

Mining the high frontier: sovereignty,
property and humankind's common heritage
in outer space



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Cover image:

The view from Apollo 17, looking over the lunar horizon towards a crescent Earth (NASA 1972a).

Certificate of original authorship

I, Matthew Robert Johnson, declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Arts and Social Sciences at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

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- Chapter 3 features material that was first published in this paper, which I co-authored with my principal supervisor, Dr Jeremy Walker. I have re-structured and substantially re-worked this material in the chapter included here. The material used is re-printed with permission of Dr Walker and Dr Benjamin Sovacool, editor of *Energy Research and Social Science*.

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Abstract

Members of the ‘NewSpace’ network claim that exploiting the mineral resources of the Solar System is essential to humanity’s future, enabling the exploration and settlement of the cosmos and resolving ecological crises on Earth. NewSpace’s techno-utopian justification for colonising the ‘high frontier’ is often infused with a vision of stateless libertarianism. Arguing that government space programs have failed to build on the heroic achievements of the Apollo Moon landings, NewSpace lobbies for their displacement by commercial enterprise, with the hope of instantiating a new era of entrepreneurial space exploration. A significant milestone in this project has recently been achieved: the United States has unilaterally passed laws that pre-emptively guarantee the claims of US corporations to own and sell space resources. Yet in 1967, the UN *Outer Space Treaty* declared that the exploration and use of outer space should be ‘for the benefit of all mankind’ and ‘not subject to national appropriation’ by sovereign claim. In this dissertation, I argue that private property rights to space resources contravene international space law, pre-emptively projecting state powers of appropriation – manifest in privately-held mining rights – onto the extra-territorial and extra-terrestrial frontier. The histories of frontier resource appropriations, mining law and spacefaring reveal indistinctions between national sovereignty and corporate power that are obscured in NewSpace discourse. Far from offering a stateless space utopia, the NewSpace colonisation project exemplifies the ‘strong state, free economy’ aporia of neoliberalism. As a case study in political economy and legal geography, the anticipatory expansion of private property claims beyond the Earth both resonates with and problematises the ‘terrain’ of political history, such as the tensions between states and markets, public law and private power, ‘the commons’ and exclusive property. As a work of historical sociology, I demonstrate that NewSpace cosmopolitics mirrors (and is often explicitly embedded in) neoliberal geopolitics, prompting urgent questions about how we can reaffirm principles of democracy and ‘common heritage’ in the international laws of Earth and space.