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Mining, Tourism and Settlements in Outer Space: The Next Frontier





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Concept "Asgardia - the Space Nation" by Dr. Igor Ashurbeyli

Welcome to Asgardia,
the first ever **space nation** – a global, unifying and humanitarian project.

The project's concept comprises three parts – philosophical, legal and scientific/technological.

1. The project's philosophy starts at selecting the name for this new country – Asgardia. In ancient Norse mythology, Asgard was a city in the skies, the country of the Gods. It is the realisation of man's eternal dream to leave his cradle on Earth and expand into the Universe.

Asgardia is a fully-fledged and independent nation, and a future member of the United Nations - with all the attributes this status entails: a government and embassies, a flag, a national anthem and insignia, and so on.

The essence of Asgardia is **Peace in Space**, and the prevention of Earth's conflicts being transferred into space.

Asgardia is also unique from a philosophical aspect – to serve entire humanity and each and everyone, regardless of his or her personal welfare and the prosperity of the country where they happened to be born.

Asgardia's philosophical envelope is to 'digitalise' the **Noosphere**, creating a mirror of humanity in space but without Earthly division into states, religions and nations. In Asgardia we are all just Earthlings!



The Space Frontier

P. Dickens and J. Omrod (2007) *Cosmic Society*

- Humanisation of the cosmos through different fixes
 - Existing (military purposes, satellite technology, science)
 - New (tourism)
 - Idealistic (terraforming)
- Hegemonic authority of capitalism
- Outer spaces fixes through claims of property



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Fictional appropriation

LunarLand.com
Earth's Oldest, Most Recognized Celestial Real Estate Agency.

Since 1980
Over 300 million acres sold

First and **ONLY** company to possess a
legal basis and copyright for the sale of
celestial properties.

LUNAR
EMBASSY

Beware of other recent phony lunar companies with no claim

- Space pioneers
- Juergens family (15 July 1756)
- Robert C. Coles (1955)
- Lunar Plots sold at \$25 by Brazilian entrepreneur
- Celestial Gardens (1970) sold lunar plots for \$100 and registered with the 'universal lunar and development register



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Interstellar Exploration

‘The long-term survival of the human race is at risk as long as it is confined to a single planet. Sooner or later, disasters, such as an asteroid collision or nuclear war could wipe us all out. But once we spread out into space and establish independent colonies, our future should be safe. As there isn’t like anywhere like the Earth in the solar system, so we would have [to go] to another star.’

(Stephen Hawkins in Sommariva 2014: 83)



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Commercial Exploitation





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New Space Age?



I

113TH CONGRESS
2D SESSION **H. R. 5063**

To promote the development of a commercial asteroid resources industry for outer space in the United States and to increase the exploration and utilization of asteroid resources in outer space.

IN THE HOUSE OF REPRESENTATIVES

JULY 10, 2014

Mr. POSEY (for himself and Mr. KILMER) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To promote the development of a commercial asteroid resources industry for outer space in the United States and to increase the exploration and utilization of asteroid resources in outer space.

