

October 1, 2008
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Seventh Triennial Conference of the Kenneth Burke Society
“Kenneth Burke: Transcendence by Perspective”
June 29-July 1, 2008

***The rhetoric of space exploration:
New world(s), new perspectives....***

Abstract

In the early 21st century, the discourse on U.S. space policy remains mired in Cold War-era thinking that pits the United States “against” other space-faring nations and treats civilian, military, and commercial space as separate (and not necessarily equal) regimes. Policy makers and advocates alike tend to employ negative rhetorical strategies, describing space exploration and development as a matter of “us versus them,” winners and losers, leaders or followers.

How might policy makers and advocates transcend the divisions they have constructed between the maintenance of space for peaceful purposes and the exploitation of space for commercial or military purposes, the exploration of space for scientific purposes and the conquest of space for political purposes? What kind of space policy could a new U.S. administration put in place to transcend perceived conflicts?

Rhetorical critic Janice Hocker Rushing (1986) once wrote, “Space is too big to be conquered.” Starting from this premise, I will explore whether and how the global space community can transcend perceived conflicts, divisions, and differences to craft a productive global space policy for the 21st century and beyond. To paraphrase Burke, my aim, in the spirit of postpositivism, is to raise some useful questions rather than produce all the answers.

Introduction

In the early 21st century, the trend in the space community, energized in the Reagan era and reinvigorated during the George W. Bush years, has been to view the solar system as an environment to exploit, as we have done with our own planetary environment. From this “dominionist” or “manifest destiny” perspective, our home planet, and our home solar system, are seen as resources here for humans to use as they like.

Examining the history of the U.S. space program reveals an ideology of space exploration that has at its core a rationale for conquest and exploitation. This ideology is deeply rooted in a durable American cultural narrative of frontier pioneering, continual progress,

manifest destiny, free enterprise, rugged individualism, and a right to life without limits (Billings, 2007). This ideology rests on a number of assumptions, or beliefs, about the role of the United States in the global community, American national character, and the “right” form of political economy. According to this ideology of American exceptionalism, the United States is and must remain “Number One” in the world, as political, economic, scientific, technological, and moral leader.

The rhetoric of space policy and advocacy advances a conception of outer space as a place of wide-open spaces and limitless resources – a space frontier. Though the contemporary cultural environment is vastly different from that of the Cold-War era in which the space program began, the 21st century narrative of U.S. space exploration to date is still intimately intertwined with what feminist critic Susan Faludi (2007) calls “security myth” and “nationalist fantasy,” a story of cowboys on the space frontier.

Delving into the language, or rhetoric, of space flight is a productive way of exploring the meanings and motives that are embedded in and conveyed by the ideology of space exploration – the cultural narrative of pioneering the space frontier. Though a full-blown critique is beyond the scope of this paper, the rhetoric of space exploration is ripe for dramatic criticism, an opportunity to explore “how broader systems of belief shape and determine the possibilities of acting” (Burke, 1969a, p. 22).

The official narrative

The foundations of U.S. space policy are the 1958 National Aeronautics and Space Act and the 1967 United Nations Treaty on the Peaceful Uses of Outer Space. The NASA Act states that “it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind,”¹ and the 1967 Treaty establishes that outer space is a domain to be used for the benefit of all humankind, preserved for peaceful purposes, and protected from sovereign claims.²

These foundational laws are devoid of references to frontiers, conquest, and exploitation. Yet the frontier metaphor is dominant in the rhetoric of space exploration.

A fundamental goal of U.S. space policy since the establishment of NASA in 1958 has been to establish, maintain, and strengthen U.S. leadership in space exploration and the global space community, and the influence of the narrative of American exceptionalism has remained strong in official space rhetoric into the 21st century. A sampling of official rhetoric from 1981 to 2008 highlights the persistence of these ideas of pioneering and conquest, leadership and dominance.

