

A Fictional Space Program?

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National Space Club

Goddard Dinner

17 April 2009

Good evening, and thank you. Thank you for this recognition. It is not one that I ever imagined I would receive. When I look at the list of former Goddard Trophy winners – apart from an exception or two – I am looking at a list of my professional and personal heroes. Some I have only read about, others I have been lucky enough to know, yet others have become friends, and some have offered the extraordinary gift of advising and mentoring me. A few of them still do so. But whatever category they fall into, when I look at that list it is hard for me to imagine that I belong on it. Some of you no doubt agree. But to the others, and to the National Space Club, its officers, and its members, I offer my thanks for placing me there anyway. I am honored beyond my deeds.

I'm an academic now, at the University of Alabama in Huntsville, and academics opine. So with the balance of my fifteen minutes of fame I am going to opine again on a topic close to my heart. I am going to talk about why space, and in particular human space flight, is important to us as a people, and about how, today, our words and our policies are not being matched by our deeds.

A few weeks ago, President Obama released his new administration's proposed Fiscal 2010 budget. For those of us who understand the value of human space exploration, of going once again beyond the shoals of low Earth orbit, the words accompanying the budget release were encouraging. The President's budget reiterated support for the retirement of the Space Shuttle and its replacement by the initial Constellation elements, continuation of International Space Station operations after 2015, and for human lunar return by 2020. All of that is good news.

But work at the staff level continues out of view of the nation's elected leadership, and in the recent passback to NASA from the Office of Management and Budget, the news is not so good. After a small increase this year, Exploration Systems at NASA goes down by \$3.5 billion over the next four years. When combined with earlier reductions of almost \$12 billion during the Bush Administration, well over \$15 billion has been extracted from the Exploration Systems budget in the five short years since the new space policy was announced. Funding for lunar return in the Constellation program was already less than \$4 billion in the years prior to 2015. This was to be allocated to early work on the Ares 5 heavy-lifter, and the Altair lunar lander. With only a half-billion dollars now available, this work cannot be done.

How soon we forget how it is that we got here. Six years ago I was here at this very dinner, where we honored – posthumously – the crew of STS-107 Columbia with the same Goddard Trophy that I am receiving tonight. Evelyn Husband accepted the award on behalf of the crew, not two months after being widowed. Some months later, Admiral Hal Gehman – who is as deserving of this trophy as anyone who has ever received it – released his extraordinary report, offering as a root cause of the Columbia accident the fact that NASA had proceeded for more than three decades in the absence of a guiding vision, and citing a thirty-year failure of leadership by both the Executive and Legislative Branches for allowing such a situation to exist.

In response, the community of those responsible for and interested in our nation's space program vowed that it would never happen again. President Bush put forth a remarkably well crafted and logical civil space policy, one which respected the need to meet existing commitments while simultaneously laying the groundwork for bold new ventures – returning to the moon, establishing a sustained presence there, and preparing for a voyage to Mars. After twenty-three months of vigorous and healthy debate, a Republican Congress approved and extended this policy as the guiding strategy for NASA, and three years later a Democratic Congress did the same. Both presidential candidates in 2008 issued specific statements supporting a strong space program and, again, President Obama's just-released budget calls for lunar return by 2020.

Thus, in the last five years two presidents and two Congresses have provided the top-level direction necessary to ensure that the root cause of Columbia's loss – the lack of a guiding strategic vision for NASA – never happens again. But apparently something more is needed. We're not matching the words with the necessary actions at the staff level. How soon we forget.

Let me be clear. In a democracy, the proper purpose of the OMB is not to find a way to create a Potemkin Village at NASA. It is not to create the appearance of having a real space program without having to pay for it. It is not to specify to NASA how much money shall be allocated for human lunar return by 2020. The proper purpose of the OMB is to work with NASA, as a partner in good government, to craft carefully vetted estimates of what is required to achieve national policy goals. The judgment as to whether the stated goals are too costly, or not, is one to be made by the nation's elected leadership, not career civil service staff.

If we no longer understand the importance of defining, occupying, and extending the human frontier, we can be assured that others do. A casual reading of the news in the international space arena shows that Russia is building a new manned spacecraft that is fully lunar-capable, that China continues to pursue a carefully-crafted human space program, and that India is planning to join the club in 2015. This morning's headline tells us that “ ‘Surrey Space Centre is joining forces with one of China's top engineers to develop lunar rovers.’ The program will be part of ‘technology and information exchanges with China and India’ that hope to ‘pave the way

for future moon exploration, including the proposed Moonraker lander mission by the UK and China's Chang'e programme.' ”

Others understand.

I've grown impatient with the argument that we cannot afford to do what is needed. We're "investing", if that is the word, hundreds of billions of dollars in entities whose claim to the money rests on the premise that they have failed to manage their enterprises properly, but are too important to be allowed to founder. This nation's space program, both civil and military, has been one of the most successful endeavors in human history. On the platform of that success we ended the Cold War and built two generations of world technical and political leadership. Maybe we should consider funding more such success.

I've grown impatient with the argument that we've been to the moon, so there is no need to go there again. How does that work? By that logic, westward expansion in the United States should have ceased in 1806, when Lewis and Clark returned from their expedition. I'll say it again: the moon will prove to be both interesting for itself, and a crucial step outward to places that will prove even more interesting.

I've grown impatient with the argument that Orion and Ares 1 are not perfect, and should be supplanted with other designs. I don't agree that there is a better approach for the money, but if there were, so what? Any proposed approach would need to be enormously better to justify wiping out four years worth of solid progress. Engineers do not deal with "perfect". Your viewgraphs will always be better than my hardware. A fictional space program will always be faster, better, and cheaper than a real space program.

No one can wrest leadership in space from the United States. We're that good. But we can certainly cede it, and that is the path we are on. In this 40th anniversary year of Apollo, we need to ask ourselves some hard questions. Do we actually want to have a real space program? Do we want to be a leader in space, a leader on the frontier? Or do we just want to talk about what we used to do, and what we plan to do, someday?