

TOURISM TO THE RED PLANET: CONSIDERATIONS FOR EARLY MARTIAN EXPEDITION PLANNING Jennifer H. Laing¹, ¹School of Business, La Trobe University, Bundoora, Victoria, 3086, Australia, email: J.Laing@latrobe.edu.au

Introduction: One aspect of Martian expedition planning which might be overlooked or under-emphasised is the importance of early missions paving the way for future tourism from Earth to Mars. Assuming a 500 day mission, there may be scope for tourists to visit Mars while the first crews are still on the surface, assuming a permanent base is established, or in the years following this historic event. This extended abstract uses a scenario of a human base in the vicinity of the Meridiani Planum region of Mars in 2019 and examines some of the issues surrounding tourism to Mars that should be considered by expedition planners, including planetary protection and environmental considerations and provision of tourism infrastructure.

Supporting and promoting space tourism activities may arguably have a flow-on benefit to the exploration and colonisation of Mars, as it provides a commercial rationale for developing new technologies aimed at getting people to Mars faster and more frequently and facilitates infrastructure and activities which can be used or enjoyed by permanent residents, such as entertainment areas and sporting activities. Tourist activities can also be structured to highlight the need for future funding of research and development on Mars. Tourism and tourism planning therefore has a vital role to play in general expedition planning.

Space Tourism in the 21st Century: Space tourism in the early years of the 21st century covers a vast range of activities, including terrestrial visits to planetariums and space exhibits at museums, participation in 'zero-g' flights and visits to the International Space Station, although the latter experience is only available to the privileged few who can pay the rumoured U.S. \$20 million price tag [1]. Tourism further afield, such as to the Moon or Mars, is yet to become a reality, although it would seem to be an obvious development, given demonstrated public interest in space travel [2] and the fact that tourism has traditionally been drawn to "the periphery of settlement districts, as it searches for a position on the highest mountain, in the most lonely woods, along the remotest beaches," [3]. A travel guide to Mars has already been published [4]. Tourism in 'frontier' regions tends to be elite in nature [5] and often confers upon its participants a certain level of 'prestige' based on its rarity value, high cost and level of risk. A trip to Mars has been labelled the most 'prestigious' travel imaginable by tourists who have already visited many places here on Earth [6]. Plans for the first people to land on Mars and development of a human

base, such as the European Space Agency's Aurora Program or the announcement by President Bush in 2004 of a future American Mars mission, may act as a catalyst for commercial or private travel to Mars. The race to be one of the first non-astronauts to visit the Red Planet may result in pressure for tourism to take place before many of the critical planning issues are considered, such as the optimum numbers of tourists, the types of activities and destinations they may wish to visit and provision of adequate tourism infrastructure, such as eating places, accommodation and transport on the Martian surface. This abstract is not intended to cover all these issues in detail but will highlight those that should be considered in Martian expedition planning, particularly relating to the first or early human missions to Mars.

Preserving and Protecting Future Martian Tourist Destinations: The future Martian tourist may wish to visit or view first-hand many of the spectacular sights or localities, which at present are only able to be seen via photographs brought back from the surface by robots or orbiting spacecraft. Many of these places have attractions similar to those found at highly-visited destinations on Earth, such as mountains (Olympus Mons), the Poles (Chasma Boreale), deserts (Syrtis Major) and historical sites (landing areas of spacecraft and sites of rover expeditions, as well as the site of the first human landing on Mars). Cockell and Horneck [7] argue that a system of national parks would allow areas of natural beauty and historical significance on Mars to be protected for many reasons, including that of tourism. They also note that "park regulations must address the inevitable development of ... tourism on Mars ... the parks might become the focus of tourist visits, just as the preservation of the Grand Canyon National Park on Earth, for instance, is made possible by encouraging people to visit and appreciate its splendour and special status" [8]. Planning for expeditions should therefore involve earmarking parts of Mars for protected status, rather like the World Heritage Sites on Earth, so that commercial development and scientific access for research is controlled and even denied in some instances, as inimical to these unique destinations. Park regulations might cover issues such as the maximum number of tourists allowed to visit each year and at certain times of the year, where access will be given, the type of transport allowed into the parks, removal and destruction of human waste and how tourists will be accommodated within their confines [9].

This level of detail needs to be worked out in advance, certainly before the first tourists begin to travel to Mars and ideally before the first human being sets foot on the Martian surface.

