Retirement of Shuttle leaves void in manned space program

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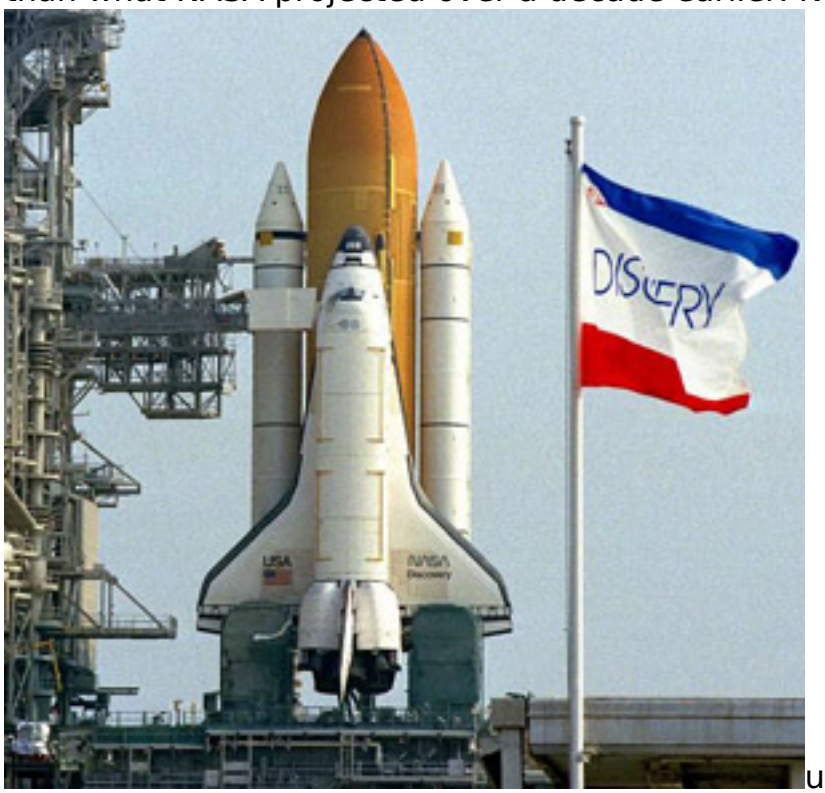
The future of manned space flight is in limbo. After Atlantis' two-week mission (STS-135), NASA will retire the Space Shuttle, and a thick fog will descend upon the space program. Between the Shuttle's retirement and the completion of the International Space Station in 2020, the U.S. faces a nine-year gap during which we'll lack the ability to independently ferry astronauts into space.

The Space Shuttle fit the textbook definition of government mismanagement. Envisioned as "routine and economical [1]", the finished product was neither. Developed [2] "only" 15% over the projected cost, the per-mission cost was more than $140 million, a figure that when adjusted for inflation, was seven times greater than what NASA projected over a decade earlier. Nowadays, a shuttle launch costs



upwards of $450 million [3].

NASA originally predicted a weekly launch rate, which was pure fantasy. 50

launches became 24, then nine, and in 2007, it hit an all-time low of three. Meanwhile, two catastrophic accidents have lent the shuttle a grim legacy.

Retiring the Space Shuttle was probably a smart decision. And her erstwhile successor, Constellation, was over-budget and years behind schedule. But the way forward is a mystery. President Obama has predicted a manned asteroid mission by 2025, and a trip to Mars by the mid 2030's. But with naught to support such a lofty vision but an investment in "heavy-lift rockets and advanced propulsion systems," the future of manned space flight seems murky at best.

Obama's space policy relies heavily on the free markets. In fact, NASA is expressly prohibited from competing with the private sector. NASA must "Refrain from conducting United States Government space activities that preclude, discourage, or compete with U.S. commercial space activities, unless required by national security or public safety."