In its final report, “Pioneering the Space Frontier,” the National Commission on Space (1986), appointed by President Reagan to develop a long-term plan for space exploration, described “a pioneering mission for 21st- century America: to lead the exploration and development of the space frontier.” Humankind is “destined to expand to other worlds,” the commission said, and “our purpose” is to establish “free societies on new worlds.” Toward achieving those goals, “we must stimulate individual initiative and free enterprise in space” (pp. 2-3).

The George H. W. Bush administration declared that “America’s space program is what civilization needs.... America, with its tremendous resources, is uniquely qualified for leadership in space...our success will be guaranteed by the American spirit – that same spirit that tamed the North American continent and built enduring democracy.” The “prime objective” of the U.S. space program is “to open the space frontier.”³ NASA declared in response, “The imperative to explore” is embedded in our history...traditions, and national character,” and space is “the frontier” to be explored.⁴

Following suit, the Clinton administration asserted, “Space exploration has become an integral part of our national character, capturing the spirit of optimism and adventure that has defined this country from its beginnings.... Its lineage is part of an ancient heritage of the human race...deep in the human psyche and perhaps in our genes.”⁵

On behalf of the George W. Bush administration, White House Office of Science and Technology Policy Director John Marburger (2006) said that questions about the President’s so-called “Vision for Space Exploration” – the call to send people back to the Moon and on to Mars – “boil down to whether we want to incorporate the Solar System in our economic sphere, or not.” According to national policy, Marburger said, ““The fundamental goal of this vision is to advance U.S. scientific, security, and economic interests through a robust space exploration program.’ So at least for now the question has been decided in the affirmative.”

NASA Administrator Michael Griffin, appointed by President George W. Bush in 2005, said shortly upon arriving at the agency that the aim of the U.S. space program is “to make the expansion and development of the space frontier an integral part of what it is that human societies do.”⁶ “We want to be the world’s preeminent space-faring nation for all future time,” he said, “second to none.”⁷ Space exploration is linked with “core beliefs,” Griffin said, about what societies should be doing “on the frontiers of their time.... North Americans are the way we are because of the challenges of the frontier.... Western thought, civilization, and ideals represent a superior set of values,” these values are “irretrievably linked to” expansion, and now this expansion will continue into the human frontier of space, he asserted.⁸

Though Griffin has tempered his rhetoric somewhat over his three years as head of NASA, he and his deputies continued, in their public appearances and official statements, to envision a human future in space where “Americans” are in charge.

Sens. John McCain and Barack Obama issued space policy position papers during their 2008 campaigns for the presidency. McCain (McCain-Palin 2008) said in his statement that as President, he would “ensure that space exploration is top priority and that the U.S. remains a leader; [and] commit to funding the NASA Constellation program [the new space transportation system that NASA must build to fulfill Bush’s “vision”] to ensure it has the resources it needs to begin a new era of human space exploration.” (It is worth noting that in his statement McCain referred to George W. Bush’s “vision for space exploration” as “the NASA vision for space exploration.”) Obama (2008) said in his

eight-page statement that, as President, he would “embrace” human exploration of space and “continue NASA’s architecture studies and advanced planning to ensure...that America can lead the world to long-term exploration of the Moon, Mars, and beyond, in a collaborative and cost-effective way.”

It thus appears that, in 2009, U.S. citizens can expect no major deviations from the George W. Bush administration’s push for extending human presence into space. Whether and how this goal will be met, especially whether and how the ideology of conquest and exploitation is employed, remains to be seen.

Other perspectives

Though the frontier metaphor dominates, other perspectives have surfaced from time to time in the discourse on space exploration.

In 1965, economist Kenneth Boulding offered another perspective on the value of exploring space. “As a result of [space] exploration...and the explosion of scientific knowledge,” he said, “Earth has become a tiny sphere, closed, limited, crowded, and hurtling through space to unknown destinations.” Echoing futurist R. Buckminster Fuller’s well known conception of “spaceship Earth,”⁹ Boulding said our planet “has become a space ship, not only in our imagination but also in the hard realities of the social, biological, and physical system in which [humans are] enmeshed” (n.p.).

