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A DISCUSSION OF THE PRACTICAL ADVANTAGES OF DESIGNATING A WOMAN TO BE THE FIRST PERSON ON MARS

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THE PURPOSE OF THIS PAPER

This paper is not intended to prove that having a woman step on Mars first is the best thing to do. It is intended to provoke a discussion and reflection on whether who is first on Mars should be seen as a mission important resource, affecting the future exploration and settlement of Mars. In addition, we'll ask should this resource be employed to the benefit of Mars exploration, and future human presence on Mars. Since there are some cogent reasons why choosing a woman for that role may be a very good choice, we will look at that in terms of asking "how do we optimize support for a continued human presence on Mars.

Generating the will, the spirit, the enthusiasm, the courage for going to Mars, in vast numbers of people, is perhaps the biggest obstacle we face. Support for going to Mars is by no means universal. Many people argue that resources devoted to going to Mars would be better spent improving conditions here on Earth. Generating support for *continuing* Mars exploration is a necessary and legitimate goal of the first mission, and well worth being an important priority in mission planning.

THE IMPORTANCE OF POINT OF CONTACT

I spent two weeks at the Utah Mars Desert Research Station this winter. We had a lot of press visits in our rotation, and to our surprise, with each press group we were asked "what do you eat" as one of their first questions. At first that boggled our minds...we are running around in simulated space suits, simulating research on MARS, searching for signs of fossil life and driving ATVs and keeping the Hab running and they ask what do we eat? Who cares what we eat! BUT! They knew what they were asking. They were looking for a Point of Contact with the story for their readership. "What do you eat" is a real point of contact question. "What are you doing with that Magnetic Susceptibility Meter?" is NOT a point of contact question.

Point of Contact is a key to generating public support. The outreach challenge is to get the largest number of people possible to see Mars as something that contacts and affects them, and even directly benefits them. That going to Mars can contribute to the quality of their life, be in their self interest; then support will be widespread. The importance of outreach cannot be overstated. We achieved the Moon and abandoned it because outreach ultimately failed. If we are going to Mars to stay, we have to have deep political support that will stay the course in the face of adversity, not just in America, but in the world. If

going to Mars will take public support, staying for centuries will take public enthusiasm and commitment (and it better be global). We cannot gain that support without Outreach, generating continuing Points of Contact, and demonstrating to people that it makes a difference in their lives that we are going to Mars.

DESIGNING FOR POINT OF CONTACT

Designing boosters, spacecraft, life support, pressure suits, rovers, orbits, habitats: crew factors, the search for life, geology, exploration, even future politics on Mars...all of these are fascinating, stimulating, creative, and exciting. The “fun stuff”, and quite necessary. However for many Mars enthusiasts, political outreach and generating public support are not seen as “fun stuff.” But generating public support is the *sin qua non* of Mars exploration. It is the most important job we have to accomplish if we intend going to Mars and staying there. Fortunately, it is really possible for all the “fun stuff” to contribute to outreach, and this is a particular opportunity I want us to look at in this talk.

There are many aspects of mission planning that can include generating public support as part of the design equation. As we dream and plan Rovers and Mars bases, we can ask ourselves over and over:

"what is the point of contact with the public here?"

"How can the solution to this design problem also contribute to public support?"

If there are three colors that are technically equivalent for the pressure suits, which one feels most exciting to viewers?

Even at the most mundane level we can ask these questions....

"we are drilling holes in this support beam to make it lighter, can we arrange them in an intriguing pattern that charms and fascinates people?"

Can we have a contest to name the vessels?

Can we paint the rovers in bright colors and patterns?

I do not mean that On To Mars is the next reality TV show. I mean that Point of Contact, and creating Support, and Enthusiasm are necessary design criteria along with the weight, durability, and performance of a component or system. They are needed to sustain momentum of support, and are fundamental aspects no less than the mechanical performance of the systems.

This may be a new mode of thinking for planners and engineers, but it is a necessary new skill we have got to master. Any mission planning aspect that can have strong impact on support and enthusiasm for going to Mars should be examined carefully, to optimize efficiency and performance in the generation of support. Remember that Congress (as an expression of the public sentiment) got tired of sending people to the moon. Point of Contact excitement was lost. The Vikings had settlements in North America long before Columbus, but they stopped sending longboats to Vinland. We would all be speaking Danish or Norwegian today if the Vikings had sustained their colonies in the New World. The mere fact of Going to Mars once is no guarantee that we will be there a century later. A primary goal of the first mission must be generating deep support for future missions. For many people it is not self-evident that we can and should settle Mars. Our job is to to

keep morale high, until the human presence on Mars becomes self sustaining.

IS “FIRST ON MARS A CRITICAL ELEMENT?”

Let us consider whether who is the first to step on Mars is a critical mission aspect, which can significantly affect the generation of support for the first and subsequent missions, and for the eventual exploration and settlement of Mars.

