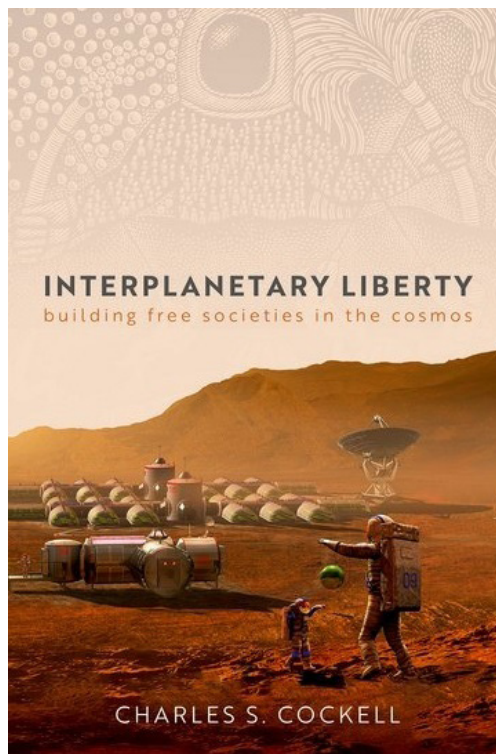


Book Review: Freedom in outer space

Max Daniels

Our lead feature this time is a review by regular Principium contributor Max Daniels of *Interplanetary Liberty: Building Free Societies in the Cosmos* [1]. Max reviews this new book discussing how we might build freedom in space. An essential component of the solar system society we need as a precursor to an interstellar human endeavour of significant scale and ultimately a galactic civilisation.



Professor Charles Cockell [2] is an astrobiologist and microbiologist, specialising in the study of life in extreme environments. He has worked previously at institutions including NASA and the British Antarctic Survey, and currently at the University of Edinburgh.

His scientific background informs his work on political philosophy, and these two fields meet in outer space, as seen in his writing on extra-terrestrial states and human liberty [3] and a comparison of liberty in the ancient and modern worlds and in outer space [4].

Interplanetary Liberty considers the concept of liberty, or freedom, for those who will one day roam, settle and live in outer space. It is a speculative work - nobody lives there, yet - meaning it can look at a range of possible futures. He takes an appropriate route to a sensible answer, although I argue that there are sophistications and strands of thought that would enrich his study further, by focusing on spaces large and small.

[1] Oxford University Press (OUP), September 2022, 464 Pages. global.oup.com/academic/product/interplanetary-liberty-9780192866240?cc=us&lang=en&

[2] Professor C S Cockell, FRSE www.ph.ed.ac.uk/people/charles-cockell

[3] Charles Cockell, 2009: *Liberty and the Limits to the Extraterrestrial State*, *Journal of the British Interplanetary Society*, 62, pp. 139-157

[4] Charles Cockell, 2011, *Liberty across light years: The freedom of space settlers compared to that of the ancients and the moderns*. *Journal of the British Interplanetary Society*, 64, 287-88.

◀ Democracy is difficult, including in space

The question that runs throughout the work is simple: will people in outer space be free, or not? He has two central arguments: that space is 'tyranny-prone' and likely to succumb to despotic regimes; and that humanity can avoid this, because we have the tools of art, education, and politics, and practical skills such as engineering and science.

I will argue that Cockell comes to appropriate conclusions. Reviewing speculation can prove tricky, but he has run through practical elements of society which would contribute to our understanding and implementation of liberty: welfare, justice, education, the building blocks of a free society, and the risk of tyranny and autocratic regimes. This is well thought through in logical ways, sensitive to arguments as to what extent liberty may exist in outer space from the past, present and, possibly, the future.

Where his analysis could be deepened is through a greater appreciation of the sophisticated ways in which freedom is exercised, fought over, and understood on Earth, and how this might play out in outer space. I will consider the concept of liberty, before seeing how it applied at different scales.

What is liberty?

Before exploring the work in depth, we need to understand what Cockell means by liberty and tyranny, in the context of outer space. He defines liberty, or freedom, as where, "individuals and groups... live free of undue coercion, domination, or interference from others in the extra-terrestrial environment" (p.9). Tyranny, on the other hand, is "in some sense merely the obverse of liberty" (p.22).

He describes his book as a work of 'speculative' political philosophy (p. xv), that looks to the future rather than dwelling in debates on liberty from the past. This is reasonable, in that it is not known when, where or how humans will live in outer space. As a political concept, though, I think it would be useful to draw from previous thought to guide our analysis.