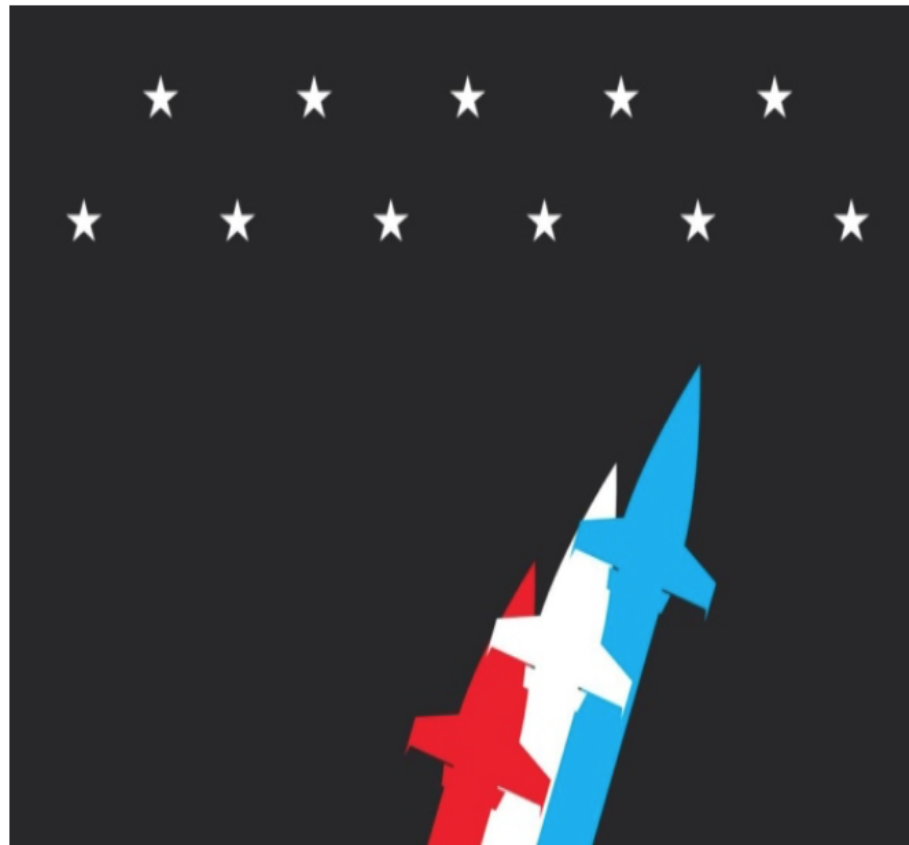


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A tiny country smaller than Dorset is about to win the global space race

🕒 PUBLISHED: 09:49 12 April 2017 | UPDATED: 09:49 12 April 2017 Daniel Pembrey



Lift off for Luxembourg



Libertarian Space Development

2015 U.S. Commercial Space Launch Competitiveness Act

“[A] United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained”

2016 Draft Law on the Exploration and Use of Space Resources

“Luxembourg is thus the first European country to set out a legal framework ensuring that private operators working in space can be confident about their rights to the resources they extract in space.”

Article 1. – Space resources are capable of being appropriated in accordance with international law.



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Broader View of Space Law

“[I]n accordance with applicable law, including the international obligations of the United States.”

“Like the text of the US law, the text of Article 1 of this draft law contains an express reference to international law in that it provides that such appropriation has to take place in accordance with international law.”



Space Law

- Outer Space Treaty (1967); 103 Ratifications
- Rescue Agreement (1968); 94 Ratifications (rescue and return of astronauts and objects launched)
- The Liability Convention (1972); 92 Ratifications (determining the liability for damaged caused by space objects)
- The Registration Convention (1975); 62 Ratifications
- The Moon Agreement (1979); 16 Ratifications
- UNCOPUOS (1959); permanent UN commission on the peaceful use of outer space



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Outer Space Treaty

Art I: “The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer Space, including the Moon and other celestial bodies shall be free for exploration and use by all States without discrimination of any kind on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.”

Art II: Outer Space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means

CLARITY: no claims of sovereignty of celestial bodies

UNCERTAINTY: commercial uses of resources



Interpretation OST

- Prohibition in Art II extends to resources
- Prohibition in Art II does not extend to resources
 - See Art. I: right to use resources
 - Commercial use not inconsistent with spirit of Treaty
 - High seas regime allows fishing in the high seas
 - Drafting history
 - Geostationary orbit is being used
 - State practice of domestic legislation to recognise legality of space mining



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Moon Agreement

Art XI, §1: Moon and its resources are common heritage of “mankind”

Art XI, §2: The Moon is not subject to national appropriation by any claim of sovereignty, by means of use of occupation, or by any other means

Art XI, §3: Neither the surface, subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, ..., or any natural person



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Moon Agreement con'd

Art XI, §5: Facilitate the establishment of an international regime to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible

§7 (d): Equitable sharing of the benefits derived from those resources

Moon Agreement opposed to strictly individualistic, unilateral vision as expressed in e.g. Space Act



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Law and Literature

“In Antarctica, no one can own land. [...] Don’t you see how radically different that is from the way the rest of the world is run? It represents what all governments working together feel instinctively is fair, revealed on land free from claims of sovereignty, or really from any history at all. It is, to say it plainly, Earth’s best attempt to create just property laws!”

