

Saving the Human Species and Its Evolving Descendants: The Role of Jurisprudence and Practitioners of Space Law in Safeguarding and Cultivating the Evolution of Humankind's Individual and Collective "Essences"

By George S. Robinson

Abstract

Space migration and off-Earth settlement are increasingly recognized as critical to survival of *Homo sapiens sapiens* and its evolving *transhuman* and post-human descendants. Space jurists and space law practitioners responsible for formulating and implementing the everyday positive laws relating to humankind's space migration must recognize the empirically premised biochemistry directing the potential for such migration. The ensuing discussion addresses how such migration might best be financed and managed by a unifying globalization of the undertaking, perhaps in a unique *cybernetic/cybernation* fashion implemented by *cypersona* as a potential means to minimize the debilitating and frequently destructive impact on humankind's space migration caused by unrelated Earth-indigent geopolitical issues and activities. The role of space law, itself, must be recognized as empirically premised and critical to facilitating such migration, particularly since the key operative phrase, with which all lawyers are familiar, is "time is of the essence." But time, in the context of space migration, also is critical to the ongoing survival and evolution of the as yet empirically undefined "essence" unique to each individual and to its collective species. Failure of survival and evolution of the humankind species and its individual and collective "essence" is not an option.

Keywords: critical, migration, cyberspace, essence, survival, extinction.

Both domestic and internationally collaborative uses of outer space resource capabilities need to be addressed in a managed context that is beginning to shift in certain respects to a comprehensive global regulation of those resources and their exploitation, both by governments and the private sector. In this context, it also is essential to have a driving underlying philosophic construct recognized and accepted globally for pursuing various types of space activities; specifically, human space migration and directly related research and development pursuits critical to species survival.¹

¹ McGill University's Institute of Air and Space Law in Montreal, Canada, held its second Manfred Lachs International Conference on Global Space Governance in May 2014. Since 1999, asserts the Institute, "when the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) was held, the international community has not addressed comprehensively the issue of global space governance.... Meanwhile, numerous developments have occurred in the world in general, and the space sector in particular, that have serious implications for the current and future conduct of space activities by all states. Space lies at the nexus of security, strategic stability and scientific, as well as technological, advancement." See <http://www.mcgill.ca/iasl/manfred-lachs-conference-2014>.

Space *jurisprudents* ... as well as space law practitioners responsible for formulating and implementing the everyday positive laws ... must recognize the biochemical underpinnings of humankind's biological characteristics directing in various ways the opportunity potential for space migration, dispersal, settlement, perhaps mutation, evolution, adjustment, and adaptation necessary for the survival of modern humankind ... i.e., *homo sapiens sapiens*, or contemporary humans, and their evolving descendants. The underlying philosophic construct for implementing these opportunities individually and collectively, shared by all cultures, all societies, and all civilizations, is species and ultimately specieskind survival,² the latter of which include the objects of transhumanism and post humanism.³ Interestingly, and leaving aside the rather ephemeral characteristics embodied in the theory of intelligent design⁴ that imply, if not assert directly, that modern humans are the *intended* (by whom or what?) result of biochemical evolution, perhaps the current representatives of modern humans have already unknowingly met their first extraterrestrials in the form of transitioning offspring, i.e., their own transhuman and post human sons and daughters, grandsons and granddaughters, *ad infinitum*. The substantive underpinnings of this view relate

² For an interesting publication recognizing prominent members of the NASA-established and completely independent Space Propulsion Synergy Team (SPST), i.e., addressing the primary importance of human space migration to be the survival of the species, see John W. Robinson, "The Justification for Human Space Development and Habitation Beyond Low Earth Orbit: An Invitation for an Open National and International Dialogue," *Space and Evolution*, <http://www.eaglehill.us/programs/journals/spaevo/SPAevo.shtml>.

