



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Understanding the Space Race

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This seminar - space

We will raise some ways of talking about space.

However, for the purposes of this module, you/we can apply narratives about space to narratives about the sky and your sky journals

Background in celestial journey stories and literature

Politics and ideology of the space race

Consequences of the space race

Representations in cinema.

This seminar overlaps mainly with Sacred Geography, Astral Religion, but also Sky and Psyche.

Campion, Nicholas, 'The Moral Philosophy of Space Travel: A Historical Review', in Jai Galliot (ed.), *Commercial Space Exploration: Ethics, Policy, Governance* (Abingdon: Ashgate, 2015), pp. 9-22.

Campion, Nicholas, 'Adventures in Space: Harmony, Sustainability and Environmental Ethics', in Nicholas Campion and with Chris Impey, *Imagining Other Worlds: Explorations in Astronomy and Culture* (Lampeter: Sophia Centre Press, 2018), pp. 69-85.

Campion, Nicholas, 'John Whiteside Parsons' in Christopher Partridge (ed.) *Routledge Handbook of the Occult* (London: Routledge, 2014), pp. 320-3.

Considerations

What is 'space'.

Space is the area we occupy.

'Space' is also an abbreviation for 'outer space', the area beyond the earth's atmosphere, and including everything that exists from the Moon to the farthest galaxies.

Space and Sky.

When we look at the sky we see 'outer space'

Visually, in that the sky includes the celestial bodies – sun, moon, stars and planets, it is a representation of 'outer space'

Sacred Geography: Applying the Theory of Space

‘The human spirit is inexorably drawn to the appeal of place, whether real or imaginary. Landscape, after all, is a constructed reality – a form which is given to nature by a particular human perception’.

Belden Lane, *Landscapes of the Sacred : Geography and Narrative in American Spirituality*, Expanded ed. edn. (Baltimore, Md. ; London: Johns Hopkins University Press, 2001) pp.37 & p.58

Lane’s point of reference is the landscape, but we could equally consider the extension of the same principle to the **skyscape**, defined as the ways in which we experience and conceptualise the sky.

We could, then say that ‘Skyscape, after all, is a constructed reality – a form which is given to nature by a particular human perception’.

Lane added, (2001: 59) ‘the poet also reminds us that sacred places are , first, of all, “storied” places – elaborately woven together on a cultural loom that joins every detail of the landscape within a given community of memory’.

As I shall argue, outer space, then, is a ‘storied’ place.

The desire for union with the universe

'Don't I feel in my soul that I am a part of the vast, harmonious whole? Don't I feel that I constitute one link, that I make a degree in the ascending scale from the lower orders of creation to the higher ones, in this immense innumerable multitude of beings in which the Godhead – the Supreme Force, if you prefer the term – is manifest?

*If there is a God and a future life, then there is truth and goodness, and man's highest happiness consists in striving to attain them. **We must live, we must love, we must believe that we have life not only today on this scrap of earth but that we have lived and shall live for ever, there, in the Whole,' Pierre was saying, and he pointed to the sky.***

Leo Tolstoy, *War and Peace*, trans. Rosemary Edmonds (Harmondsworth, Middlesex: Penguin Classics Version, 1982), Book Two, Part Two, Chapter 12, pp. 455.

Paul Dano as Pierre in the 2016 BBC adaptation of *War and Peace*

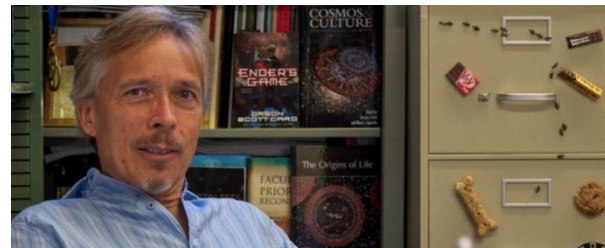


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A physicist's view

‘Let me start with some early history, and perhaps motivate the fact that we explore space for a reason that is a little more than pure curiosity. I think that it is built into our genes’.

- Christopher Impey, ‘Our Future Off Earth’, Gresham College lecture, Museum of London, London 26 April 2016,
- <http://www.gresham.ac.uk/lectures-and-events/our-future-off-earth>



Max Weber

as summarised by Stephen Kalberg



- Four kinds of rationality
 1. **Practical (Technical) Rationality**
 2. **Theoretical (Value) Rationality**
 3. Substantive Rationality
 4. Formal Rationality
- What value do we put on space exploration?
- How does it express our values?
- Stephen Kalberg, 'Max Weber's Types of Rationality: Cornerstones for the Analysis of Rationalisation Processes in History', *The American Journal of Sociology*, Vol. 88, no 5 (Mar 1980), pp 1145-1179

Frameworks for talking about the sky

Kinds of Truth: Objective/Historical v Narrative

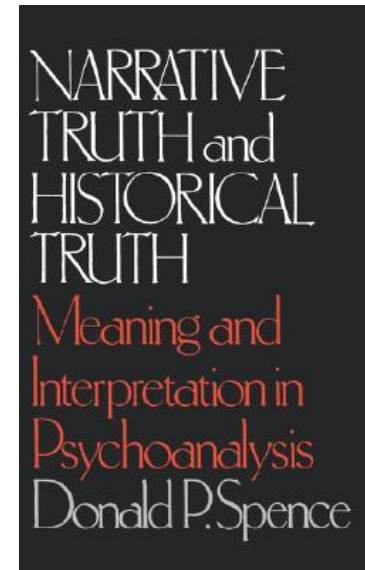
Objective Truth

- Technology
- Budgets and finances
- Celestial mechanics

Narrative Truth

- Ideological and cultural contexts
- Propaganda
- Film
- Conspiracy theorists
- New Age and New Religious Movements
- Cultural consequences

