

The Role of Private Enterprise in Putting Man into Space - Part 1

By Thomas Sullivan

Has NASA failed in its quest to put man out into the cosmos? Will profit coupled with man's need to explore be the driving engine which sends man into space? Most importantly, will the United States be a leader in terms of space exploration, or will America fall by the wayside and let other countries fulfill this role?

In this article, I will attempt to answer these questions. I will also provide an argument which favors an active role for private enterprise in putting true explorers into space. The United States can get back to its foundation of innovation and exploration, but in order to do so, it must follow a new course, one which is distinctly different from the path it has followed.

Innovation, invention, and exploration are key components which have made America one of the greatest countries in the world. The question is this. Did most of these innovations take place within the purview of government intervention? The fact is that most innovations within the United States have taken place outside the realm of government. Think about some of the major innovations that have occurred within the American society over the past 100 years or so.

Was Orville and Wilbur Wright, the inventors of the airplane, employed by the government? Of course not. Most of their research and development for the invention of the airplane took place within a small bike shop in western Dayton, Ohio, the birth place of aviation. The invention of the airplane did not take place within an extensively funded government lab. Orville and Wilbur Wright were just a couple of self-taught engineers who loved to think about how man can fly. Their invention made the world a forever smaller place.

Thomas Edison, who was also born and raised in Ohio, is accredited with 1,093 patents earning him the nickname "The Wizard of Menlo Park" used his own money to build the Menlo Park research labs in New Jersey. In 1889, Thomas Edison established the Edison General Electric Company. Thomas Edison had many inventions, the most well known being the incandescent electric light, disc phonograph, and the film projector. Thomas Edison is considered one of the most prolific inventors of our time and his inventions were created within the realm of private enterprise.

The invention of the personal computer came from an assortment of various inventions by many people, mostly within academia, with a major contribution from Steve Jobs and Steve Wozniak. Steve Jobs and Steve Wozniak tinkered in Job's garage in an area now called Silicon Valley, the southern part of the San Francisco Bay Area in northern California. Their tinkering led to the development of Apple Computers in 1976, and they helped popularize the concept of the home computer. Steve Jobs was one of the first to see the commercial potential of the GUI and mouse, and saw that these technologies were incorporated into the Apple Macintosh. The garage in which they tinkered belonged to Steve Job's parents, not the United States government.

Did the seed for the invention of the personal computer germinate within a government lab? John Vincent Atanasoff is considered the actual father of the electronic computer. Atanasoff was an Associate Professor of Physics at Iowa State University in 1939 when he came up with his idea of a computer. Many other inventions would be needed in order to produce what we now recognize as a computer, but he is considered to be the one who started it all. The point is he came up with his

idea within academia, and not within the purview of government intervention.

The story of Bill Gates and the development of the Microsoft family of operating systems took place within private enterprise. The Windows family of operating systems is the most widely used on earth and has been a major player in bringing information technology to the developed world.

The story of Henry Ford is equally impressive. Contrary to popular belief, Henry Ford did not invent the automobile. He wasn't even close. Daimler and Benz are traditionally credited with building the first cars in 1886 in Germany. Ford actually perfected the assembly line technique. This allowed for a drastic drop in production cost, bringing a rich man's toy within reach of the masses, thereby changing Western society. Henry Ford's development of the assembly line technique also took place within private enterprise, outside the purview of government.

Americans are inventors, innovators, and tinkerers. Freedom of thought and exploration are woven within the fabric of our society. Whether it be the airplane, computer, or major advances in medicine, many inventions that are enjoyed by man today, had their development in the United States, outside the purview of government. Most of these innovations occurred within academia or private enterprise. The role of government is to govern the people. From Wikipedia, in its broadest sense, "govern" means the power to administrate, whether over an area of land, a set group of people, or an association.

The government's role is to preserve the environment of freedom and democracy so that intellectual curiosity can flourish within this environment. The government's role is also to provide funding, and should not be in the nuts and bolts operation of putting man into space. The ingenuity of man within the realm of private enterprise and academia, has resulted in most of the technological advancements we enjoy today, and to explore space, we will need technological advancements.

The cosmos will be explored by man operating from the base of private enterprise and the technology needed to explore the cosmos will be developed within that enterprise. Why is this so? NASA is an agency driven by fear of tragedy. More mishaps will decrease the probability of sufficient government funding. This cycle of fear, mishaps, and the hope for continual funding is one that seems to have no end.

But mishaps are part of the business of putting explorers into space. What can better withstand the expected mishaps? A government agency or private enterprise. If a private enterprise fails, it's competitor can step in to fill the gap, and the engine of private enterprise can continue to push man into space. NASA is not a private enterprise competing within the world market place. If NASA is the only entity for space exploration and it fails, there is nothing else to fill in the gap.

NASA is not what it used to be during the Apollo days. Given it's current mind set and culture, it will be difficult within this framework to send man out into the cosmos as true explorers. They have given the nuts and bolts of putting man into space to private contractors. If private contractors are actually putting man into space, then the next logical step is for companies within private enterprise to step in and meet the need for space exploration.

The basic problem with current NASA contractors is that they have the same NASA mind set because they are under the dominion of NASA. There is a fear of mishaps within contractors without true competition within the market place. NASA awards contracts to the lowest bidder. But does the lowest bidder provide the highest level of safety? Once a company is awarded a contract, they remain a NASA contractor for many years and simply become an extension of NASA. NASA has become an autocratic agency with it's arms extending outward to many companies.

Currently, NASA's manned space flight program can do no more than low earth orbit. Year after

year of low earth orbit does not excite the American people. Astronauts today are no longer household names. An American president here and there will give a speech saying we are going to Mars. Even President Bush's January 14, 2004 speech seems to have already been forgotten by the American public.

When we went to the moon this was the start of an exploration. A goal was set on May 25, 1961 by President John F. Kennedy, during a speech before a Joint Session of Congress, to reach the moon before the end of the decade. NASA kicked into high gear and achieved one of the greatest accomplishments in the history of mankind. We took the first step into space and then just stopped. Since then all of the manned space missions have never gone beyond low earth orbit, and the American public becomes bored easily.

For NASA to gain the American interest and support of the Apollo days, they must send true explorers out into space. NASA wants to take such small, time consuming incremental steps that by the time comes when the really exciting work begins, the American support and interest may be eroded to the point where NASA may no longer have the financial means by which to accomplish such an endeavor. If we are going to go into the cosmos, then lets do it and stop the futile activity.

A private enterprise is not a bureaucracy. If safety issues arise from qualified personnel within a bureaucracy, these issues may not resonate to the proper people within the organization. A case in point is the Challenger disaster. On January 28, 1986, just over a minute into their flight from Cape Canaveral in Florida, the Space Shuttle Challenger blew up. The knowledge of a strong potential for an O-ring failure, at low temperatures, between the segments of the solid rocket boosters of the space shuttle, existed within the bureaucracy of NASA before the Space Shuttle Challenger explosion.

More specifically, this critical information in terms of probability of O-ring compromise was expressed by engineers at Morton Thiokol, the contractor for the development and production of the solid rocket boosters. This highly critical information never percolated upward from Morton Thiokol to the proper people within the NASA organization. This information was filtered out within the NASA bureaucracy.

Information transfer within a bureaucracy must pass through several levels and stoppage can occur at any level due to an individual deciding that the information is not significant. Or, by the time the information reaches the right people, the degree of criticality may be gone. The information that the engineers originally wanted to express may appear less critical. In a bureaucracy, to many people make to many decisions.

This completes part 1 of this article. To read the second half of this article, go to "The Role of Private Enterprise in Putting Man into Space - Part 2."

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