He does refer to influential thinkers, although he perhaps could infuse their work into his own book more extensively. The 17th-century political philosopher Thomas Hobbes is clearly important to Cockell, forming both the frontispiece of *Interplanetary Liberty* and framing its opening chapter. Hobbes posited that individuals would

rationally give up their freedoms to be under an authority, as otherwise there would not be order. The 'state', or government, in this case would be all-powerful [1].

This view was later challenged by writers such as John Locke, who placed greater emphasis on society as a concept, and government must uphold certain rights, such as property. Cockell agrees: "Private land ownership and property is essential for freedom" (p. 174). Others such as Algernon Sidney said that government should intervene in our lives to the least possible extent, while Jean-Jacques Rousseau in the 18th century wrote that by choosing to obey the law, we exercise our freedom, because politics is a necessary way of determining our interests as a collective.

The point of examining these old writings is two-fold. First, it provides the basis for an understanding of freedom when applied in outer space. Second, it shows that any speculation into possible political futures in space can benefit from their study. Looking at the western political tradition will inform how best to structure and critique political structures in outer space likely to have significant western involvement.

The importance of scale

The remit of *Interplanetary Liberty* is the 'bigger picture' question of freedom in outer space, as Cockell wishes to avoid dwelling on the details of what life might entail. This prevents us getting bogged down in mundane specifics, given there are so many uncertainties, including the state of technology.

Of course, a political culture is acted out every day. There is value in considering different scales: the effect of a settlement's rules on the lived experience of the individual and their resulting freedom, alongside the broader ideas that Cockell admirably considers. I will illustrate this through the example of movement.

Freedom of movement

One aspect of outer space that makes it tyranny-prone is that it is alien to humans, Cockell says. We are not adapted to live there, and so must devise clever ways of sustaining life. This includes the provision of vital resources such as food, water, and, especially, oxygen.

An authority who controls the supply of oxygen in an area also controls who lives, works, and moves through there. Power is exerted over that space:

[1] Alan Ryan, 2013: *On Politics*, London: Penguin www.penguin.co.uk/books/25400/on-politics-by-ryan-alan/9780140285185 ▶

who has access to each part of a station, your identity and what degree of 'citizenship' you might need, and what you must pay or do for that access. A space station's layout can also determine movement and how oxygen might be distributed, where architectural standards are a product of the culture and politics of their time [1]. Space stations will likely have a division between private quarters and public spaces. What is considered privacy and who decides this will be questions central to the experience of liberty for those living in these settlements. This has long been explored [Fig. 1], as freedom can be restricted overtly [2] or in muddier ways, particularly when it comes to ideas of justice, a concept that has been explored in the context of the "War on Terror" and western treatment of those they consider terrorists [3].

Science, engineering, and justice

The relationship between physical space and liberty is addressed by Cockell in his chapter on "engineering liberty". Space stations can be designed with freedom in mind, such as by creating spaces where inhabitants can communicate discreetly. A novel idea is to make infrastructure secure enough to withstand a forceful uprising, such as by having strong enough walls so that a bullet-type strike would not cause decompression: the idea being that it would allow a society, in the vein of Locke, to remove unwanted regimes, or at least to make such actions a possibility. He also talks about the effect on liberty of more personal engineering. This includes parts of the human body, such as organs, and even the human mind. He concludes by saying that he cannot predict the implications, but that whatever happens liberty will remain an important topic. This is a weak conclusion, and strays away from the valuable analysis of the ways that engineering interacts with freedom.

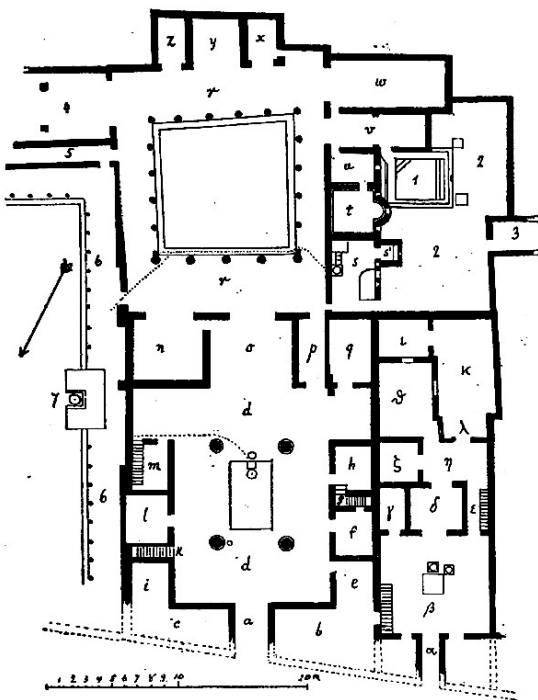


Fig. 146. — Plan of the house of the Silver Wedding.

