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Political geographies of Mars: A history of Martian management

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Abstract

The task of this article is to provide an analysis of the uneven terrain of Martian political geographies in the context of western political economic trajectories. Focusing on debates over the nature of Mars's legal status, the article attends to a key question, a question that has not yet been answered: should Mars be a *terra communis* – the common property of humanity, unavailable as private property – a *terra nullius* – or space available for private property claims – or a 'cosmic park' space of intrinsic value? That is, should Mars be claimable space, and if so, how could it be transformed into a possession, and by whom? By outlining arguments both for and against the idea of Mars as available for claiming and colonization, the article demonstrates that when it comes to Mars, the historical processes of imperial and capitalist management and organization of 'new' spaces are not the only options available for humans' relationships with Mars.

Key words • Mars • outer space • space colonization • terra nullius • terraforming

Outer space has now become a recognized area of human activity. As activity in this area develops over the coming decades, sound management of outer space will become increasingly important. (United Nations Environment Programme 2009)

Political geographies of Mars

Popular contemporary discourse around Mars has clear and unmistakable roots:

'A new golden age in ... exploration has begun' (BBC 2006), and 'volunteers [are] needed' for 'hard work, no pay, eternal glory' (Mars Society 1998) on 'the new frontier' (Zubrin 1996a, 297).

Meriwether Lewis and William Clark left St. Louis to explore the new lands acquired in the Louisiana Purchase. They made that journey in the spirit of discovery, to learn the potential of vast new territory, and to chart a way for others to follow. America [will] venture [...] forth ... for the same reasons ... the desire to explore and understand is part of our character. (Bush 2004)

The creation of a new frontier thus presents itself as America's and humanity's greatest social need. Nothing is more important, because apply what palliatives you will, without a frontier to grow in, not only American society, but the entire global civilization based upon

Western enlightenment values of humanism, reason, science, and progress will ultimately die. (Zubrin 1996b)

Explorer missions set out, as do Mariners, Vikings, and Pathfinders. Their mission is to explore, map, and thus, as this recognizable discourse has it, to possess 'new' territories.

While some groups plan exploration missions – designing ever bigger and more expensive crafts – others plan for colonization: testing building materials, gardening equipment, and determining who the best people might be to settle these spaces. The discursive field, as well as the practices here, are instantly recognizable, even hackneyed: this is colonialism, the project of which is to gain control of new territory and resources. The difference from other deployments of this discourse is the time and the place: the time is now, and the place to be colonized is not another continent, but another planet: Mars.

'Colonialism' has a specific meaning here: rather than a vague pejorative portmanteau used to house a myriad of power relations, it refers to the creation of distant land as the property of a metropolitan state, generally for the economic benefit of the colonizer.¹ As such, colonialism incorporates expansionist capitalism. Martian colonialism does not begin with the launch of the first exploration ships or at the moment the first rocket touches down on Mars. It begins with ideas, epistemologies, expectations, discourses, and pronouncements, an organizing of the world in a legal, logical, and managerial framework that demands colonization. Martian colonialism is therefore not science fiction fantasy: it has begun in earnest, with many millions of dollars already invested in its success. There are political, strategic, marketing, and operational plans at work. In his 2004 announcement of the USA's new space policy, George W. Bush (2004) stated that Mars would be the next body on which the USA's human presence would be felt. Bush's Martian vision was not a new development in the USA. Since the 1986 US National Commission on Space's declaration of its aim to settle on Mars and the Moon, Space colonialism has featured on US Space policy agendas.² The European Space Agency, similarly, is investing heavily in robotic probes that will scour the Martian surface for

optimal colonization sites (BBC 2006). China and Russia announced in March 2007 that they would send a joint mission to Mars by 2009. And in schools around the world, children design Martian colonies as part of their homework, with teachers being trained in how best to bring Mars into the classroom (Middle 2006), and companies offering schools ready-made Martian exploration simulation programs (Space Explorers 2007).

We use the term 'spatiality' to refer to the composite nature of any geographical space: it works as a shorthand for the combination of physical, imagined, and epistemological spaces that together comprise a single place. We attend to Martian

spatiality for two key reasons. The first motivation driving this study is a straightforward concern with spatial accountancy: what kind of a space is Mars at this moment?

