THE SHACKLETON PROJECT

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Abstract

The Shackleton Project (named after the South Polar explorer) is aimed at human expansion into space. It has the following characteristics.

1. It is to be financed by people who value the goal of human expansion in space. It does not promise financial return on investment.

2. Support is to be solicited from people (mainly rich people) all over the world.

3. It involves minimal cost missions and accepts that they will be dangerous. Its reaction to any disasters will be to learn and keep trying.

4. A possible first mission is a one way journey to explore the moon by two people—or maybe only one. Resupply is promised but not return. The voyagers' careers are to be the exploration of the moon. A preliminary inquiry gave assurance that there are plenty of qualified people who would take part in such missions, accepting the dangers.

5. An asteroid or Phobos or Deimos are also possible.

Here are some premises:

- Human expansion into the universe is an attractive idea to a substantial fraction of people.

- There is another substantial fraction who regard it as undesirable or who are so focussed on other matters as to regard negatively any resources spent on it. A substantial fraction of scientists are in this group. The great majority of scientific study of the space and planetary environment do not seem to them to require manned space, and many space scientists begrudge money spent on it. This is the main justification given for opposition, but it probably doesn't account for all the psychological effects. Anything that has been depicted in science fiction makes some people very nervous.

- The combination of these two phenomena leads to a substantial spending on man-in-space but not as much as could usefully be spent without seriously impacting society's ability to deal with other problems.

- The nature of man-in-space activity has often been diverted into unproductive channels.

- The cold war pre-empted space activity for government, both by imposing secrecy on some technology and by sheer size of the government activity.

- Unfortunately, the proposals for profit making manned space activities did not attract the investor support required to make a project. Not all the proponents have given up, and maybe some of them will succeed in getting manned projects going.

- NASA has acquired some bad habits which lead to excessive expenditure and to much less progress than might otherwise be accomplished.

- NASA, the press and many politicians believe that the "public" believes that manned space activities must be entirely safe to warrant public support.

- This view misreads the public. If manned space work is recognized as dangerous, the public will accept the same risks to its participants as it accepted for exploration in the 18th and 19th century and accepts for mountain climbing today.

- This NASA attitude led to many inhibitions, e.g. abandoning the attempt to qualify the RL-10 rocket engine which uses liquid hydrogen and liquid oxygen for transport in the Shuttle cargo bay. This gives planetary much less capability than they should have.
- There are a large number of relatively young rich people in the U.S. today who might be attracted.
- Enough money is being accumulated outside of the U.S. and even outside the traditional West, so that major support can be hoped for. Some of these people will value participation in efforts that so far have involved mainly the U.S. and Soviet (now Russsian) Governments.

Preliminary work:

Calculations were made in the early 1980s concerning a one way mission to the moon with resupply but not return. Rod Hyde of Lawrence Livermore National Laboratories did most of them. The conclusion was that a single Shuttle launch could carry a vehicle powered by the RL-10 engine and could land 7.5 metric tons on the moon with 6.5 tons being payload.

The cost would have been a few hundred million dollars if the Shuttle launch could have been begged from Congress. Without being able to launch a hydrogen fuelled rocket from the Shuttle, the mission becomes more complicated.

An unmanned resupply launch would be required in two or three years assuming two people as the initial voyagers.

Today there are other alternatives.

One is to launch the unfuelled vehicle in the Shuttle and fuel it from Russian expendable launchers or from the Shuttle tank in low earth orbit.

Someone has to raise the money. The amount for the one-way moon mission is within the capability of many single individuals. Good contacts and good publicity are requirements.

The name comes from the following.

Classified advertisement appearing in London papers in 1900:

"MEN WANTED FOR HAZARDOUS Journey. Small wages, bitter cold, long months of complete darkness, constant danger, safe return doubtful. Honor and recognition in case of success. – Ernest Shackleton"

Shackleton commented later, "It seemed as though all the men of Great Britain were determined to accompany me, the response was so overwhelming."