Robinson, K. (1993) *Red Mars*. New York: Bantam Books p87



Foundational Image of Space Law

Sputnik



Vanguard TV-3

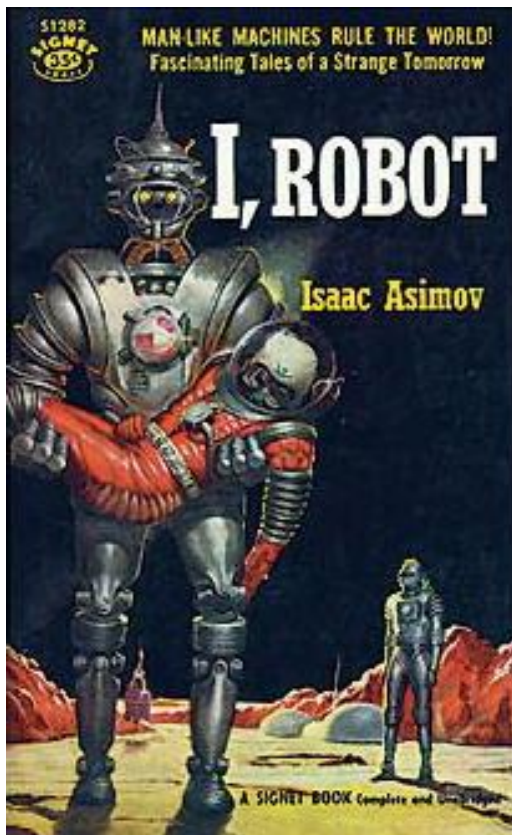




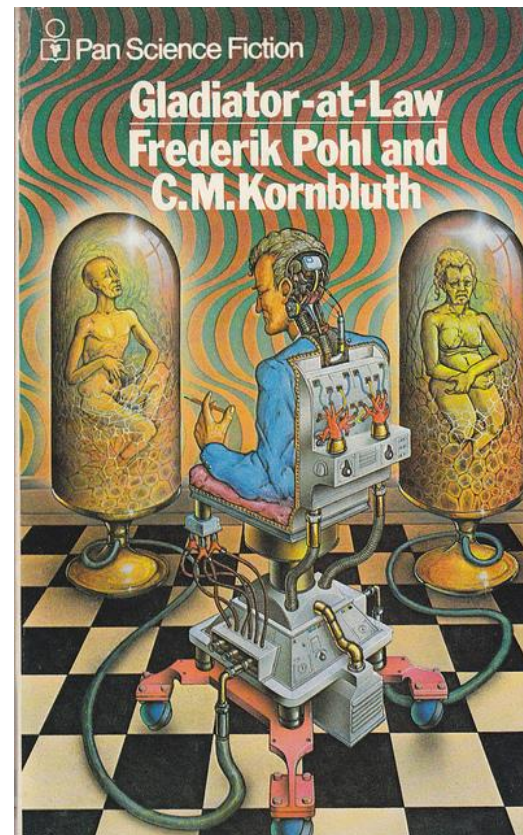
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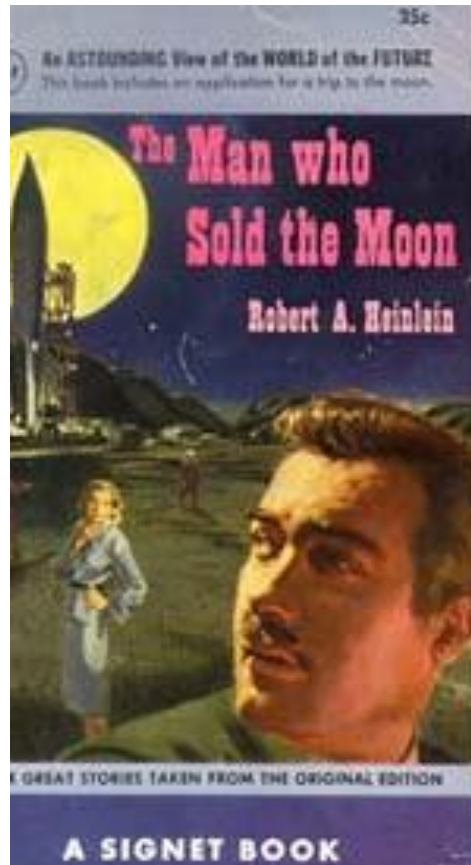
Dystopia





