

# How Does IR Relate to Space Exploration in the 21st Century?

Written by Joan Johnson-Freese

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JOAN JOHNSON-FREESE, JUL 19 2013

Economist and former US Secretary of Labor Robert Reich is quoted as succinctly stating of globalization, “Rarely has a word gone so quickly from obscurity to meaningless.”[1] Though the word techno-nationalism is not nearly as famous as globalization, it similarly might be said to have gone from nonexistent to muddled. Among other ways, techno-nationalism has been used in the context of protectionism,[2] as a descriptor “of underlying assumptions made by analysts of the place of technology in the world, to denote ideologies,” [3] and extended to neotechno-nationalism in reference to the origins and motivations of China’s technology standards strategy.[4] Distilling various references to techno-nationalism, most of them used in reference to Asian countries, leaves *the pursuit of advanced technologies* as the core premise of the concept, and how it will be used here. Specifically, techno-nationalism, and an indicator of power and leadership, remains a powerful motivator for space exploration.

It is perhaps ironic that the United States, which triumphantly led the way into space with the Mercury, Gemini and Apollo space programs from the 1950’s into the 1970’s, is now frequently cited as being in a “space race” with China.[5] After all, China through the 1970’s was at best a developing country, more accurately a largely rural, agrarian society stumbling from war to civil war to a Cultural Revolution that nearly destroyed it. Yet today, China has an ambitious yet measured space exploration program, including human spaceflight. The United States, however, is reliant on other countries for transportation to the International Space Station it initiated and led development of, and remains mired in internal debates regarding fleshing out, or even cancelling,[6] plans for an asteroid mission billed by supporters as a new direction for U.S. space exploration.

But it is not the U.S. and China that are in a space race. If the U.S. is in a space race at all, it is an internal race of political will, regarding whether past traditions of exploration leadership will continue, or be ceded to seemingly either/or budget decisions favoring military space and missile defense. The international space race today is in Asia, centering on establishing a regional reputation as the technology leader to boost prestige and subsequently power, just as the United States did during the Cold War in the space race with the Soviet Union, and Europe did in the 1960’s.

When the Soviet Union launched *Sputnik* in 1957 it took an early lead in using space technology as a proxy for military superiority and hence international power. Politicians, the media and the American public, each fueling the other with fear, speculation and misinformation, bought into the idea that being able to launch Sputnik meant that the Soviets had the ability to strike the U.S. at will with nuclear weapons from space. The U.S. had to respond, and surpass the Soviets in space capabilities as a power proxy as potent as any tank, ship, plane or gun. Doing so through a human spaceflight program added not just “powerful” to the list of adjectives consequently attributed to the U.S., but “inspirational” as well. Together, that translated into “leadership.”

European countries had their own view of the techno-nationalist benefits of space exploration. Space required technology, technology required industrialization, industrialization translated into production jobs that built the middle classes, and hence strong economies.[7] Europe was determined not to be left behind in economic development that also translated into global power.

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Today in Asia, China, Japan, India, South Korea, North Korea, and many other countries have space programs. [8] The spectrum of program capabilities and ambitions runs from human space exploration in China, to virtually all countries being users of space technology. When countries like Vietnam launch its own satellite though, at least part of the reason is the panache carried with having the resources and motivation to do so, seen as advantageous in the international political arena.

China's space program has the most breadth and depth. Project 921 or the *Shenzhou* program, their human spaceflight program, is a three step program that began with demonstration of human spaceflight capabilities, moved forward to demonstrate advanced capabilities, where it is currently, and is intended to culminate with a permanent human presence in space on a 20 ton space station likely to be launched around 2020. It also has a robotic lunar exploration program, *Chang'e*, which could be integrated with *Shenzhou* sometime in the future toward a human lunar program. China is actively and so far successfully developing, though sometimes with delays and not atypical technical setbacks, a full range of satellite capabilities and launch capabilities. And with most space technology dual-use, meaning of value to both civil and military communities, China has a growing military space capability. A second characteristic of dual-use technology is difficulty determining whether military capabilities are of a defensive or offensive nature. Hence given the low level of trust between the U.S. and China, the U.S. interprets most Chinese space activities as potentially nefarious.