What kind of a place is Mars before the work of its physical colonization begins? Can Mars be legally owned, and if so, by whom and through which processes? And are any of the numerous lessons learned from European colonialisms of the past relevant to Mars? And is the future of Mars necessarily colonial? The second motivation is a curiosity about the ways in which geographies are produced as artefacts of systemic trends in political economic terms. Mars presents a unique case for postcolonial spatial analysis: it is precolonial, a space at the threshold of a significant spatial change.

It represents an opportunity for postcolonial studies to refocus on the present – and future – tense, and on colonialisms other than those of the European past.

Postcolonial spatial theory is an analytical lens through which to view Martian spatiality in its historical character: it allows for a useful view on the cultural construction of the planet, the discursive production of its spatiality, and the ways in which established power groups work to prefigure the planet as an object of capitalist commodification and strategic managerialism. Yet frustratingly, despite the proliferation of postcolonial analyses of past colonial spatialities, when it comes to new colonialisms, there is a curious critical silence. To generalize, postcolonialism tends to figure imperialism and colonialism and their associated spatialities as historical European phenomena from whose ruins nations such as Australia, Indonesia, and

Canada have emerged. As Ferro (1997, viii) argues, postcolonialism is inherently Eurocentric because it focuses almost entirely on European empires, European epistemologies, and European spaces of the past. Or as Dodds (2006, 60) points out in his discussion of the difficulty of accommodating contemporary Antarctic colonialisms within existing postcolonial theoretical frameworks, 'post-colonial studies are too preoccupied with a linear account of liberation in certain countries'. For example, despite the fact that Australia has laid contentious claim to 42 per cent of Antarctica since 1933 – a claim solely based on acts of imperial exploration and flag-raising, and ongoing colonization – the voluminous field of Australian postcolonial studies has refused or failed to acknowledge this situation. A survey of leading postcolonial journals demonstrates this refusal: of the hundreds of articles in these publications, not one deals with Antarctica, and not one addresses Space.³ And while there are clear similarities between past and present colonialisms, the planned colonization, exploration, and spatial production of Mars are decidedly unlike British practices of the last few centuries. But this does not automatically eliminate Mars from the field of colonial spatiality.

Like Graham's study of 'electrospace' the finite geotechnical space of the electromagnetic spectrum (2001) – this article focuses not on negotiations over existing terrestrial spatialities, but on the emergence of an entirely new space of human activity. And like Graham's study, we largely focus on debates surrounding attempts to transform that new space into a specific kind of cultural space: property, or a territorial possession.

Mars, management, and the preemptive control of history

In order to understand the politics of Martian spatiality, it is also necessary to briefly contextualize them within capitalism. The trajectory of western political economies

has unquestionably been towards the monetization and commodification of everything imaginable. Behind this drive has been, first, the propertied classes of Europe and, latterly, a more universalized managerial class. What was to be owned, claimed, and commodified under capitalism was prefigured in the enclosures movement that began in the late 14th century. The shape of future capitalist commodification strategies became further evident in moves by early traders to 'gather up' and concentrate the efforts of Europe's traditional craft workers in a piecework system that de-localized the character of work (Weber 1930). Rather than being seen or experienced as an expression of accumulated history, tradition, and local knowledge, labour became oriented towards the future realization of a price, whether on the part of traders (as profits) or workers (as wages). The dominant tense of work thereby moved from past to future, from actual to potential, from a network of mutual obligations to motives of future personal gain (Graham 2001). By the late 20th century, the full expression of this movement came in the form of a massive debt bubble. Seen at its most abstract and general level, the current global financial crisis is nothing less than the commodification of future human life and energies.

Thus the arc of capitalist commodification can be seen to stretch from heritage, culture, and tradition – broadly speaking, the Past – to the commodification of all future social relations (Graham 2002). We see this as an inherent and inevitable function of contemporary managerial discourse, which today begins all approaches to reality with a 'strategic plan': a technical device for defining, shaping, and controlling future environmental and factoral contingencies based on expectations of profit and personal gain, all of which is to be achieved through increased control and 'efficiencies'. Here is NASA on the matter of management:

On April 24, 2002, the NASA Administrator directed the Agency to support

the President's Freedom to Manage Initiative with the principal goal of removing barriers to more efficient management, with the expectations of improved accountability and performance. To support this government-wide initiative and achieve management excellence, the Administrator established a new policy. NASA Policy Directive 1280.1, NASA Management Systems Policy, provides for management systems rigor and discipline, while accommodating and providing flexibility to, the full range of mission risk managed at HQ and Centers. (NASA 2009a)

NASA has situated itself firmly within strategic management discourse. As NASA is one of the primary agencies conducting missions to the planet, Mars has also become an object of strategic planning, managerial control, and capitalist commodification processes. Mars can therefore be seen in discourse as a synecdoche of capitalist value relations – a distant and seemingly small 'part' of the system in which the pattern and trajectory of the whole can be seen. This becomes most clear when the politics of Martian exploration, ownership, and control are investigated.