Tourist Facilities and Accommodation: Early accommodation of tourists in space is not likely to be luxurious or spacious, despite the fantasy perpetuated by space-themed movies such as *Moon Two Zero*, *2001: A Space Odyssey*, or *The Fifth Element* [10] showing tourists housed in sizeable resorts on the Moon or deluxe orbiting space stations. Due to the cost of materials, construction, waste management and provision of services such as an appropriate atmosphere for breathing, heating, lighting and protection from radiation [11], accommodation for the first tourists on Mars may be quite basic and even spartan. Expedition planning is unlikely to incorporate planning for early tourist infrastructure, but thought could be given even at this stage to the best ways to accommodate large groups of tourists on Mars. For example, tourist facilities will need to deal with collection and disposal of human waste, conservation of water and other resources required to sustain human life, and the health and safety of guests, as well as providing an environment which minimizes psychological issues stemming from isolation and perceived distance from home, by devices such as the use of bright interior colours, provision of music and access to communication with family and friends back on Earth. Expeditionary research should consider many of these matters, so that by the time tourists venture to Mars, some of the major problems have been solved and there is a body of knowledge in existence as to how human beings can live optimally on the Red Planet.

Life on Mars for up to 500 days will be testing on the human spirit, and there will need to be outlets for entertainment and leisure, facilitating social contact with fellow expeditioners and relaxation after a hard day's work. Some of the recreational facilities that could help expeditioners avoid boredom and psychological stress, such as restaurants, cinemas, cafes and sports facilities, may also have a future application for tourism on Mars. Expedition planning should therefore consider long-term usage of facilities for tourism, which may present different architectural and design challenges than presented by facilities built merely for functional use during a mission. Tourist resorts on Earth generally include a bar and nightly entertainment such as bands, singers and musicians, and thought should be given to ways this could be accommodated on Mars, perhaps using the talents of expeditioners as a leisure activity.

Space missions have traditionally been alcohol-free, with Apollo 8 Commander Frank Borman ordering his

crew not to sample the small bottles of brandy given to them with their Christmas meal, for fear that "if anything should go wrong the liquor would be blamed," [12]. Russian cosmonauts have allegedly drunk vodka on the Mir Space Station, although official channels deny that this has occurred. Providing an outlet for social drinking on Mars may however have psychological benefits for expeditioners and may possibly be expected by future tourists as a feature of their space tourism experience. If alcohol consumption is sanctioned, Martian expedition planners should take into account the lessons learned from Antarctic missions about dealing with problems with binge drinking or other anti-social behaviour.

A museum of history could be set up to house exhibits of significance connected to the first landings on Mars, as well as past robotic missions to Mars and spacecraft fly-bys. Expeditioners should therefore be trained to conserve, store and itemise objects and materials that may be of historical interest to tourists from Earth, as well as future generations. Other cultural attractions, which could be established on Mars during the Meridiani Expedition, are art or craft galleries containing works by expeditioners, some of which may be available for purchase and return to Earth as souvenirs, a theatre and a cinema.

Research centred on expedition mobility, using pressurised and unpressurised rovers, will assist in transportation of groups of tourists across the surface of Mars and to visit destinations far away from the main scientific base or bases. Planning could consider ways of provision of 'public' transport in the future, such as shuttle services, and the best routes to get people safely to and from tourist attractions on Mars.

Tourist Activities on Mars: Thought should be given as to the sort of activities future tourists are likely to want to experience on Mars, so as to ensure that the first human expeditions, while collecting scientific data, also catalogue and explore likely future tourism destinations and activities. Martian tourism experiences might include mountain-climbing, polar tours, canyon or wilderness treks, visits to volcanoes, and photographs of Earth from the site of the first human footprint on the Red Planet. The first expeditions such as Meridiani should allow time for recreation in many of the potential Martian tourism 'hot-spots' and data collected as to the most popular activities and reasons for this. Expeditioners may be able to provide future tour operators and companies with information connected to safety, accessibility and weather patterns.

Tourists may also wish to observe expeditioners at work, performing tasks such as collecting samples, growing food, building and repairing accommodation and taking rovers on science and exploration excursions.

sions. Consideration should be given to construction of a visitor center or some facility that allows groups to watch expedition activity in safety and without disturbing science campaigning and important expedition-related work. It could also put the expeditions and human travel to Mars into some context, with exhibits and displays of interest to tourists. Education of tourists about scientific discoveries and studies, such as geological and astrobiological research, led by an expeditioner, might also be a popular tourist pursuit

Unique sports could also be developed on Mars, to take advantage of conditions such as the reduced gravity, giving expeditioners another leisure option, as well as a potential tourist attraction.

Comparison with Antarctic Travel: The closest analogy we have to the first forays by tourists to Mars might be travel to Antarctica, with its isolation and harsh environment [13]. Increasing number of tourists are heading to Polar territories using a variety of transport and experiencing different levels of risk and adventure, varying from a solo unsupported trek across Antarctica to sailing around the coastline. Martian tourists won't enjoy the option of cruising, but there will presumably be different types of experiences available to cater for different tourism needs and motivations.

