

Humans are at their best, and worst, when they are exploring new frontiers.

After exploring virtually every corner of the earth, we have started to run out of new places to explore.

The oceans have been recognized as the new next frontier and exploration has been attempted since the advent of SCUBA gear with little success.

Quite simply the oceans are too wet, corrosive and heavy for long term human colonization, using existing technology.

If the land has been almost completely conquered and the seas are too inhospitable, then the only place left for our burgeoning population and exploration needs is outer space.

Outer space exploration has been moderately successful, since some rockets have been reconfigured to send humans and material into low orbits as opposed to their previous use as agents of destruction.

We have robots exploring the local solar system, numerous satellites for communication and sensor arrays and a small, long-term space station where humans can live and do experiments for a limited amount of time.

This is very impressive, considering the short time that has passed since we have been able to get our feet off the ground.

If the human race is to survive and evolve, we need to move off this planet and colonize the near solar system.

While sending a colony to the moon and Mars seems appealing to some, I would propose we need to start looking at something with more surface area and less gravity to hold us down, e.g. the asteroid belt.

Low gravity conditions seem to have physiological effects on mammals but, that can be considered just part of our evolution as we start to explore off the planet.

We may not be able to come back to a high gravity environment if we live off world, but that may not necessarily be a bad thing in the long run.

The crux of the matter is how do we explore and colonize the outer worlds if we can only send people into space in groups of 3 or 4 on the top of a fire belching tube of metal?

Our shared western fantasies show us using starships with virtually unlimited power sources, gracefully rising into the sky to break the bonds of the earth.

So far, these power sources are just fantasies and while they may be discovered and used at some unknown time in the future, we are missing a simple, readily available system that can start our exodus off the planet.

We have helium balloons that can reach the upper atmosphere, tubes of metal using liquid Hydrogen and Oxygen to launch rockets and solar sails being tested to carry materials using the push of the solar wind.

A simple modification of these three items may give us the key to send more humans and dogs into space (monkeys and cats have to find their own transportation).

- 1) Use Hydrogen for initial lift (careful, explosive!)
- 2) Pump down the hydrogen before the balloon bursts and fire off a small Hydrogen+Oxygen engine to boost the balloon to a higher orbit.
- 3) Use the empty shell as a solar sail to continue the journey.

If we can only use this launch system for small packages and materials, we would still be ahead in cost and launch time savings.

Fanciful, sure, impossible, maybe, but we have to try and fail a few times to determine if it will work.