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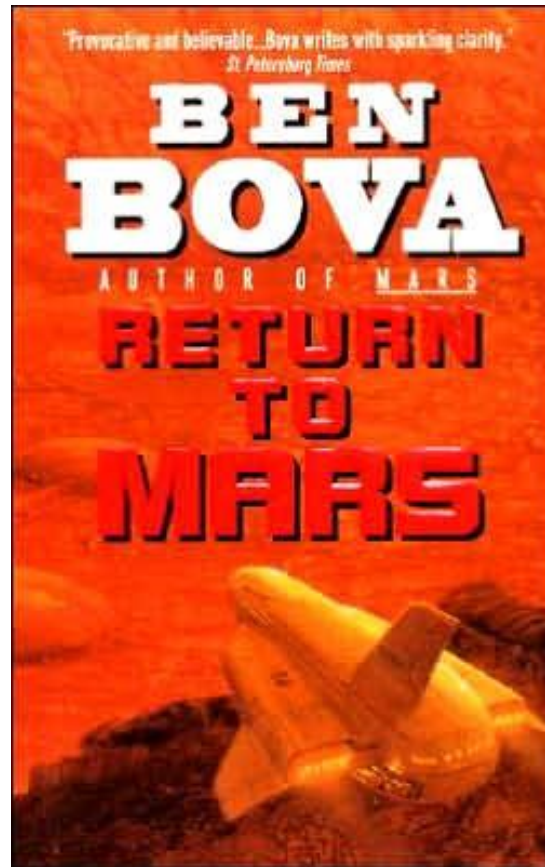


Robert A. Heinlein (1950) The Man who Sold the Moon

Delos D. Harriman gains control over Earth's natural satellite through buying all of the land on earth that the Moon rotates over



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Ben Bova (1999) Return to Mars