Leaving the confines of the base or transport provided requires special protection against the elements. This will also be the case on Mars, and this deterrent or hindrance to going 'outdoors' may leave some individuals feeling claustrophobic. Antarctic missions can also provide pointers as to the effect of prolonged isolation on permanent crews, some of which might be alleviated by contact with tourists or provision of tourist facilities such as restaurants or theatres which could be enjoyed by expeditioners during their leisure time or scheduled breaks from work. Failure to do this could lead to social problems among the crews. According to the *Wall Street Journal*, "People in one group wintering at the South Pole in the 1960s watched the film "Cat Ballou" 87 times. People in another, after tiring of the westerns, Disney features and pornographic films on hand, spliced the movies together into their own production and adopted a vocabulary based on their creation that was so strange that relief crews arriving in the spring could barely understand them" [14]. Antarctica might also be a useful model for protection of future tourism destinations on Mars and international cooperation and management of a fragile resource and heritage.

Conclusion: Tourism to the Red Planet, while seemingly fanciful in this day and age, could happen in our life-times or indeed the next generation. According to Dr Mike Harrison, Science and Technology Technical Director of QinetiQ, "Within 25 years I suspect we'll

have the first small colonies in Mars. In 50 years we'll be going beyond Mars and the tourists will follow" [15]. It is therefore not too early to begin planning for tourism on Mars, and ideally this should be done before the first human expeditions, so that tourism considerations are incorporated into mission design. It is argued that space tourism offers spin-offs for scientific campaigns and long-term colonization of Mars, by providing impetus and incentives for infrastructure and possibly technological developments. It also allows expeditioners the opportunity to publicise their work and gain public acceptance of the importance of future funding of these activities. This abstract attempts to outline some of the issues which could be considered during this process, many of which will go some way towards improving facilities and conditions for expeditioners and making their time on Mars less stressful and more productive as a result, as well as paving the way for space tourism down the track. The future space tourist may therefore owe a debt to the first humans on Mars, whose pioneering experiences will presumably make time on Mars less 'alien' than it otherwise may have been.

References: [1] Laing, J. H. and Crouch, G. I. (2004) 'Vacationing in Space: Tourism Seeks New Skies' in *New Horizons in Tourism: Strange Experiences and Stranger Practices*, ed. Singh, T. V. 11-26, CABI Publishing. [2] Collins, P., Stockmans, R. and Maita, M. (1994) 'Commercial Implications of Market Research on Space Tourism,' *Journal of Space Technology and Science*, 10(2) 3-11; Crouch, G. I. (2001) 'The Market for Space Tourism: Early Indications,' *Journal of Travel Research*, 40(2) 222-228; Crouch, G. I. and Laing, J. H. (2004) 'Australian Public Interest in Space Tourism and a Cross-Cultural Comparison,' *Journal of Tourism Studies*, 15(2) [3] Christaller, W. (1963) 'Some considerations of tourism in Europe: the peripheral regions, underdeveloped countries and recreation areas,' *Papers of the Regional Science Association*, 12, 95-105. [4] Hartman, W. K. (2003) *A Traveler's Guide to Mars*, Workman Publishing Company [5] Butler, R. W. (1996) 'The Development of Tourism in Frontier Regions: Issues and Approaches' in *Frontiers in Regional Development*, ed. Gradus, Y. and Lithwick, H., Rowman & Littlefield [6] Riley, R. (1995) 'Prestige-Worthy Tourism Behavior' *Annals of Tourism Research*, 22(3) 630-649. [7] Cockell, C. and Horneck, G. (2004) 'A planetary park system for Mars,' *Space Policy*, 20, 291-295. [8] Ibid, 4. [9] Ibid. [10] Laing, J. H. and Crouch, G. I. (2004) 'Out of This World? Exploring the Contribution of the Media to Expectations of Future Space Tourism Experiences,' *Proceedings of the International Tourism and Media Conference*, La Trobe University, Melbourne. [11] Zubrin, R. (1996) *The Case for Mars*, Touchstone Books

[12] Zimmerman, R. (1998) *Genesis. The Story of Apollo* 8, Dell Books, 259. [13] Smith, V. (2000) 'Space Tourism: The 21st Century 'Frontier'' *Tourism Recreation Research*, 25(3) 5-15. [14] Burrough, B. (1985) 'Polar Privation: Antarctic Life Proves Hard Even for Those Who Love Their Work' 12 October, *Wall Street Journal* [15] BBC, The Open University (2001) *Ever Wondered?* Saturday 7 July, <http://www.open2.net/everwondered/space/tourism.html> (accessed 27 March 2005).