In what follows, we attend to debates around the meaning of Mars as an artefact of managerial discourses of control and exploitation; a systemic expression of colonialist capitalist commodification processes; and an exemplar of historical trends in political economy. National governments, Space agencies and societies, and private companies are investing intense energy in Mars's exploration and future colonization. It is an important object of contemporary political economy. Our approach is grounded in cultural geography set within a postcolonial framework. It therefore focuses on Martian spatiality as a political object. 'Political' here does not refer solely to geopolitics, although geopolitics is included in its meaning; we use 'political' to describe motivated relationships between organizations, territories, species, and ideas. We concentrate on two important aspects of discourse about Mars that encapsulate the political and the economic, and in which we can see the synecdochal aspects of Martian

colonization in respect of capitalism's historical development: (1) the debate about whether Mars is legally terra nullius or terra communis (politico-legal concerns) and (2) the debate about whether Mars should be terraformed to accommodate human occupation or preserved to respect the innate value of an alien planet (economic and environmental concerns). Like Dickens and Ormond's (2007) exploration of capitalism's expansion into Space, and Parker's (2009) analysis of Space capitalism, we agree that 'it is naïve to imagine that Apollo and the rest have been free from such earthly entanglements' (Parker 2009); and, with McDonald, that 'what is at stake – politically and geopolitically – in the contemporary struggle over outer space is too serious to pass without critical comment' (MacDonald 2007, 593).

Legal parameters of Martian ownership and control

One of the busiest areas of Martian spatiality is international territorial law. As Space becomes busier and busier—particularly the near-Earth orbital domain in which terrestrial satellites circulate (Pace 2003; Roberts 2000) – international Space law is growing in complexity and importance.⁴ Nicholas Blomley (1994) asserts that analyses of territorial law largely neglect the spatial dimension of their investigations. But as the emerging field of critical legal geography demonstrates, law is not a neutral organizer of space, but is instead a powerful cultural technology of spatial production (Blomley et al. 2001). In other words, law makes space and does not simply govern it. As a major cultural constituent of Martian spatiality, Space laws and treaties are of considerable importance in understanding the politics of Martian colonization.

Martian legal spatialities are derived from two terrestrial legal spaces: Antarctica and the high seas. In 1957, a major event took place in Antarctica which became the trigger for a radical development in the world's legal spatiality: the convivial 1957 International Geophysical Year, in which 12 states – including the USA and the USSR – cooperatively

participated in large-scale Antarctic research projects despite Cold War tensions. The 1959 Antarctic Treaty (which entered into force in 1961) reconfigured the continent's legal spatiality from its status as a series of imperially-claimed territories, transforming it into a quasi-shared space: after 1959, no nation has been allowed to stake a claim to Antarctic space, and the seven pre-1959 claims of states, including Australia's, occupy a shaky position in which states who choose not to recognize them do not legally have to. To date, only four other states – all claimants themselves – recognize Australia's claim to 42 per cent of Antarctica. The rest see the continent as legally international space. The Antarctic Treaty transformed Antarctica into a variety of terra communes, or land owned by everyone, a legal space that has no parallel anywhere else on the Earth's landmasses (a variety, however, significantly complicated by the assertive spatialities of polar claimant states). In producing an entire continent as international space, the Antarctic Treaty articulated an ethical spatiality that differed radically from the standard one of state possession, an ethic that insisted that Antarctica was of more value as a pristine physical site than it is as a series of state possessions. The significance of this transformation cannot be understated; to explain its importance, it is necessary to anatomize two distinct legal spatialities: terra nullius, and terra communis.