“It is clear,” he concluded, “that much human behavior and many human institutions...are entirely inappropriate to a small closed space ship. We cannot have cowboys and Indians...or even a cowboy ethic.... Man [sic] is finally going to have to face the fact that he is a biological system living in an ecological system” (n.p.).

In the mid-‘80s, Janice Hocker Rushing (1986) made the case that the post-Apollo-era focus of space exploration on the search for evidence of extraterrestrial life was a product of a widespread understanding that humankind exists in a universe, not only on planet Earth. The narrative of space exploration might better reflect this understanding by telling a story of “a spiritual humbling of self” rather than “an imperialistic grabbing of territory.” And in the ‘90s, cultural studies scholar Constance Penley (1992) observed that while “the WASP space cowboy version of spaceflight” has persisted from the Apollo era into the present, at the same time NASA “is still the most popular point of reference for utopian ideas of collective progress.” In the popular imagination, she said, “NASA continues to represent...perseverance, cooperation, creativity and vision,” and these meanings embedded in the narrative of space flight “can still be mobilized to rejuvenate the near-moribund idea of a future toward which dedicated people...could work together for the common good.”

While current U.S. space policy highlights colonization and exploitation, the U.S. space science program is following a path of exploration for understanding. The study of the origins and evolution of life on Earth, the origin and evolution of Earth itself and its sister planets, the origins and evolution of life in the universe and the origins and evolution of

the universe itself are intricately intertwined. Astrobiology – the study of the origin, evolution, distribution, and future of life in the universe – offers new ways to think about the past, present, and future place of human and other life in space.¹⁰

Astrobiologists have learned that life as we know it – carbon-based cellular life – can survive in virtually all terrestrial environmental extremes, from nuclear radiation to permafrost and Earth’s deep, dark subsurface. At the same time that research into the origin, evolution, and distribution of life is revealing that life is highly resilient, these same lines of research are helping to reveal how life and its environment are deeply interdependent, improving understanding of life on Earth and prospects for life elsewhere, and contributing to understanding of global climate history and evolution.

Among some members of the space community, “space security” is a term now used to draw civil, commercial, and military space policy issues inside a single, broad frame. The Center for Defense Information (CDI), a Washington, D.C., think tank, runs a “Space Security Project” intended “to highlight the strategic, political, technical and economic questions surrounding the potential weaponization of space.”¹¹ As the United States is considering the option of “space-based weapons... , the future of space is nearing a crossroads,” CDI observes. “Will the 50-year tradition of international cooperation and space sanctuary prevail; or, will the fear of military and/or economic domination drive nations to compete aggressively for primacy in the ultimate “high ground”? The Secure World Foundation of Superior, Colorado, a partner of the CDI, promotes space security as well, envisioning “a global space commons that is free from threat and available for the benefit of all humanity.”¹²

Another D.C. think tank, the Center for Strategic and International Studies, talks of “smart power in space” instead of pioneering the space frontier: “In much the same way that the Apollo program and Vietnam War era were then the two most visible displays of soft and hard power, we are now faced with a similar situation... We must now signal to the world that we are not a nation that lives by use of military force alone. We must increase our support of civil space utilization and exploration to bring it back in line with spending on military and intelligence applications of space” (Sabathier and Faith 2008, n.p.).

Where does Burke come in?

Burke’s dramatic criticism – in particular, his idea of transcendence by perspective – is a productive way of exploring the established rhetoric of space policy and the rhetoric of alternate narratives and speculating about transcending perceived differences among them. The “metatext” of official and popular rhetoric about space exploration warrants full-blown Burkean analysis. A full-blown analysis is beyond the scope of this talk. But as food for thought, some observations are offered here.

“The motivation out of which [one] writes,” according to Burke (1973), “is synonymous with the structural way in which he puts events and values together.” A rhetor may be “conscious of selecting a certain kind of imagery to reinforce a certain kind of mood,”

according to Burke, but “cannot possibly be conscious of the interrelationships among all these equations” (p. 20). An analyst, however, may be able to find these patterns by examining the completed text. Such an analysis aims to identify the rhetorical strategy employed in a text, the purpose of the symbolic action in it, “the functions which the structure serves” (p. 101).