The person who is First Person on Mars will become one of the most widely known personages in history. Great symbolic importance will accrue to this position, despite the fact that this person did not invent Mars, or create the mission that got us there. The First Person on Mars will be in a representative of all Earth. May we imagine they may even come to be seen as Earth's First citizen? They will be the primary Point of Contact for billions of people on earth. This can translate into increased support if we plan wisely for that outcome.

Historically, we have given the role of “first ashore” to the mission commander. The great explorers organized their missions, generated funding, selected the teams, and planned the equipment. They knew that saying “I claim this land in the name of the Queen” as they strode ashore through the foam, was extremely important public relations that affected their future opportunity to explore again. Now, explorations are massive industrial team efforts. The position of first ashore should still serve the mission purposes of generating future support, but the mission commander is not generically the person to perform that function. If the position of First person on Mars were simply honorary, it is an honor that can be extended to the commander of the expedition as a traditional prerogative. But if the role of First Person serves a mission important purpose, then it should be assigned based on who can best meet the needs of *that mission requirement*.

Therefore, two critical questions to ask are:

Can the determination of who is first on Mars really have an affect on generating and sustaining support for going to Mars?

How can that determination be made in a way that maximizes support?

WHERE DOES SUPPORT COME FROM?

Lets look at where support comes from:

If going to Mars is seen as a primarily scientific mission, it will gain support from people who see that as a worthwhile priority.

If we look at going to Mars as an engineering challenge, a technological advancement, it will achieve support from people who are stimulated by that prospect.

If going to Mars is seen as an adventure and an exploration, and first steps out into the universe, yet another group of people will value that aspect most highly, and extend their support.

These are all Points of Contact for different interest groups. To the extent that going to Mars is seen as all of the above ideas, support from multiple groups of people can be expected, more than from any one purpose alone.

Going further: If going to Mars can be seen in a way that inspires, unifies and connects people *here on earth*, that speaks to the improvement of life *here on earth*, people who could care less about science, engineering, or exploration will have a Point of Contact. We cannot ignore these people if we want to be on Mars a century from now. Anything about going to Mars that speaks to life here on earth, that raises the quality of life (or culture) on Earth, that makes people excited or enthusiastic about life in general, not just Mars, is an asset in terms of garnering support. Maximum support for the exploration and settlement of Mars is gained by maximizing the Points of Contact values for many diverse groups of people.

Think about it this way: if we want to get to Mars, the population of Earth is the primary crew, and we better take care of their morale, because without their support, no mission. The team that actually goes is the second crew. The morale of the first crew, the crew that stays behind, is just as critical to the mission as the morale of the crew that flies.

HOW DOES FIRST ON MARS RELATE TO SUPPORT?

Things that catch and hold the human imagination have great and subtle power...witness our fascination with the Titanic, with Vampires, with sharks, with dinosaurs...no one will ever go broke writing another book or making another movie about any of those things. People will keep ponying up the money for each encounter with those subjects. Mars is powerful in a like way, and has a similar hold on the Human Imagination. Other papers at these conventions have addressed the deep fascination people have with Mars. This fascination is a reality...how do we translate it to further the success of the mission? *One way is by paying attention to who steps on the planet first*, that is a key element in the story of Mars.

The positions on the crew will be chosen for mission related reasons, pilots, doctors, geologists, biologists, engineers.....**why not have the role of first person on Mars also serve a mission related purpose?**

We may anticipate there will be 4 or 6 or 8 in the first landing crew. There will be competent men and competent women aplenty to make the final crew selections from. The hardest job will be distinguishing among the top candidates, not finding enough who are qualified. Every one on the mission will be multi-capable, cross trained in numerous disciplines.

Does it serve the mission best to reward the mission commander with the plum of "First on Mars", or should that be considered a job, and the person selected for it that best supports the mission's success. Do we need the strongest, fastest person to step down first? The smartest? The best geologist? Or should it be the person whose taking that role

most creates support for the mission as a whole?

The role of first on Mars has no real function beyond its symbolic aspect. So optimize for that aspect. It is a courtesy position, but one with great potential consequences politically, so extend that courtesy where it will genuinely help the whole long mission of settling Mars. Consider First on Mars as one of the duty descriptions, and select for who best to perform that duty.

Again, we know there will be great historic attention given to the first person on Mars. The First person on Mars will be known across the world, will be a spearhead for the "Humans to Mars" movement, and will be called upon to speak and lecture and inspire. This will be critical to the long term success of Mars. We can see that who is first on Mars can have an effect on generating support; the next question is how can the selection be made to optimize that support?

HOW TO OPTIMIZE FOR BROAD SUPPORT

We might assume, based on familiar experience, that the likely first person on Mars will be male, white, and American. But if there were important mission advantages accruing to the choice of a nonwhite, or non-male, or non-American being first on Mars, then it would be hard to argue that a white American Male should be first. Only one person can be first...so what choice would optimize the chances of long term success in terms of support and the opportunity to return to Mars?