In international law, there are two main ways in which to spatialize – or define – unclaimed land: as terra nullius, or as terra communis. Terra nullius means land owned by no one: in international law, terra nullius is defined as land that is available for possession, or land awaiting claimants, and was the legal basis of England's claimed possession of Australia (Reynolds 1987). Premised on Lockean principles, terra nullius is transformed into a state's sovereign possession through its occupation, settlement, and economic development and use, as well as through formal legal pronouncements in international legal venues (Simsarian 1938). If Mars was terra nullius, it would be available to states as a potential territorial possession. Terra communis, on the other hand, derives from the Roman law of res communes (a thing held in common), and refers

to spaces considered incapable of exclusive ownership. In Roman law, *terra communis* included the oceans and the air mantle (Rose 2003, 91), although today both of these spaces are now increasingly privatized. *Terra communis*, also known as the doctrine of Common Heritage, or the Common Heritage Principle (CHP), 'conceptually entails the principle of non-proprietorship ... the key consideration would be access to the region, rather than ownership of it' (Joyner 1986, 194; see also Herber 1991).

Terra communis cannot be transformed into a spatial property of either states or nongovernmental organisations; under the CHP, *terra communis* must also: be managed by a multinational body such as the UN, must not be militarized, and, controversially, any profits made from the 'use or exploitation' of *terra communis* by one group must be shared equally with 'all countries, without regard for their input' (Marko 1992–3, 310).

Aspects of the CHP – particularly non-sovereignty, non-militarization, and scientific cooperation – first appeared in law in the Antarctic Treaty. The CHP version of Space is popular among developing states because it prevents more powerful states with the money to appropriate celestial *terra nullius* from doing so, and because it allows developing states to benefit financially from the Space activities of wealthier states. Whether *terra communis* represents a radical revisioning of the Earth's unequal distribution into propertied territorial states, or a communistic (Hudgins 1998), socialist (Hudgins 1998) return to a 'commons' view of territory (Hardin 1968) is a matter of historical perspective. *Terra communis* explicitly rejects the spatialities of colonialism and prevents Mars being spatialized as the property of developed states and organizations in a 'first come first served scenario of resource allocation which is repugnant to the third world' (Marko 1992–1993, 321). *Terra communis*, like *terra nullius*, ontologically and inevitably situates land as a human resource, but, unlike *terra nullius*, *terra communis* configures land as a shared human resource that transcends national bodies and boundaries. But which is Outer Space to be?

In 1957, the USSR's Sputnik 1 blasted into the atmosphere and the Space race between the USA and USSR began in earnest. The Cold War was to extend beyond

Earth's atmosphere. Sputnik had a significant impact on the spatiality of Space: the satellite overflew many states, including the USA, without requesting permission to do so, and without receiving any diplomatic protests about its violations of national airspaces (Launius et al. 2000). In doing so, it established at customary international law a new spatiality of Outer Space: Space became a site of non-sovereign freedom, akin to the high seas, and different from national airspaces, through which satellites could travel without encroaching on any national boundaries or property. The USA, seeing this as an opportunity to keep Space open for its own spy satellites, and seeing it as a way to avoid a costly extraterrestrial war, quickly endorsed this new spatiality (Stone 2006). Buoyed by the success of the Antarctic Treaty, a coalition of nations under the UN adapted and extended the laws of Antarctica to Outer Space (Marko 1992–1993).⁵ The 1963 UN Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space stipulates two primary spatial precepts: one, that like Antarctica, outer Space could not become the sovereign property of states; and two, that outer Space was a legal terra communis, and part of the 'common heritage of [sic] mankind'. But the Declaration was only a UN statement of legal principles. In 1967, the Outer Space Treaty (OST), as it is commonly known,⁶ was adopted by the UN General Assembly to legally codify the status of outer Space by reasserting its non-sovereign nature. The OST produced Outer Space – including Mars – as a space of international parity and justice by mobilizing the CHP, stipulating that developing nations should benefit equally from any proceeds of Space exploration, particularly from resource extraction (Herber 1991, 393). Between 1955 and 1970, Mars's legal spatiality shifted radically. No longer was Mars simply another res nullius space 'out there' awaiting national claimants; after the OST, Mars became a shared international space in which national claims, weapons testing, and scientific secrecy were banned (United Nations Office for Outer Space Affairs [UNOOSA] 1967). For the first time, Mars had been legally spatialized (Marko 1992–1993, 299).