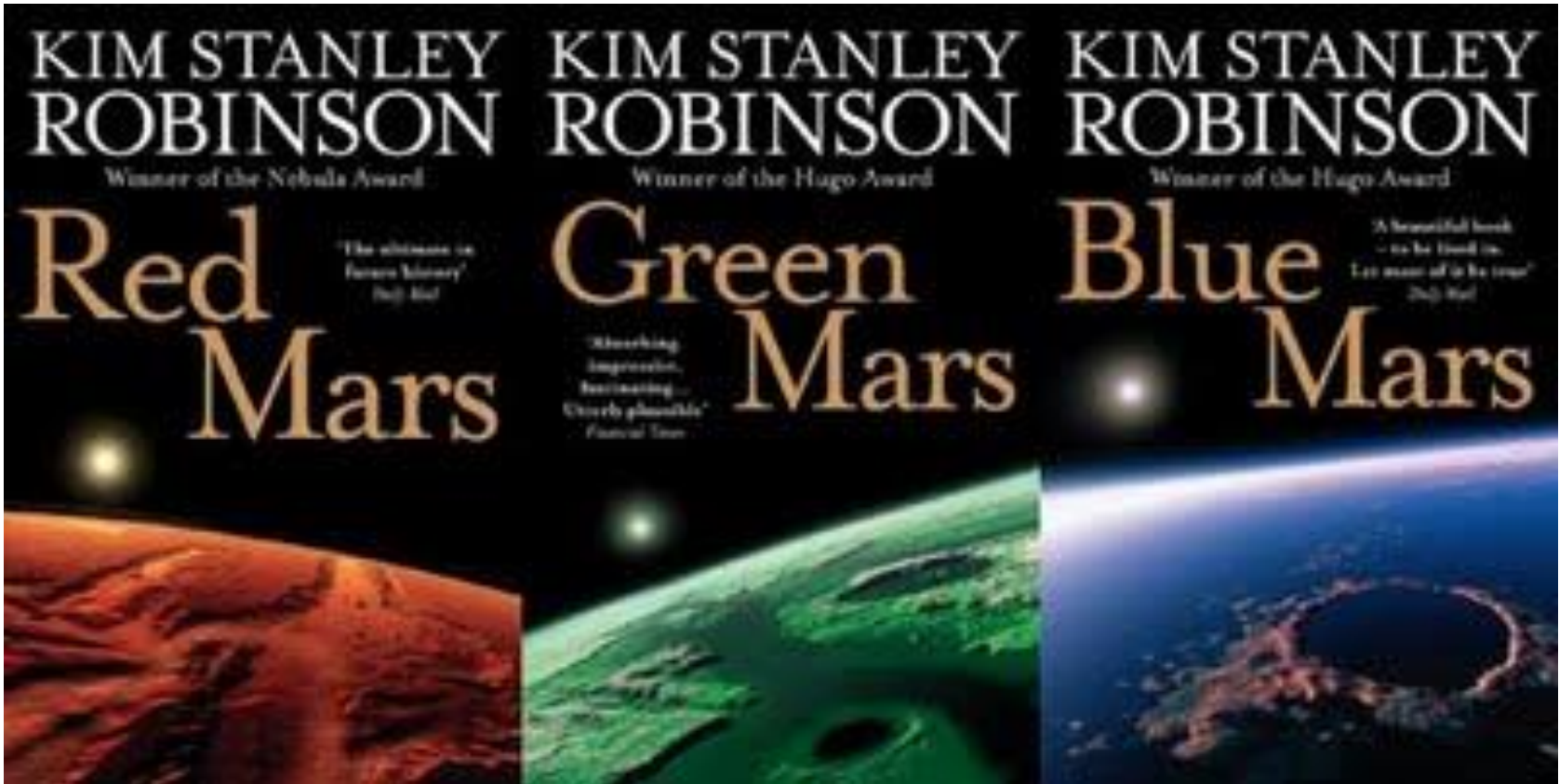
Red Planet is claimed by the Navajo Nation



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Kim Stanley Robinson, Mars Trilogy & The Martians (1933-1999)

Terraforming



The Dorsa Brevia Declaration

1. The value of cultural diversity;
2. Universal rights to the material needs of life, health care, education and legal equality;
3. No private ownership of land, air, or water which are in the stewardship of all Martians;
4. The right of individuals to keep the fruits of their labour, but all labour understood as part of a communal enterprise that is directed to the common good;
5. Rejection of meta-national governance as hostile to ecological principles;
6. Minimalist environmental alterations to the planet, with higher elevations (30 % of the planet) kept in a wilderness state;
7. A spirit of reverence for the planet and an acknowledgement of the special historical role of Mars as the first site of extraterrestrial human habitation.



Future?

Mining Activities:

- International regime such as Moon Agreement is needed
 - Sharing of the Benefits? Examples in International Law (UNCLOS, CBD)
 - Can and should the UN be given the authority to manage all Outer Space activities
 - How to interpret and protect Common Heritage Principle

Settlements:

- Tourism
- Long-term settlements:
 - Freedom, autonomy, dissent, history of governance, punishment,...
 - Humans and non-Humans
 - Relationship between Law and technology (imaginative jurisprudence has a role to play)



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Engage with Strathclyde Evaluation

<http://bit.do/Engage17-Evaluation>



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<https://www.youtube.com/watch?v=KaOC9danxNo>



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