³ "Transhumanism" is considered by some experts to be an international and intellectual movement with the eventual goal of transforming the human condition by developing and making widely available technologies to enhance significantly the human intellectual, physical, and psychological capacities to enhance the potential benefits ... and minimize the dangers ... of emerging technologies that could overcome fundamental human limitations. It also focuses on the "ethical" matters involved in developing and using such technologies. For definitions and descriptions of what currently is considered transhuman, and also post human in a biojuridical context, see G. Robinson, "Space Law for Humankind, Transhumans, and Post Humans: Need for a Unique Theory of Natural Law Principles?" *Annals of Air and Space Law* (2008): 645-712. Post-humans have been defined in various ways, both positive and negative. In certain respects, there is a fear that the definition of human will change radically into describing a totally independent species, perhaps a biotechnologically integrated cyborg that replaces humans in significant, if not all, respects. However, if ongoing research into the proprioceptive or sixth sense of human psychoneurophysiology focuses on a refined form of thought transference that "programs" a post human, will such a post human really be an independent entity? Certain machinery already has characteristics that define biochemical processes ... and certain characteristics of self-replication by nanobots have already been observed. Or will the concept of separate and distinct human "independence" result from physical interaction with the environment, much like humans, from the point of conception ... or even before in the development of the gene coding and sequencing, etc., of the sperm and egg ... throughout the "life" of the individual? Perhaps, more importantly, will humankind be replaced totally by biotechnological or even completely technological machines? Either way, the concept is negative, based upon the prevailing view in many quarters that humans are the pinnacle of secular and humanistic evolution, never intended to be surpassed. Query: What happens to *Homo sapiens sapiens* when biotechnological evolution ... stops?

⁴ Intelligent Design Theory does not deny that the so-called Darwinian theory of evolution has occurred, but it does point out that the theory fails to explain the first cause as well as the biological complexity of human evolution. The theory of Intelligent Design does not advocate a literal interpretation of the Bible; nor is it affiliated with any single religion. Nevertheless, many of its most vocal proponents are conservative Christians. See, generally, the History of the Intelligent Design Theory, at <http://connection.ebscohost.com/science/intelligent-design/history-intelligent-design-theory>.

empirically based cultural institutions, such as “the law,” to the migration, dispersal, and settlement dictates in a synthetic and alien life-support system; and also to the evolutionary principles of biochemistry and physics underlying organic life and its evolution as they are presently understood.

The *humankind* species is now at the point where *ultimate* survivalism is dependent upon, first, space migration financed/managed by unifying *globalization* of the undertaking, and then, perhaps, second, a *transglobal* organizational structure. Such a relatively unique organization might be formulated as a type of private-sector, quasi-sovereign cybernation⁵ or cybercorporation, with no ... or very little ... unrelated geopolitical constraints imposed by earth-indigent governments. The sole objective of such an entity would be, perhaps, responsibility for facilitating the migration of *humankind* off-earth, primarily relying on efficiently managed private-sector entrepreneurial principles. Towards this end, such an approach might start with pursuing an assessment of the potential for ongoing space migration and habitation through reliance on cyberspace components, including cyberpersona, necessary for a quasi-sovereign private sector cyberspace management entity, the sole objective of which, once again, is systematically to implement and enhance space migration and settlement. While there are existing, and frustrating, attempts by Earth-indigent lawmakers and enforcement authorities to control cyberspace and oversee cyberspace activities carried out by cyberpersona who or that implement and manage these activities, there remain (1) the functional frustration of trying to assert effective *jurisdiction* and applications of earth-indigent laws over cyberspace activities and cyberpersona and (2) the problem of effective *enforcement* of those laws over cyberpersona and cybernation activities.

For the moment, the future of the U.S. component of a global space governance undertaking may well rest in a greater collaborative effort, perhaps starting, for example, with the United States, Canada, China, India, Russia, certain members of the European Union (or more specifically of a reoriented European Space Agency), certain Latin American and African countries, and various relevant international alliances or coalitions. This type of space migration implementation relationship might serve as the *incipient* step toward what may be required for global governance of space activities embracing a universally recognized dictate underlying *humankind* space migration as the next step for species and *specieskind* survival as its underlying, motivating

⁵ For this discussion, “cybernation” can be defined as an arena a bit more “ethereal” than the traditional definition of a functional control over an industrial operation or task through processing of information with a computer. It has evolved into an environment in which social and business interactions take place, often involving the creation of a cyberpersona, or a personality considered to have a distinct individuality from its creator/user. Etymologically, it is a blending of the words “cybernetic” and “automation.” The concept of the cyberpersona self, and how this is influenced by emerging cybernetic technologies, are subjects of research in fields such as psychology and sociology. The online “disinhibition effect” is a classic example, referring to a concept of unwise and uninhibited behavior on the Internet, arising as a result of perceived anonymity and audience gratification. Words in a cybernetic/cyberspace context, such as cybercorporation, cybercrime, cyberterrorism, cyberbullying, and the like, are fairly self-explanatory regarding the general subject matter.

construct. Again, perhaps the next step would be a *transglobal* cybercorporation or even a quasi-sovereign cybernation.