The question of resource extraction, particular on the Moon, drove the next step in Space's legal spatiality (Fountain 2003, 1763; Hurtak 2003): the UN Committee on the Peaceful Use of Outer Space's 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (generally called The Moon Treaty, although it applies equally to all celestial bodies) forcefully declared that 'the Moon and its natural resources are the common heritage of mankind [sic]' (United Nations, 2002) and that any profits made from extraterrestrial resource extraction would have to be shared with the world's poorer countries. It is here that Mars's legal spatiality becomes complex and contested: only eight non-Spacefaring nations – Australia, Austria, Belgium, Chile, Kazakhstan, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines, and Uruguay – have ratified the Agreement, and the USA and Russia rejected its 'common heritage' elements explicitly (Herber 1991). Space, according to the USA, is not a site of international cooperation and profit-sharing.

As Hertzfeld and Von der Dunk (2005, 97) explain, 'as long as the potential for valuable economic resources on the moon exists and the possibility that private firms can make a business out of using those resources, it is highly unlikely that the major spacefaring nations will ever agree to a Common Heritage agreement'. Further, the original OST, which the USA did ratify, may configure Mars as beyond the sovereignty claims of states, but the status of non-government organizations – specifically corporations, whose Space expenditures now outstrip governmental outlays (McCurdy 2003, 244) – remains unclear in the Treaty. Many legal commentators argue that the Treaty's contradictory Articles complicate Space's spatiality: under both Treaties, states may not claim Space as their sovereign possession, but they do retain full property rights in any Space stations or facilities, even those constructed on planetary surfaces or subsurfaces (Marko 1992–1993, 322; Wiles 1998, 520). Similarly, states may not claim Martian land while it is still on Mars, but if they

remove any Martian resources from their original locations, these resources become national property and can be exploited (Christol 1981; Marko 1992–1993, 320). The status of Martian space in relation to non-governmental organizations remains under intense debate (Handberg 2006; Pace 2003). Many insist that the OST prevents state sovereignty, but not necessarily private property for non-state actors (Hertzfeld and Von der Dunk 2005; Kopel and Reynolds 2002). As US space entrepreneur Jim Benson, CEO of Spacedev, argues, if he claims land on another planet and commences mining it, ‘what are they [the UN] going to do?’ (Australian Broadcasting Commission [ABC] 2005). We are reminded of the historical parallel in the giant monopolies granted to entities such as the East India Company, the corporate manifestations of mercantile colonialism.

The corporate sector is already beginning to specialize in extra-terrestrial resource extraction and Martian settlement:

4Frontiers Corporation is an emerging space commerce company focused on the settlement of Mars. It recognizes the economic potential resulting from the convergence of four current and upcoming space frontiers – Earth orbit, the Moon, Mars, and Asteroids. Technology development, consultant services, informative entertainment and education are the company’s primary focus areas. The company’s distinguished team is from around the world and includes experts from NASA, MIT, Stanford, University of Florida, Embry-Riddle Aeronautical University, and other respected institutions. (4Frontiers Corporation 2009a)

Predictably, 4Frontiers and other similarly oriented corporations are opposed to the terra communis view of Space:

The Moon Treaty prohibits property rights and declares celestial bodies and their natural resources ‘the common heritage of mankind.’ The only way that

spacefarers can utilize resources or obtain protection of their property rights is under the auspices of an 'international regime' which would be established by the Treaty. The international regime would effectively tax space activities and give a portion of the proceeds and technology to countries that do not invest in space development or settlement.

... Fortunately, the Moon Treaty has not achieved the widespread acceptance that it needs to be effective. The UN COPUOS Legal Subcommittee has also repeatedly failed to reach agreement to discuss a new comprehensive space treaty. So it appears that for the foreseeable future the UN COPUOS will be unable to reach consensus regarding international regulation of space resources.