Japan's space exploration program is long-standing and at times ambitious, but those ambitions have largely been bogged down in bureaucratic politics for twenty-plus years. In past years, Japan has not felt as compelled to use space as a proxy for international power, because as the third largest economy in the world, it has been able to substitute economic clout instead. With its economy somewhere between weakened and "the brink of disaster"[9] Japan is in a quandary. While it is unlikely space advocates there will be able to do what it has never been able to do before – get politicians to commit to an ambitious exploration program, robotic or human,[10] — Japan may challenge China's soft power assertion of regional space dominance exerted through space organizations such as the Asia Pacific Regional Space Agency Forum.

India is perhaps the country most frantically "running" a space race. Within the past five years, it has gone from having a space program pragmatically focused on meeting the development needs of the country, touting exploration as a luxury of the rich, to a full-spectrum program matching China's ambitions tit-for-tat, which it says has "evolved" to these ambitious goals. Whereas, however, India is clearly racing with China, China has enough self-assurance in its own place in the space exploration pecking-order – being only the third country in the world with a human spaceflight program – to much prefer the presumption and perception that it is racing with the United States. India has significant and ambitious space exploration plans but, like its announced plans for a broad military space program, plans and accomplishments often seem to diverge.

The space programs on the Korean peninsula are a classic "keeping up with the Jones" scenario, focused not on exploration, but development of dual-use technology. What one aspires to, the other will as well, at least in rhetoric. North Korea has long used its prowess in dual-use technology development, specifically nuclear energy/weapons and rocket/missiles as international bargaining chips.

Countries will pursue technologies which enhance their domestic and international position. Space power, it is said;

"is the modern-day equivalent of the 18th-century sea-power domain so eloquently described by Alfred Thayer Mahan, but extended to both the vertical and digital dimensions. Countries with global ambitions understand that, absent significant space capabilities, they will neither attain nor retain global pre-eminence." [11]

Clearly, Asian countries understand this premise. Whether the United States will remember it, however, remains to be seen. For any country to neglect the soft power dimensions of space is done at the country's long-term peril.

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*The views expressed here are solely those of the author and not the U.S. Department of Defense, the U.S. Navy, or the Naval War College.*

[1] 2013 Documentary, *Inequality for All*.

[2] "Who's Afraid of Huawei?" *The Economist*, August 4, 2012.

[3] David E.H. Edgerton, "The Contradictions of Techno-Nationalism and Techno-Globalism: A Historical Perspective," *New Global Studies*, Vol. 1, Issue 1, 2007.  
<http://csde.washington.edu/~scurran/files/readings/SIS511/EdgertonNewGlobalStudies.pdf>

[4] Richard P. Suttmeier and Xiangkui Yao, "China's Post-WTO Technology Policy: Standards, Software, and the Changing Nature of Techno-Nationalism, The National Bureau of Asian Research, Special Report, May 2004.

[5] Daryl Morini, "The Coming U.S.-China Space Race, The Diplomat, August 15, 2012.  
<http://thediplomat.com/china-power/a-u-s-china-space-race-in-the-offing/>; Carol J. Williams, "Asia space race sharply reflects sharpened U.S.-China rivalry," *The L.A. Times*, February 1, 2013, <http://articles.latimes.com/2013/feb/01/world/la-fg-wn-asia-space-race-global-focus-20130131>; David Axe, China Analyst: U.S. Can't Win in Space, So Why Bother Racing?" *Wired*, August 31, 2011. <http://www.wired.com/dangerroom/2011/08/china-space-race/>

[6] Dan Leone, "Congress Considers Nixing Asteroid Mission," *Space News*, June 18, 2013. <http://www.space.com/21609-nasa-asteroid-capture-mission-congress.html>

[7] Joan Johnson-Freese, "A Long March Into Space," *The Cairo Review of International Affairs*, February 10, 2013.

[8] James Clay Moltz, "Asia's Space Race," Columbia University Press, 2011.

[9] John Mauldin, "Japan's Economy is on the Brink of Disaster," *Business Insider*, May 26, 2013. <http://www.businessinsider.com/japan-economy-disaster-2013-5>

[10] That is not to say space advocates will not continue to push for exploration programs. "Japan Wants Space Plane or Capsule by 2022," *Space.Com* October 24, 2012.  
<http://www.space.com/18198-japan-plans-manned-capsule-space-plane.html>

[11] Vincent G. Sabathier and G. Ryan Faith, "The Global Impact of the Chinese Space Program," *World Politics Review*, May 17, 2011. <http://www.worldpoliticsreview.com/articles/8878/the-global-impact-of-the-chinese-space-program>

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