humankind space migration are exemplified in part by the 1996 U.S. Telecommunications Act.<sup>[6]</sup> This Act was passed by the U.S. Senate with only five dissenting votes. Certain words prohibited from use in communications could precipitate a \$250 fine per incident violation. The chances are quite reasonable that the vast majority of members of

Congress, both the House and the Senate, had no idea., or very limited understanding., of what constituted cyberpersona, cyberspace, cybernation, cyberlaw, and the like.

In many ways, the metamorphosing definitions of these terms are considered the new, and frequently alien, working dimension of the human mind by various individuals who consider cyberspace to be the “territory” of a uniquely new sovereignty. For the evolving generations, the objective is, and will continue to be, identification of issues and characteristics that form distinctively different conditions embraced by the cyberspace world., and also the evolving cyberpersona of an incomplete species and its potential descendants, anticipating the necessity for constant transition, evolution, adjustment, and survival off-Earth.

Finally, to what extent, and in what fashion, will the role of “escape velocity” play in this form of facilitating space migration for species-kind survival and that of the ongoing odyssey of its “essence”? Falling back on an old phrase characterizing comparatively early forms of interpersonal communications., “Stay tuned”. And more importantly, stay aware.

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[1] Transhumanism is considered an international cultural and intellectual movement with an eventual goal of transforming the human condition by developing and making widely available technologies to enhance significantly the human intellectual, physical, and psychological capacities. Transhumanist thinkers study the potential benefits and dangers of emerging technologies that could overcome fundamental human limitations, as well as study the “ethical” matters involved in developing and using such technologies. They predict that humans eventually may be able to transform themselves into a species with such greatly expanded abilities as to merit the label “posthuman”. For descriptions of what is considered transhuman and also post human in a biojuridical context, see by G. Robinson, “Space Law for Humankind, Transhumans, and Post Humans: Need for a Unique Theory of Natural Law Principles?” in Annals of Air and Space Law, McGill Univ. (2008).

[2] See, therefore, <http://www.eaglehill.us/spaevo>.

[3] In the context of humankind evolution and adjustment as a basic dictate of a secular analysis of species survival, but without disfranchising the importance of “faith” focused on in a humanistic approach, see by G. Robinson, “The Search for Biogenesis and the Lurch toward Space Law Secularism”, in Annals of Air and Space Law 645-712, McGill Univ., Vol. XXXI (2009).

[4] In this context, and for an early discussion of the problematic issues of governmental entities not stepping aside effectively to allow the private sector to use properly for commercial purposes the results of governmental research and development, see by G. Robinson, “Getting NASA out of the Business of Space Business,” in Space Governance, Vol. 1, No. 2, December 1994. See, also, by Robinson “The Future Private Commercialization of Space Resources: Foibles of Applicable Law,” in Annals of Air and Space Law 496-526, McGill Univ., Vol. XXVII (2002).

[5] For initial discussions regarding the establishment of global and trans-global infrastructures formed and implemented in cyberspace to ensure timely migration without the impediments of various geopolitical constraints imposed by national governments and alliances, see by G. Robinson and C. Smith, “Quantum Physics and the Biology of Space Law: The Interstitial Glue of Global Support for Space

Migration and a Proposed Commercial Management Infrastructure”, in Annals of Air and Space Law 367, McGill Univ. Vol. XXXV (2010). See, also, by G. Robinson and R. Lauria, “Legal Rights and Accountability of Cyberpresence: A Void in Space Law/AstroLaw Jurisprudence”, in Annals of Air and Space Law 311, McGill Univ., Vol. XXVIII (2003); and by G. Robinson, “The Search for Biogenesis and the Lurch Toward Space Law Secularism”, in Annals of Air and Space Law 645-712, Vol. XXXIV (2009). It also should be noted at this point that jurisprudential concepts and implementing positive laws that find their genesis in Natural Law Theory describe the manner whereby domestic, international, and ultimately global and trans-global space programs and activities are conducted must be carefully integrated at the outset with the conceptualization, development, and implementation of the relevant space policies and programs. Space jurisprudence or legal philosophy, and the implementing positive laws, share the empirically-based properties of the programs and implementing projects they help formulate and activate. They also are biochemically-based and “quantifiable” disciplines, and must be treated as such by lawyers and non-lawyers alike as space migration is pursued and enhanced in a timely fashion necessary for species survival.

[6] Telecommunications Act of 1996, P.L. No. 104-104, 110 Stat. 56 (1996). This act was signed into law by President Clinton, and reflects the first major change to the Telecommunications Act since its inception in 1934.