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Mission to Mars, Utah

SPACE SPACE: Isolation as Lifestyle

By Hans Ulrich Obrist and Rem Koolhaas

William J. Clancey has been to Mars - or the closest thing to it. Chief scientist for human-centered computing at the NASA Ames Research Center, Clancey has led simulation experiments in the Arctic and the Utah desert where scientists and volunteers live for weeks at a time as if they were on the red planet. Affiliated with the Mars Society, Clancey's studies show how humans negotiate small spaces - how we create routines and behaviors to capitalize on limited resources.

Wired: How and where did these simulated expeditions come about?

CLANCEY: Over the years there have been experiments by the Russians, by NASA, and by private organizations. The Mars Society started in 2001 in the Arctic, when we built the Flashline Mars Arctic Research Station. Flashline was the dotcom that donated almost \$200,000 to help us build the facility. The second one, called the Mars Desert Research Station, was built in the Utah desert. A third is being constructed by the European Mars Society and will be shipped to Iceland this summer. And a fourth is being created by the Australian Mars Society; it is intended to be located in the desert of southern Australia. The structures are all about the same size; 8 meters in diameter. The ones that are in the Arctic have two floors: an upper deck with eating, sleeping and working areas, and a lower deck with the laboratory, toilets, and other facilities.



Mars Society

What are you looking for in your simulations? Are you looking for how comfortable people are, how stable they are?

Well, there's a distinction between a spacecraft - a vehicle or capsule barely large enough for people to move around in - and something that we think of as a building, like a space station. The current space station is the size of a three-bedroom home. But living in space for many years changes the way people use their space, their personal space. In the research stations that the Mars Society has constructed, we have this idea of the stateroom, a place - with a door, a table, and personal storage - where you can get away from people. We found that, after just two weeks, people who have a computer connection prefer to go into their stateroom for many hours of the day, very often with the door closed. It was not that they had a problem with other people. It just seems that for this kind of work, we like to have no distractions.

You've said that traveling to Mars will make future space travel "less scripted." What do you mean by that?

I mean that what astronauts would be doing wouldn't be planned in as much detail and so far in advance, and they would not be monitored minute by minute, hour by hour. The main reason is that, with the distance of a mission to Mars, the time delay with Earth is so long (up to 20 minutes) that it prevents conversation, and people are required to use email. Also, the Apollo missions lasted only a few days, which you can actually plan down to the minute. But a mission of several years is too long to be planned down to the minute - too much can happen. Another factor is the size of the crew. When you have six people living alone and making decisions, they will develop their own type of autonomy. They have to be capable of acting on their own, not calling back every time there is a problem.

So the subjects are essentially pretending to go to Mars by living in the desert. What is your role as a monitor?

In April of 2002, I was most interested in having a "closed simulation": a really tight study of how we used the habitat - how we planned out time and adjusted our plans. So we needed to be really isolated, only speak to ourselves, without visitors, and use mail to communicate with the outside. This year, we will be testing a wireless computing and communications system to help people navigate and schedule their time, and keep records of what they are doing. We'll have as many as 15 people, not all living in the habitat, but mostly in the hotel near by, about five miles away.

What is your vision for the next 50 years?

We are certainly capable, in 50 years, of having an Antarctica-style permanent science colony on the moon, and of having a space station located between the moon and Earth. And it is hard for me to believe that, in 50 years, we will not have made our first mission to Mars. There is good reason to believe that eventually there will be a more or less permanent base there.

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