(White 2009 cited in 4Frontiers Corporation 2009b)

The general assumption of corporate lobbying in relation to Space law is that the future of Space is a corporate future, that Space business entails significant risk, and that therefore, it is important that 'the best course of action is for the spacefaring nations to enact legislation which provides for property rights without territorial sovereignty' (White 2009 cited in 4Frontiers Corporation 2009b). Along with 4Frontiers, corporate and government agencies have turned their interests to mining the cosmos (see for instance Lucidian 2008–2009; Valentine 2002). Often such efforts are framed by a concern for the environment (O'Neill 2000). In the tradition of managerial 'technocratic discourse' (McKenna and Graham 2000), the threat of a catastrophic future is put forward as a reason for more of the same, and for why Space cannot be profitably seen as terra communis. Valentine (2002), Director of the Space Studies Institute, exhorts the private sector to 'mine the sky, defend the Earth, [and] settle the Universe'. Free market managerialism naturally sees the private sector as central to such efforts and, clearly, the terra communis view of Space is due an enclosures movement of its own, first in discourse then in commercial and technical practice.

Terraforming or preservation

Clearly, ideological orientation underpins debates about legal spatiality: at stake is the question of whether or not planets should be the possession of states and or corporations, and whether planetary resource extraction should benefit few or many. It similarly informs another important dimension of Martian spatiality, which is whether or not to terraform Mars. Karl Sagan published the first scientific study advocating terraforming in 1961, but the terraforming debate began in earnest in 1990 when NASA published the proceedings of a major terraforming workshop (see Committee on Human Exploration of Space 1990). In 1990, Robert Haynes coined the term 'ecopoiesis' to describe the possibility of modifying terrestrial biota for implantation on Mars (Haynes 1990): this process would first involve manipulation of the Martian environment in order to render it habitable (Fogg 1995). Manipulation in the case of chilly Mars entails the heating and thickening of the atmosphere, and the freeing up of some of the planet's currently frozen water supplies. Chief among the various proposed methods for Martian ecopoiesis are the focusing of giant mirrors on Mars's surface, and the detonation of nuclear explosives on the planet to release subsurface water (Fogg 1995; Shayler et al. 2005). The next step in the process is terraforming: this is the more ambitious plan of 'creating an uncontained planetary biosphere emulating all the functions of the biosphere of earth' (Fogg 1995, 90). As Paul York (2005) writes, considering Martian terraforming means working out the relationship between humans and Martian space.

Two distinct versions of Martian spatiality emerge from the terraforming debate. Terraformers position Mars as instrumental, thus falling squarely within the positive side of utilitarian ethics (an intellectual pet of the 19th-century propertied classes): Zubrin, the founder of the assertively pro-terraforming Mars Society, argues that as an entirely lifeless space, Mars is a resource for humans to use and colonize (Zubrin 1996a). Zubrin's (1996a) spatiality is committedly anthropocentric and utilitarian: in his vision, Mars is a dead space of no intrinsic value, mutely awaiting its activation by human terraformers. Zubrin is far from alone in championing this version of

Martian spatiality. As the debate about whether Mars should be legally terra communis or terra nullius demonstrates, Mars's political spatiality is currently dominated by anthropocentrism, the position, as Pyne (2003) writes, which holds that 'as long as life or other cultures are not present, there is no ethical or political crisis [in terraforming] except whatever we choose to impose on ourselves'. As in the schism between NASA and the Mars Society – the former advocating gradual colonization led by scientists, and the latter arguing for large-scale private colonization as quickly as possible (Lambright and VanNijnatten 2003) – the spatiality of Mars as a passive resource for human use and possession remains largely unchallenged. The argument is primarily an environmental one: terraformers argue that terrestrial overcrowding and resource depletion mean that a failure to colonize Mars would eventually result in the decline of humanity. Is keeping a lifeless planet lifeless more important than allowing for the continuation of human life, they ask? Fogg (2000, 210) states that terraforming is natural because humans are essentially expansionist. McKay (1990) similarly biologizes Martian colonialism, arguing that humans are the natural 'pollinators of the universe' whose instinctive task it is to fertilize the galaxy. From a terraforming perspective, then, Martian space is inert and dead, a *tabula rasa* dumbly awaiting human animation.

The preservationist version of Martian spatiality arises in response to terraforming.