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| a. Fauces. | 1. Open-air swimming tank, in a small garden (2). |
| d. Tetrastyle atrium. | 3. Corridor leading to another house and to a side street. |
| n. Dining room. | 4. Oecus. |
| o. Tablinum. | 6. Garden, partially excavated. |
| p. Andron. | 7. Open-air triclinium. |
| r. Peristyle. | a-i. Fauces, atrium, and other rooms of separate dwelling connected with the larger house. |
| s. Kitchen. | |
| t-z. Bath. (v. Apodyterium. u. Tepidarium. t. Caldarium.) | |
| w. Summer dining room. | |
| x, z. Sleeping rooms. | |
| y. Exedra. | |

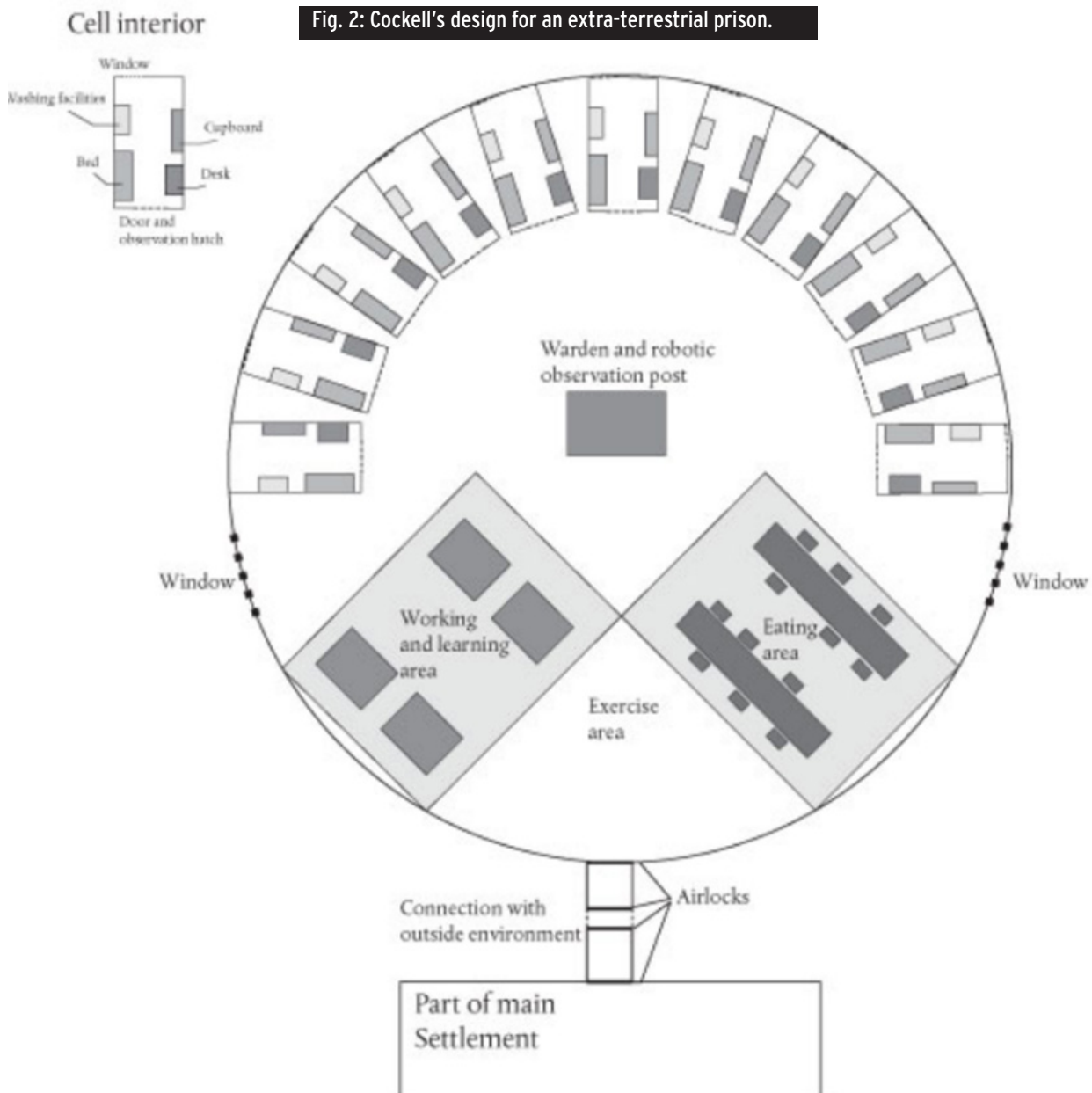
Fig. 1: The separation of private and public spaces in Pompeii.