The potential for such collaboration can be seen in the coming together of many nations, despite unrelated, conflicting national and international interests, to realize the International Space Station; the relative momentary threat notwithstanding by Russian president Vladimir Putin to deny the current U.S. dependency on the critical Russian manned space transportation system serving the International Space Station.⁶ Nevertheless, it is important to visualize nations coming together in a global context and pragmatically focused fashion to create a highly functional and *unique* management infrastructure for sustaining the underlying construct of species survival through *accelerated* space migration.

Finally, an interesting quote seems to reflect rather succinctly the spanning of generations as well as disciplines and professions, including those of former U.S. NASA Administrator Michael Griffin, who on a number of occasions asserted “a single-planet species will not survive.” The following quotation appeared in an issue of *Space News* approximately six months ago:

Manned space travel has the capability of uniting people across a world fractured by economic inequality and religious divide. The Americans and Russians did it successfully at the height of the cold war.

In truth we have little choice. Our craved resources are finite. Our population is booming. We may escape the Malthusian trap by growing affluence. We may not. Why take the risk? Manned space is insurance against both Earth-bound and existential unpredictability. After all, as Larry

⁶ In an e-mail communication to the author sent by Lewis L. Peach, Jr., retired NASA Director of Advanced Programs, the space migration issues evolving from President Putin’s unrelated *quid pro quo* threat to cancel U.S. manned access to the International Space Station (as a response to sanctions imposed on Russia resulting from that nation’s military movement into and annexation of Crimea and the Ukraine) were addressed in part as follows:

This issue and concern is a very serious threat to the US HSF [Human Space Flight] program and our continued access to ISS [International Space Station]. This crisis is directly traceable to the current Administration’s space policy and the actions it directed NASA to undertake. By shutting down the space shuttle, and Constellation, without alternative US HSF access, either in this country or with our ISS partners, save for Russia, they have placed “all hope” on the maturing of a commercial HSF capability that does not yet exist. Many of us ... urged that NASA be allowed to retain at least a limited space shuttle manifest to resupply the ISS and facilitate crew rotations until an alternate capability was validated and available to assume the job.... No reasonable engineer, risk manager, policy advisor with a strategic view of national space assets and capabilities, would have allowed this circumstance to have occurred.” [Reprinted here with the permission of Dr. Lewis Peach, Jr.]

Further, in a May 5, 2014 Commentary Editorial of *SpaceNews* at p. 18, this concern was re-emphasized in a U.S. space program context, i.e., “Don’t Punish the Space Industry – U.S. Sanctions on Russia Threaten Several Activities.”

Niven said, "The dinosaurs became extinct because they didn't have a space program."

At a time of crippling austerity and welfare cuts, democratic governments find the cost of manned space travel difficult to justify to a recession-weary electorate.⁷

An analysis of the numbers, however, tells a surprisingly different story. In 2006, when the U.S. space shuttle program was still operating, \$7 billion was spent on human spaceflight. In the same year, Americans bought more than \$154 billion worth of alcohol. Further,

In contrast, the total amount spent on manned space [was] dwarfed by the amount taxpayers have had to delve into to bail out failed financial institutions since 2008. Would it not be better for the renowned mathematical minds of Wall Street and the City of London to be diverted to solving the issues involving space travel and thereby secure the survival of the human race rather than creating even more complex financial instruments of mass destruction?

And, finally,

The last counterargument is utility, especially human vs. robotic exploration. The utility of robots is somewhat harder to address empirically. Robotic space programs are cheaper, less risky and currently can go farther. To answer it, we must return to the core argument for manned space travel: To inflame the imagination, to unite the people of the world in a common purpose and ultimately secure the future of mankind.