By employing what Burke (1973) called planned incongruity – “a rational prodding or coaching of language so as to see around the corner of everyday usage... a kind of metaphorical projection” (pp. 400-401) – an analyst can look beyond common meanings of terms and consider new meanings. What Burke called terministic screens – rhetorical frames of power, act, and order that highlight some aspects of a text and downplay others – are structured to direct audiences toward certain meanings and away from others. A new perspective afforded by planned incongruity offers a way of transcending such screens by enabling consideration of other meanings.

The terministic screen deployed with the frontier metaphor includes terms such as pioneering, freedom, destiny, leadership, enterprise, progress. This screen of frontier terms evokes nationalism, capitalism, ownership, conquest, exploitation. What other meanings might be coaxed out of this screen of terms?

Recall that Burke (1969a) said “distinctions... arise out of a great central moltenness” (p. xix), and it is in areas of indistinction or ambiguity – closer to that molten center, as it were – where transformations can occur. And then consider that the root of the word “frontier” is the Old French word for “front.” In the English language, that word “front” conveys a complex of meanings, ranging from the most common definition – the part of anything that faces forward – to the definition that probably comes closest to the meaning of “front” in “frontier”: an area of activity, conflict, or competition. A common military definition of “front” is also tied up in the meaning of “frontier”; that is, the area of contact between opposing combat forces. Other meanings of “front” that should be considered in assessing the meaning of the frontier metaphor are: a façade; a position of leadership or authority; and a person or thing that serves as a cover for secret, disreputable, or illegal activity.¹³

Consider, as well, the possible meanings of “progress.” The root of “progress” is the Latin word meaning “to go forward.” J.B. Bury (1932) said progress is movement “in a desirable direction” – but he also noted that “it cannot be proved that the unknown destination towards which man is advancing is desirable” (p. 2). In their histories of the idea of progress, both Bury and Robert Nisbet called progress a dogma. While Bury identified progress as an idea originating in the modern era, Nisbet (1980) traced its roots to ancient Greek and Roman philosophy, and he documented how it evolved to take on the qualities of destiny and “historical necessity.” (p. 47).

Nisbet declared progress the most important idea in modern Western history. This modern idea of necessary and inevitable forward movement is deeply embedded in the cultural narrative of U.S. space flight. Beginning with the creation of the United States of America, science and technology became the means of American progress, and conquest

and exploitation became the morally imperative method. Ultimately progress came to be thought of as the accumulation of material wealth came to be a measure of progress. This deeply seated belief in progress provides a moral justification for materialism and consumerism.

What meanings are space policy makers and advocates intending to convey – and what meanings are they in fact conveying – when they talk about the space frontier, progress in space exploration?

Conclusions

To sum up, the conventional rhetoric of space exploration perpetuates a long-standing, yet outdated, “all-American” ideology. Burke (1969b) defined ideology as both a belief system and a partial and thus deceptive view of reality. The belief system perpetuated by space rhetoric is a sort of fundamentalist ideology, excluding or rejecting as unenlightened those who do not advocate the colonization, development, and exploitation of space.

Examining the rhetoric of space exploration as a cultural ritual, performed for the purpose of maintaining the current social order, with its lopsided distribution of power and resources, reveals how it perpetuates the values of those in control of that order – in this case, the values of the military-industrial complex (progress, profit, competition, war).

In order to survive as a cultural institution, space exploration needs an ideology. It needs to have some connection to widely held beliefs. It needs a role in a cultural narrative. But a new narrative may be warranted to replace the outdated and counterproductive nationalistic frontier story.¹⁴

The 21st century cultural environment demands a new approach to U.S. space policy making, a collaborative approach that will require abandoning the conventional rhetoric of competitiveness and dominance. There have been calls for change. Some have advocated adopting a collaborative and cooperative rather than a nationalistic and competitive approach to space exploration. Others have called for erasing the hard boundaries dividing civilian, military, and commercial space.