Credit: wellcomecollection.org/works/d2ezh72h

[1] Michel Foucault, 1984: interview with Paul Rabinow, 'Space, Knowledge and Power', in *The Foucault Reader*, New York: Pantheon Books, pp. 239-256

[2] Jennifer Fluri, 2012: *Capitalising on bare life: sovereignty, exception, and gender politics*, *Antipode*, 44 (1), pp. 31-50.

[3] Giorgio Agamben, 1998: *Homo Sacer: Sovereign Power and Bare Life*, Stanford, CA: Stanford University Press



Where liberty, space, and movement come together is in Cockell's discussion of justice. He outlines why individuals will commit crimes and the rights of suspects, arguing that the fair exercise of justice is essential to the functioning of a free society. What is of particular relevance to my review is his take on the design of an extra-terrestrial prison, as a physical space that punishes via isolation, but also shields the convicted. As buildings, they have a role in restricting the prisoner's right to movement and other freedoms [Fig. 2]. He refers to an educational programme he led which engaged with Scottish inmates to design extra-terrestrial stations. This is enlightening, as it explores the

function and purpose of prisons and the balance between redress and reform, which goes beyond a simple discussion of building design. My main criticism here is that it is not inconceivable that an extra-terrestrial society would progress past prisons, which take up precious space and resources. They could use more humane or rehabilitative forms of punishment, or equally create more sinister restrictions on liberty. These could involve an architecture of surveillance, where individuals alter their behaviour based on a pre-emptive fear of punishment, or even through social norms [1].

[1] Michel Foucault, 1976: *Society must be defended*, Lectures at the Collège de France, Picador: New York. Translated by David Macey. [en.wikipedia.org/wiki/Foucault%27s_lectures_at_the_Coll%C3%A8ge_de_France#%22Society_Must_Be_Defended%22_\(1975%E2%80%931976\)](https://en.wikipedia.org/wiki/Foucault%27s_lectures_at_the_Coll%C3%A8ge_de_France#%22Society_Must_Be_Defended%22_(1975%E2%80%931976))

Moving outward and upward

At a larger scale, we can see that restrictions on movement in outer space exist today. The Artemis Accords [1] are a series of bilateral agreements between mostly western space powers and their allies which outline the use of 'safety zones'. These are areas around certain instruments or stations where others cannot operate [2]. It shows that terrestrial politics will, at least in the early days of space exploration, be crucial in determining extra-terrestrial freedom [3].

Politics is bound up in the use and applications of science in outer space. Cockell argues that science is an essential part of both contemporary life and our future life away from Earth, where pursuing scientific discourse is akin to the democratic process. The very nature of technology shows its centrality, where scientific solutions are needed to overcome challenges in space and maintain life there - as seen with the production of oxygen. I agree with Cockell in that if we consider larger scales, from settlements right up to the Solar System, scientific developments will increase our interdependence: if you build a faster rover, you can travel further [Fig. 3]. The analysis follows that this would weaken despotic regimes.