Once again, this means survival of the modern human species and its *transhuman* and post-human descendants. Interestingly, as noted above, this is a quote from an article by Harry Corlett, a 15-year-old student at Winchester College in the United Kingdom. Out of the mouths of babes...!

Hopefully, the legal issues inherent in these observations will be addressed directly by the many disciplines in which space law practitioners participate directly, sooner rather than later. In the general context of species survival through exploration, migration, and settlement off-earth, the key operative phrase with which space-related legal practitioners are all familiar is "time is of the essence." Time is relative, of course, but in terms of survival of humankind's "essence,"⁸ a sentient phenomenon of which our

⁷ Harry Corlett, *SpaceNews*, March 3, 2014.

⁸ The word "essence" has many similarly relevant definitions, slightly altered to address a variety of contexts in which it is used: For example, it can be defined as the intrinsic or indispensable properties that serve to characterize or identify something; the most important ingredient; the crucial element, or the inherent, unchanging nature of a thing or class of things. With respect to the characterization of "essence" in the context of humankind individuals and societies of those individuals, attempts to understand and describe the concept have enjoyed, and continue to enjoy, long and tortuous pragmatic as well as

understanding continues to be refined as underlying quantifiable empirical data becomes available, time, measured by the passage of events, truly is critical ... truly is of the essence, so to speak.

While the concept of intelligent design is often offered as the underlying genesis of all biological evolution in which *homo sapiens sapiens* ... modern man ... is the ultimate result, it perhaps finds its real justification in defining humankind's essence, however that term is defined incrementally over time, as the ultimate objective of all known biological and biotechnological evolution. This is particularly true given the disruptive physical violence of the universe and the self-destructive biological dictates of humankind, itself. In this context, then, it must be decided whether space jurisprudence and implementing laws, both reflecting levels of interactive energy in the form of organized information, will be used by representatives of the legal profession, not as legal mechanics, but as essential jurisprudential design engineers critical for facilitating humankind's space migration, evolution, and ongoing adaptation and the survival of humankind's essence and its evolution. It is a global, and ultimately *transglobal*, specieskind undertaking. Failure is not an option ... certainly for evolving humankind.

Despite the fact that failure of humankind's evolution ... even the extinction of countless millions of its predecessors of the nature seen on the bush of evolution over the past 3½ billion years ... is not considered an option; should such a failure occur, an opening door may occur for other species to evolve and fine-tune their own individual and species/subspecies collective essences on one of the seemingly, and *possibly*, endless branches on the evolutionary bush. But then, the element of time, i.e., the passage of energy-based events, as a component of biochemical evolution, is the subject of other forthcoming events adding to an empirical definition of evolution and, indeed, existence.

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About the Author: Dr. George S. Robinson, III is one of the most distinguished Space Law experts in the world. His book, book chapter and professional article publications – over 100 – are found throughout the aerospace and Space literature and continue in 2013. He served as International Relations Specialist for NASA, legal counsel to the FAA, and legal counsel at the Smithsonian Institution in Washington, DC. He serves on numerous Boards of Directors for science research. Dr. Robinson was a strong

academic histories ... not just to the present, but also with respect to the evolution of humankind's "essence" into the future. For attempts to define "essence" in the context of *Homo sapiens sapiens* and its societal cultures, see generally, www.thefreedictionary.com/essence. For the most part, attempts to understand and define humankind's essence have followed a long and frequently painful path addressing relationships between and among empirical and spiritual characteristics of human "nature." For the purposes of the present discussion, the author relies on a definition based upon the empirical consequences of the sentient or abstract perception capabilities of modern humans (including those evolving in early stages as biotechnologically integrated, pre-post humans), their protohominid ancestors, and a variety of certain species in the lower orders of the Animal Kingdom.

supporter of the Aerospace Technology Working Group, which was the forum from which Kepler Space Institute and University emerged.



Editors' Notes: We, in Kepler Space Institute, have had the privilege of knowing, working with and learning from Dr. Robinson for two decades. He is a national treasure for both knowledge of the law and for creative thinking about the legal and philosophical needs for humans as they move off-world. It is an honor to have him contributing, once again, to the *Journal of Space Philosophy*. **Bob Krone and Gordon Arthur.**