

To boldly go where we tell you to go



NASA's grand ambitions aren't its own, and are at the expense of science

Philip Ball

NASA's administrator Michael Griffin must have one of the least desirable jobs going.

Since he took the post a little over a year ago, he has been forced to announce budget cuts for basic science in the US space programme that have infuriated researchers (see '[US space scientists rage over axed projects](#)', Nature doi:10.1038/439768a), has reluctantly had to accede to fulfilling commitments to the beleaguered and unpopular International Space Station (ISS), and has been accused of being a yes-man for a governmental agenda that values stogy manned space projects over real science.

Despite his reputation for outspokenness, one senses that Griffin is making many of his pronouncements through gritted teeth. And the latest, made on Monday 5 June as he outlined the roles that NASA's space centres will play in its future programme, reached new levels of twisted logic.

To the Moon and beyond

"Spaceflight is strategic and the United States should not stop it, but it's expensive, it's difficult and it's dangerous, and if you're going to do it... then the goals ought to be worth the cost and the risk and the difficulty... A manned space programme that fails to look beyond the shuttle and [space] station does not satisfy that criteria [sic]."

Okay, run that past me again. Manned spaceflight is expensive and risky, so if you're going to do it, you had better pick an objective that is really expensive and really risky.

One can speculate about the conversation at NASA that led to this position:

"So why have we got the shuttle?"<newline/> "It's the first step in getting into space."<newline/> "But isn't the shuttle a bit expensive and dangerous?"<newline/> "You're right, but we had to start somewhere, and now we're going to the Moon."<newline/> "But isn't that even more expensive and dangerous?"<newline/> "You're right, but after that we'll go to Mars."<newline/> "But isn't that even worse?"<newline/> "Yes, that's why we've started modestly, with the shuttle."<newline/> "But isn't the shuttle..."

And so on.

No one, Griffin makes clear, is going to ask the question that would break this cycle: is it really all worth it in the first place? That question just isn't on the menu. "Is the United States going to abandon human spaceflight?" Griffin said in Monday's announcement. "I think the obvious answer is 'no'; there will not be a president and there will not be a Congress that takes the United States out of manned spaceflight."

Why not? Because it is "a strategic element that makes the United States a great power." And because "we've been doing it now for 45 years, and we will not abandon it." For once, Griffin seems unable to come out with what he would really like to say: abandoning manned spaceflight would just be too politically unpopular, not just for the Bush administration but for any other. And so NASA must bow to public opinion, and the science must rely on whatever money is left over from these fantasies.

Powers that be

Griffin was a popular choice for NASA's administrator, because he is a genuine space scientist and engineer, not a pen-pusher. Before his appointment, he influenced the excellent decision to focus NASA on "better, cheaper, faster" missions.

There's no reason to doubt that he thinks that human spaceflight is a worthwhile objective, but it's not clear that he would have chosen to prioritize it. How, after all, do you justify something that has already claimed the lives of 14 astronauts and eaten up billions of dollars while generating hardly anything (beyond the spectacular repair of the Hubble Space Telescope) of scientific value?

He has made no bones about his antipathy for the ISS, saying that "it is beyond reason to believe that [it] can help to fulfil any objective, or set of objectives, for space exploration that would be worth the \$60 billion remaining to be invested in the programme." Nevertheless, Griffin has been forced to make cuts to science projects in order to fund the work on the shuttles needed to enable them to complete NASA's commitments to the ISS. He clearly did that regretfully, admitting "It's what we needed to do".

Defending a policy of manned spaceflight, at the expense of the kind of unmanned missions that have been sending us postcards from Mars for the past two years, without any kind of coherent justification beyond the notion that it makes the United States "a great power" is clearly also "what he needs to do". And he admits it: "The people who run the country have decided that we are in fact going to the Moon. It's a question of what scientists would like to do with that."

Heading for disaster

It's not clear that they want to do anything with it; Griffin is basically being asked to defend the indefensible. As Robert Park of the American Physical Society puts it, "There's not enough money to put humans beyond Earth orbit and do science too. In fact, there's probably not enough money to get humans off the planet even with science gutted."

Calling Griffin a yes-man is unfair: he seems to have been forced instead to become an if-I-really-must-man. Yet Park says he knew what he was taking on: "He wanted the job and apparently took it with the understanding that his assignment was to get humans beyond Earth orbit."

Alan Stern, executive director of the Space Science and Engineering Division at the Southwest Research Institute in Boulder, Colorado, is more conciliatory: "I think Griffin is an honest man with an over-constrained solution space." But why appoint someone who has the confidence of the community if you are then simply going to tell him what to do?

In 1958, Mao Zedong decided that steel production would make China "a great nation". And so all other work was sidelined to the melting down of pots and pans to making pig iron that was all but useless. The Great Leap Forward was an economic and social disaster. Catchy name, though; maybe NASA could call its moonbase plan Project Great Leap Forward?

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