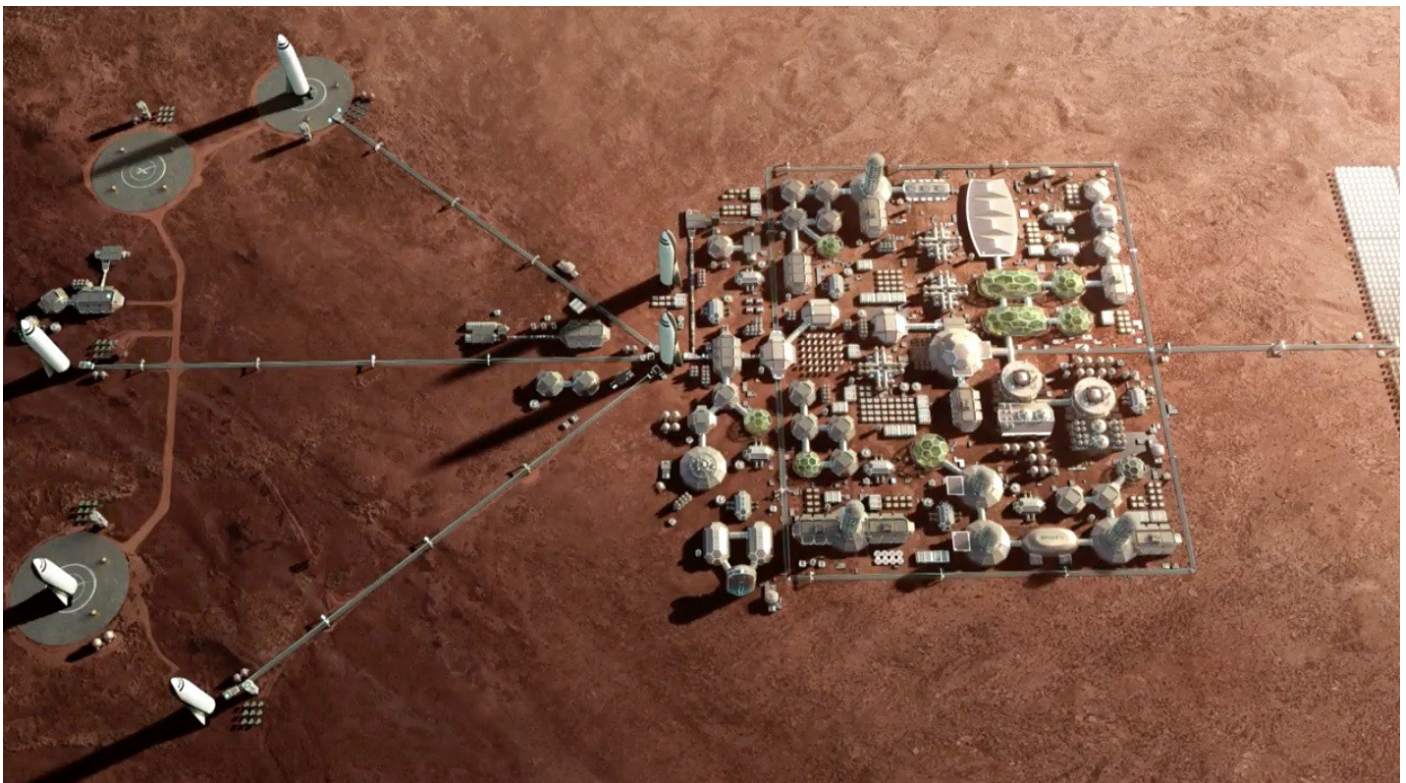


Fig. 3: Liberty needs to be considered at a range of scales, including settlements.
Credit: twitter.com/SpaceX/status/913634039545847808

[1] *The Artemis Accords - Principles for a Safe, Peaceful, and Prosperous Future* www.nasa.gov/specials/artemis-accords/index.html

See also Principium 32, February 2021, *The Artemis Accords: what comes after the Moon?*, Max Daniels i4is.org/wp-content/uploads/2021/06/The-Artemis-Accords-what-comes-after-the-Principium32-print-2102221659-opt.pdf

[2] *Imagining safety zones: Implications and open questions* www.thespacereview.com/article/3962/1

[3] *Regulating Design: The Practices of Architecture, Governance and Control*, Rob Imrie and Emma Street, journals.sagepub.com/doi/pdf/10.1177/0042098009346068

◀ More than poles apart

Cockell claims that politics in Earth and in space, despite their geographical distance, will influence each other; where a tyranny on Earth might incentivise tyranny in space. It is remarkable that this could well be true: we hear calls today for governments to act well domestically so as not to inspire or give reasons to others to act badly. Distance will give us new perspectives [1], but surely being free in one will help us to be free in the other.

The links between Earth and the heavens are also expressed through art, Cockell finds. It can uplift those living in alien worlds; art in space would inspire art on Earth; and artists can imagine futures where we find new ways to be free. He is right in that art transcends distance, tying Earth and space close together. Something of this sort is seen today when Antarctic research programmes invite artists to visit their scientific bases (Fig. 4).

Cockell is ambitious from the outset in his book, and should be applauded. He has sought an understanding of liberty far into the future and far away from our world, and given it a well-balanced evaluation. There are areas where his analysis could be deepened, such as in relation to spatial awareness, distance, and different scales. This applies outwards - to the scale of entire settlements and even between planets, including Earth - and downwards - to the individual, and what freedom means to their own person. His examples of art, engineering, science, and education are practical, and make it an enlightening and accessible read. I look forward to where his insights travel next.



Fig. 4: Artists bring Antarctica to the rest of the world, just as art will bridge the distance between planets. Credit: GRID-Arendal/ Peter Prokosch www.grida.no/resources/1382

[1] *The Conquest of Space and the Stature of Man*. Hannah Arendt. www.thenewatlantis.com/publications/the-conquest-of-space-and-the-stature-of-man