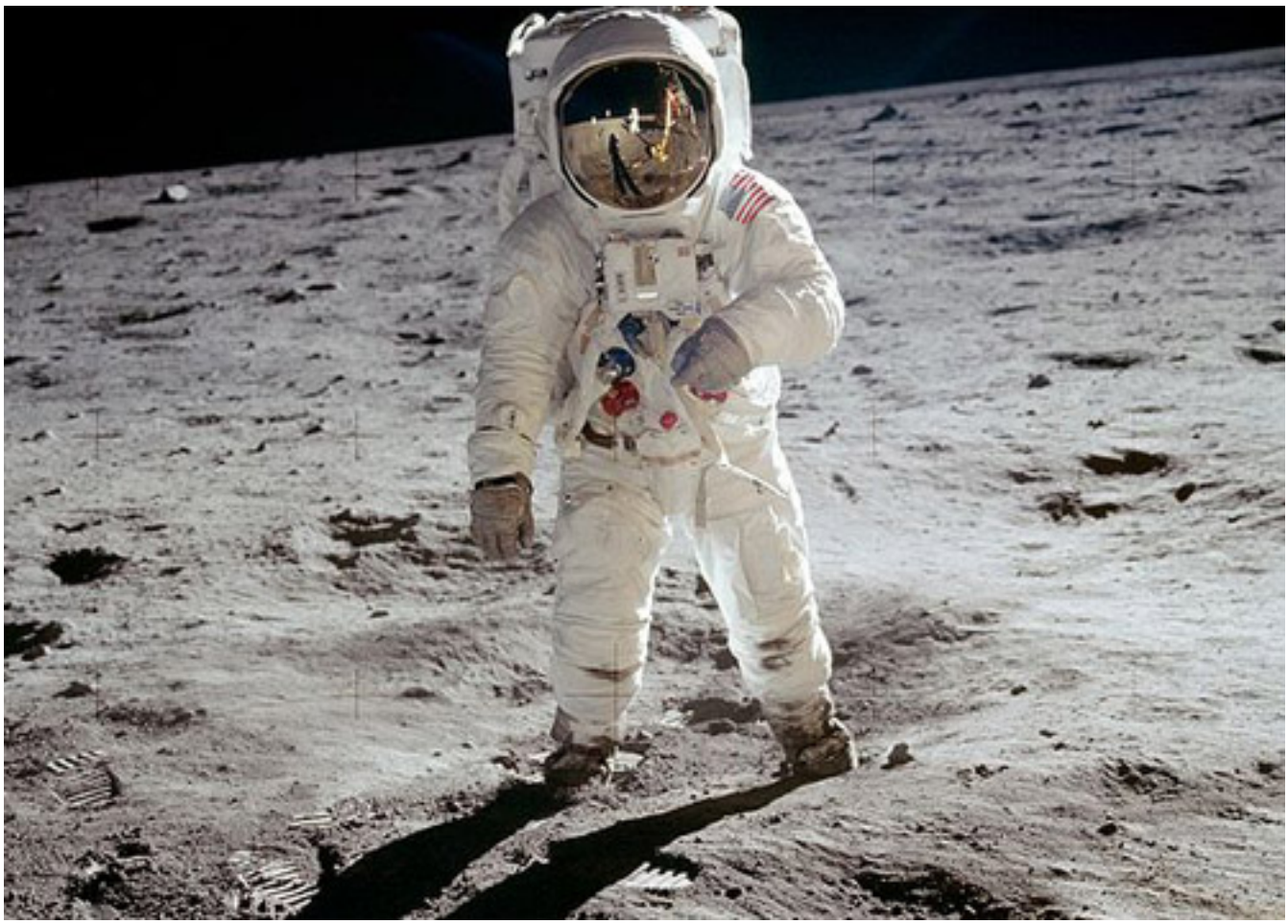
Meanwhile, $50 million was appropriated from the Stimulus Act towards development of orbital spacecraft. SpaceX and Orbital Sciences also have contracts (worth a combined total of $3.5 billion) to build and launch unmanned cargo ships to the ISS. Until then, astronauts will hitch rides aboard Russian Soyuzs (at a princely sum of $50 million per seat [4]).

Compounding NASA's woes, the House Appropriations Committee plans to cut her FY 2012 budget by $1.6 billion [5]. Proposed cuts would kill the James Webb Space Telescope, the successor to the Hubble Space Telescope.

This administration's muted enthusiasm for the space program echoes President Nixon. Reflecting on his decision to go with the Space Shuttle (the cheapest of three options), Nixon declared [6] that, "We should work to reduce substantially the cost of space operations." This stands in stark contrast to JFK's clarion call [7]—"We choose to go to the moon…we choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills."

Seven years later, on July 20, 1969, Apollo 11 landed on the surface of the moon, winning the "Space Race" for the United States; Neil Armstrong and Buzz Aldrin became the first human beings to set foot on another astronomical body. This crowning achievement for humanity was broadcast to 600 million people back on Earth. There will be no such triumphs for the foreseeable future.

In a column for USA Today (aptly titled, "Is Obama grounding JFK's space legacy?"), Neil Armstrong, Jim Lovell and Gene Cernan expressed their frustration [8] with the administration's space policy: "America's leadership in space is slipping. NASA's human spaceflight program is in substantial disarray with no clear-cut mission in the offing."



When did NASA become blasé? When did space travel become such a pedestrian activity? With the Space Shuttle headed for a retirement village in Boca, and no clear successor in place, manned space travel has been put on indefinite hold.

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