This preservationist view sees Martian space as intrinsically valuable rather than valuable only as a resource for humans. Lee (1994) argues that current environmental management frameworks must be expanded beyond the biocentric so that they encompass abiotic or inanimate environments such as Mars. At present, this perspective remains a muted one in western thinking, despite the establishment of National conservation parks in places such as Death Valley, Uluru, Antarctica, and Alaska under similar premises. Cockell and Horneck (2004) propose a series of Martian Planetary Parks that preserve key areas of Martian space in

their current form. They argue that Martian space is valuable on several fronts: intrinsically, as beautiful; utilitarian, in that it may contain material of future scientific benefit; and historical, as a place that is marked by early visits to the planet. Parks should be created, they insist, to protect and preserve key Martian sites – deserts, volcanoes, and icecaps – from any human intervention. To preservationists, Martian space is autonomously valuable, beautiful, and interesting: this position demands very limited human impact on, or alteration of, the planet. Two divergent spatialities – terraforming and preservationist – now hover over Martian space, each seeking a toehold in policy and in practice. Mars' political spatiality is thus far from settled. Its current dimensions are being shaped in the corporate and policy domains and will therefore be shaped in the image of past and present political economic trends where new spaces are concerned: enclosure, expropriation, and privatisation.

Conclusion

There has not yet been a human landing on Mars, however over a period of more than 40 years, 30 Mars missions have been attempted (Shayler et al. 2005, 20). While humans have not yet physically arrived on Mars, our robotic prostheses have. And with the January 2004 announcement of plans to send humans to Mars (Bush 2004) it is vital that we attend to Mars's political spatialities because these will configure the ways in which humans eventually physically engage – or do not engage – with the planet. The European imperial explorers who began excursions five centuries ago shifted expeditions to 'the new world' from the domain of speculation to that of physical and political practice. Similarly, Mars has moved out of science fiction and onto national budgets and the agendas of international legal bodies. Vigorous scientific, technical, and political energy is being channelled into the possibility of transforming Mars's physical geography, yet, as Linda Billings (2006) asserts, policy makers in Space-faring nations in particular have given scant attention to the political spatialities of the

planet (2006).⁷ It is these spatialities that are currently in flux, and not Mars's physical terrain. 'We have the opportunity to explore Mars', as Fox (2006, 225) writes, 'as not just a matter of what we can do, but also what we should do'. And it is political spatialities that will ultimately underpin any future activities on the planet. In his quasifictional study of Martian colonization, Kim Stanley Robinson (1994, 367) points up the importance of attending to these Martian spatialities now: 'noosphere preceded biosphere – the layer of thought first enwrapping the silent planet from afar, inhabiting it with stories and plans and dreams'.

Political spatialities, along with fictional representations and media constructions, constitute Mars's current cultural geography, its areology. The task of this article has been to provide an analysis of its uneven terrain in the context of western political economic trajectories. The task of the larger project of which this article is an early part, however, is only barely initiated. What comes next is an application of lessons learned from terrestrial colonialism of the past to Martian spatiality in its current, precolonial stage. 'It is clear that we should seek some ethical guidelines in advance before we repeat our sorry history elsewhere', write McArthur and Boran (2004, 149). Two specific questions emerge from this article, questions that are not yet answered: should Mars be regarded as a *terra communis*, a *terra nullius*, or a space of intrinsic value? Second, should Mars be claimable space, and if so, how can it be transformed into a possession, and by whom? Martian colonization is beginning: it is time, before we begin to build, to attend to it critically.

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of which we have ignored here.

Notes

1. For a detailed discussion of colonialism as a specific mode of spatial acquisition, see Jennings (1963) and Burghardt (1973).
2. This article differentiates between the general category of space and the specific region of OuterSpace by capitalizing the latter.
3. Postcolonial Studies, Interventions, and Imperium.
4. While the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) is the primary international forum for the development of laws and principles governing Outer Space, its secretariat, the United Nations Office for Outer Space Affairs (UNOOSA) provides links, via its website, to five government (US, Australia, Brazil and the UK) and 13 non-government organizations dedicated entirely to the development and analysis of Space law (UNOOSA 2007).
5. The exact boundaries of Outer Space, however, remain subject to debate. Since 1967, the UN has been trying to generate a definition of Outer Space, but it has not yet been able to arrive at a consensus delimitation. Some nations support the Karman line definition, which states that the 'vertical frontier' of Outer Space begins at 100km from the Earth's surface. The US refuses to delimit Outer Space, but awards astronaut medals to those who have flown above 80km, the boundary between the mesosphere and the thermosphere (De Cordoba 2004).
6. The full name of the treaty is The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.
7. 'Space-faring nations' refers to nations with substantial national Space programs, and comprises: the USA, Russia, the EU (specifically France, Germany, and Italy), the UK, Canada, Japan, and China.

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