It is time to consider the feasibility and utility of a trans-sectoral, transnational space policy that transcends the traditional, outdated boundaries constructed between the interests of the United States and other nations and between civilian, commercial, and military interests.

Rhetorical transcendence is, in Burke’s conception, a symbolic bridging or merging, a way of getting past the either-or options of acceptance or rejection. How might space policy makers transcend perceived differences in perspective, transcend “relativism” for “relationism,” transcend compromise for connectivity? How might policy makers align their interests and motives and achieve Burke’s rhetorical aim of identification?

One option would be to broaden the frame for policy making by (re)establishing that the

context for space policy is the Outer Space Treaty, the international law that governs all of human activity in all of outer space. A broader frame would reveal the consubstantiality of all involved in the endeavor of space exploration.

It also might be useful to broaden this rhetorical frame even further toward transcending policy and its partner, politics. The origin of the words “policy” and “politics” is the Greek word “politeia,” meaning “citizenship.” The Greek “politikos” means “civic.” In contemporary usage, the English words politics and policy have acquired an array of meanings that emphasize the shrewdness, calculation, and expediency involved in their execution.¹⁵ (The English word “police” has the same Greek root as politic and policy.) Raising awareness that policy making is an element of citizenship and that space policy making is an element of global citizenship might be a way toward transcending conflicts.

This brief review of space rhetoric reveals a dominant narrative and some subordinate narratives as well. The dominant narrative advances the values of the dominant culture and justifies unilateral action and the globalization of “the American way.” Competing with this narrative is a vision of what Rushing (1986) called “utopian ideas of collective progress” and “a spiritual humbling of self.”

More than 40 years after Kenneth Boulding told us we had to get the message, space exploration is enabling people on Earth to understand that we are biological systems living in an ecological system. This competing narrative may be a site within which the ideology of space exploration might rejuvenate itself – where the vision of a human future in space becomes a vision of humanity’s collective peaceful existence on Spaceship Earth and the need to work together to preserve life here and look for life out there.

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Notes

1. United Nations Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 1967. <http://www.state.gov/t/ac/trt/5181.htm>.
2. National Aeronautics and Space Act of 1958, P.L. 85-568. <http://history.nasa.gov/spaceact.html>.
3. National Space Council, *Report to the President* (Washington, DC: Office of the President, 1990), p. 17.
4. Report of the 90-day study on the human exploration of the Moon and Mars (Houston, TX: NASA Johnson Space Center, November 1989), pp. 1-1, 1-4.
5. National Apollo Anniversary Observance, A Proclamation by the President of the United States of America, July 19, 1994. Washington, DC: Office of the President.
6. Griffin made these remarks at a conference sponsored by the Center for Strategic

- and International Studies, November 1, 2005, Washington, D.C. The author attended this event.
7. Griffin made these remarks at a meeting sponsored by Women in Aerospace in Washington, D.C., on May 2, 2005. The author attended this event.
 8. Griffin made these remarks at a meeting of the NASA Advisory Council's science subcommittees in Washington, D.C., on July 6, 2006. The author attended this event.
 9. Fuller's "Operating Manual for Spaceship Earth" was published in 1963.)
 10. See <http://astrobiology.nasa.gov>.
 11. [Http://www.cdi.org](http://www.cdi.org).
 12. [Http://www.secureworldfoundation.org](http://www.secureworldfoundation.org).
 13. Definitions obtained from www.dictionary.com.
 14. According to the Congressional Research Service, "The overarching issue for Congress" in deliberating on authorization of NASA activities "is implementation of the Vision for Space Exploration. . . . NASA has not provided a cost estimate for the Vision as a whole. Its 2005 implementation plan estimates that returning astronauts to the Moon will cost \$104 billion, not including the cost of robotic precursor missions, and that using [the not-yet-built crew transport vehicle] Orion to service the ISS will cost an additional \$20 billion. A report by the Government Accountability Office gives a total cost for the Vision of \$230 billion over two decades." With a new administration in place next year will come an opportunity to reconsider goals and objectives in space.
 15. Definitions obtained from www.dictionary.com.

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