Unlike our landing on the Moon, landing on Mars is not motivated by cold war competition or conflict. It will require cooperation to succeed...one country may achieve landing and even some exploration, but settling and terra forming will require Global resources, and global commitment. How do we best demonstrate that this is a Human project (not just an American project) and gain broad Human support?

I say, choose one of the women on the crew to be First on Mars, and you accomplish a masterstroke of demonstrating what kind of cooperative, inclusive future we intend to make on Mars, and on Earth. We only have to give the job to the most articulate of the several competent women in the crew.

Designating a woman to be first would send a powerful, all inclusive message about who is going to Mars...Humanity is going to Mars. Not Men. Not Americans alone, but Humanity.

Choosing a woman represents including all the diverse parts of humanity better than choosing a man does. Think about the opportunity for inclusive, ecumenical, cosmopolitan generation of support, if we say, "a qualified woman is just as valuable as a qualified man, and we'll put our money where our mouth is."

Symbolism has deep point of contact overtones. Symbolically Mars has meant War and masculinity for many cultures. Historically, women have represented life and peace.

There is an intense and persuasive symbolism in having a woman of life and peace be first on to the Male planet of War. This is a magnificent Point of Contact potential, if we want broad human support for our presence on Mars.

Women are the majority of our species. A Gallup poll in 1989 asked men and women “if our investment in space research is worthwhile, or would be better spent on domestic programs?” In this poll, men supported space 51 to 43%, and women opposed 59 to 35%. It is clear that we have to work hard to win the support of women. We cannot sustain a long commitment without them. Designating a woman to be first is a powerful way of reaching for the support of women, and demonstrating that we understand that we NEED women’s support. I believe women will warm to this project in a new way. Not because a Woman *per se* will be first on Mars, but because respect and recognition will be clearly demonstrated. Human beings warm when treated with respect and recognition.

BROADER INTERNATIONAL SUPPORT

In addition, the generation of support will not be confined to women. People of many races and nationalities, who may have reasoned, self interest objections to going to Mars, can be warmed by the larger Human commitment to equality that is expressed by having a woman be first.

Those who criticize going to Mars as a First World stunt, as a drain of resources that could be helping the developing world, can be given a Point of Contact by the broader human commitment that designating a woman first on Mars makes. It says, "it's all of us, not some of us". When the first crew places a plaque about coming to Mars for all Humankind, there will be reason to believe that is true. Imagine the Earth-changing, all-in-the-same-boat, committed-to cooperation transformational effect of going to Mars being seen, without the glare of nationalism, sexism, and business as usual shining in our eyes. That is Point of Contact working to maximize broad public support.

It is unlikely that men will cool to going to Mars because of this (well, maybe a few). There will still be a First Man on Mars, for those who care. The plan has to be presented as a straightforward, intentional optimization of support resources, not a stunt, not patronizing, not tokenism, but a calculated, *real-politik* decision to further mission objectives. Even for the most “macho” among us, there is still the huge courageous task of exploration and colonization,.

Generations of children will start out with a fundamental notion of equality of the sexes that we have had to struggle to learn. In one stroke, the playing field is shown to be more leveled. Better than the first woman president, because that is just one country. The First person on Mars will also be a first Citizen of earth, they will belong to all of Earth, and represent all of earth.

CONCLUSION

Columbus could discover and explore the New World, but he could not settle it by himself, and he could not explore it all. It took the whole world to explore the whole world. Mars is a whole world, and will require all of Earth's support to explore and settle. Columbus's voyage that brought the Americas into European attention was deemed an economic endeavor, but spawned changes in nearly every sector of European society, and eventually global society. It is this aspect of going to Mars that will most change life on Earth....we hardly know what we are biting off, but it will change us by what it requires. Designating a woman to be first makes total sense when we look at what it is going to take to be on Mars for the long haul.

SUMMARY

In summary, I am saying that:

1. Going to Mars will require strong public support; staying on Mars will require broad public commitment.
2. Points of Contact are how people connect to and bond with complex projects.
3. Points of Contact and Broad public support are more important for Mars exploration than any other single planning concern.
4. People are moved by experiencing things making a difference to their and their children's lives.
5. We can and must design for maximum support, without sacrificing mission success, safety, or scientific objectives. Many aspects of Mars mission planning can include points of Contact in their purpose criteria.
6. The Role of first Person is a huge symbolic opportunity, and should be seen as a support enhancing resource, an asset to be spent wisely, not simply as a traditional honor for the mission commander.
7. Designating a woman to be first maximizes our effort to achieve long term success for the presence of humans on Mars.
8. Designating a woman to be first sends a powerful, all inclusive message about who is going to Mars...Humanity is going to Mars.