

# Humans and Comphumans in Space

By Clark M. Thomas

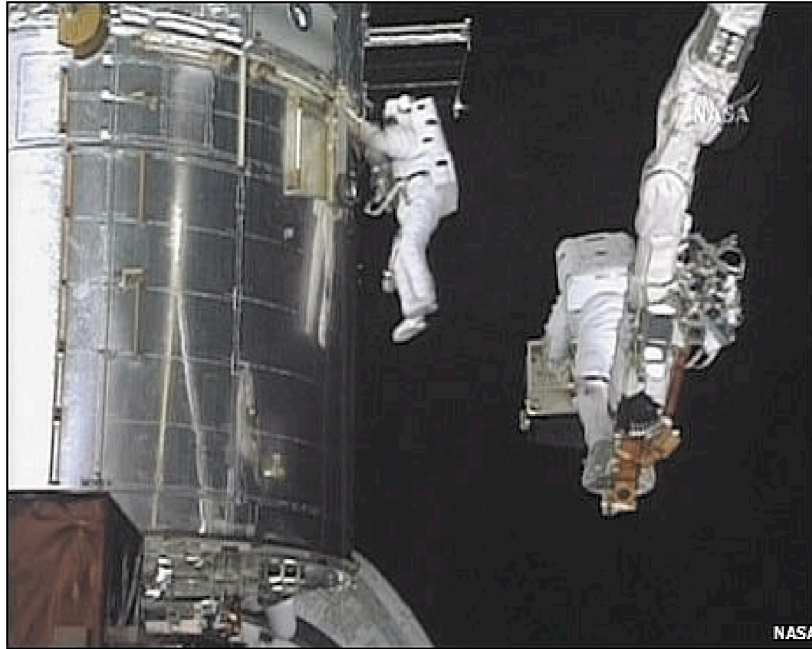
Who was the first human in outer space? Why, it was Yuri Gagarin. The first man to walk on the moon? Neil Armstrong. And the first self-conscious philosopher machine in space? Say, what???

Let's be honest with ourselves. Silicon calculators in space have advanced the cause of science much more than biosphere-hugging humans.

Nevertheless, without the human dramas unfolding in space, or on the way there, it would be hard to vacuum out all those billions of dollars from taxpayer pockets. Who would watch live TV with only hard-working robots?

I remember many years ago jumping up from my chair to nervously stare at my television screen just before the Challenger was set to launch. Yes, I had seen and virtually ignored several other Shuttle launches from my television, but this time I had a creepy premonition. The shock I then and there experienced watching the heroic Challenger crew get blown to bits has never left my emotional consciousness.

I recently watched NASA TV as the Atlantis was preparing to leap into space to service the Hubble one last time. Yes, I would have watched that launch anyway, just because it was the Hubble they were visiting.



Astronauts Michael Good (left) and Mike Massimino repair Hubble's existing spectrograph during the mission's fourth spacewalk on May 17, 2009.

The vision of heroic astronauts strapped into their seats next to vast quantities of explosives, and heading toward dangerous space, set me up for tears of joy when the thundering rocket did gracefully send off its humans.

We have been tossed into a strange new world of hypo-income and hyper-debt. Every solution to our economic dilemma has a high future cost. Every future trip by humans into space has a steep price tag that future taxpayers may increasingly question. Why not? Compare the scientific productivity (if any) of the megabillions spent/wasted on the Space Station, versus the awesome return for the \$10 billion spent on the Hubble. Yes, the Hubble could never have achieved all of its marvelous discoveries without servicing

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missions. Therefore, it could be said that manned flight and machines have found their finest intersection in this project. But what about the future of space?

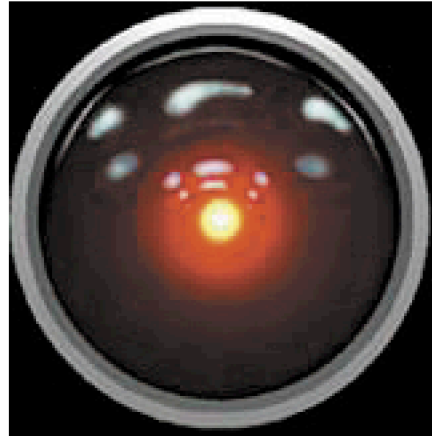
Within thirty years there will appear a new species of life form, which we will have created "in the image of God," as secondary creators. The emergence of self-conscious, philosophical life will be a virtually unintentional derivative of sophisticated engineering to accomplish operational space objectives.

These philosophically conscious computers will be created to inhabit deep space probes to Mars, Jupiter, and beyond. Whereas we can communicate with only a couple of seconds delay even to astronauts on the Moon, it takes hours to talk back and forth with anybody, or anything, several planets away. Imagine the years of "time delay" when communicating with interstellar probes, which could be launched within the lifetimes of many reading this essay.

Those first probes will have sophisticated digital computers, not humans. Later, interstellar probes will be co-inhabited by comphumans, the emergent computer life forms, but still not by humans.

If there ever were another Hubble conceived several decades hence, then Earth would send out a crew of comphumans to set up and service it as needed. Our silicon astronauts could do the job for much

less money, and without risk to human life. However, there would be a risk to the taxpayer financial pipeline from entirely cutting out the flesh astronauts. With politics in mind, we will have to make room for humans on such flights. Instead of comphumans controlling robotic arms, for example, humans will do it.



HAL's eye in 2001

Interestingly, we are backing into the future of cybernetics. We are already planning for "intelligent" machines on Mars. Oh yes, we already have basic decision making software built into our Martian hardware.

Let's move forward to the late 2030s, where we Earthlings are finally getting serious about Mars. Even if we humans show up for an extended stay, the whole landing area will need to have been prepared by robots and comphumans who are much better suited to a harsh environment.

Maybe that's the solution: Make the machines do all the hard work, and let the humans claim all the glory! That script has worked in the past. Why not in the future too?

If you would like to learn more about the emergence and philosophical relevance of comphumans, check out these two books. The first was written in 1995, and the second in 2006:

<http://astronomy-links.net/HandC.html>

<http://astronomy-links.net/HR21st.pdf>