Donald Spence *Narrative Truth and Historical Truth: Meaning and Interpretation in Psychoanalysis* 1982



Two truths in Kennedy's speech to congress of 25 May 1961

OBJECTIVE/TECHNOLOGICAL

We propose to accelerate the development of the appropriate lunar space craft. We propose to develop alternate liquid and solid fuel boosters, much larger than any now being developed, until certain which is superior. We propose additional funds for other engine development and for unmanned explorations



NARRATIVE/VALUE

Finally, if we are to win the battle that is now going on around the world between freedom and tyranny, the dramatic achievements in space which occurred in recent weeks should have made clear to us all, as did the Sputnik in 1957, the impact of this adventure on the minds of men everywhere, who are attempting to make a determination of which road they should take... Now it is time to take longer strides--time for a great new American enterprise--time for this nation to take a clearly leading role in space achievement, which in many ways may hold the key to our future on earth.

TO TRAVEL TO THE SKY IS LIBERATING –
IT LIBERATES US ON EARTH

The Historiography of the Space Race

‘OBJECTIVE TRUTH’

<http://www.jpl.nasa.gov/news/news.cfm?release=2011-318>

PASADENA, Calif. - **The 75th anniversary of the first rocket experiments** at the site that became NASA's Jet Propulsion Laboratory in Pasadena, Calif., will be celebrated with a special free, public screening of the new documentary, "The American Rocketeer" at the California Institute of Technology's Beckman Auditorium on Tuesday, Oct. 25 at 8 p.m.

On Halloween day in 1936, a group of Caltech students, led by Frank Malina, conducted the first stand-up rocket engine test in a dirt gulch known to the residents of Pasadena as the Arroyo. Little did they know that this day would go down in history as the beginning of what is now JPL, the world's leading center for robotic exploration of the solar system and beyond.

-

NARRATIVE TRUTH

The 90-minute episode takes viewers on a journey through Malina's life **using personal letters, video footage, drawings and paintings** to reveal an **extraordinary story** of how JPL came to be.

"This is a very personal story about a person few even know," said Blaine Baggett, JPL's director of communications and education. "Yet Malina was a major pioneer in American rocketry. This film attempts both to shed light on his important contributions, while **revealing the reasons why he has been forgotten**. The time is long since past that the **public should know the name Frank Malina.**"

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What is going on here? An attempt by the press release writer to grab press attention.

- On Halloween day in 1936, a group of Caltech students, led by Frank Malina, conducted the first stand-up rocket engine test in a dirt gulch known to the residents of Pasadena as the Arroyo. Little did they know that this day would go down in history as the beginning of what is now JPL, the world's leading center for robotic exploration of the solar system and beyond.
- Halloween, a day of mystery and magic when the dead walk the earth.
- Students = young radicals. were a kind of 'everyman': for by 2011 most people in the USA were students at some time in their lives.
- Dirt gulch: how many Hollywood westerns featured dramatic set-pieces in gulches?
- Robotic exploration of the solar system and all space beyond – other galaxies, perhaps?
- In egalitarian America anyone can change history.



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Changing the Narrative

Frank Malina

- left NASA in 1947, disgusted by its employment of Nazis and its pursuit of the militarisation of space,
- was persecuted in the anti-communist witch-hunts of 1952
- went into self-imposed exile in France where he started the art-science magazine *Leonardo*.
- Fraser MacDonald, 'Frank Malina and an overlooked Space Age milestone', The Guardian, 14 October 2015, <https://www.theguardian.com/science/the-word/2015/oct/14/frank-malina-and-an-overlooked-space-age-milestone>



John (Jack) Whiteside Parsons (1914-52)

Collaborated with Malina

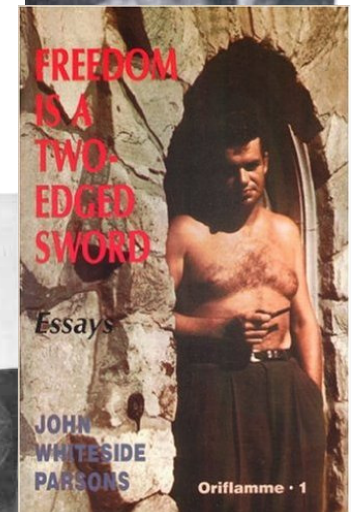
1942: appointed as head of the Agapé Lodge by Aleister Crowley.

1942: made the crucial breakthrough in the development of rocket solid fuel, using asphalt and potassium perchlorate.

'Magick is a system of philosophy and a way of life which, a common denominator of all cultures, [and] is universal to mankind

'It is therefore essential that the magician have a comprehensive knowledge of the various planes whose interaction results in comprehensive reality'

Parsons, J.W. 1989. *Freedom is a Two-Edged Sword*, Tempe AZ: New Falcon Publications, p.45.



Magick and Space

Crowley: 'Every man and woman is a star',

- 'Plunge from the height, O God, and interlock with Man!'
- A star is a god



As a scientist, Parsons was clear that the scientific and magickal world views are compatible. 'It is therefore essential that the magician have a comprehensive knowledge of the various planes whose interaction results in comprehensive reality'

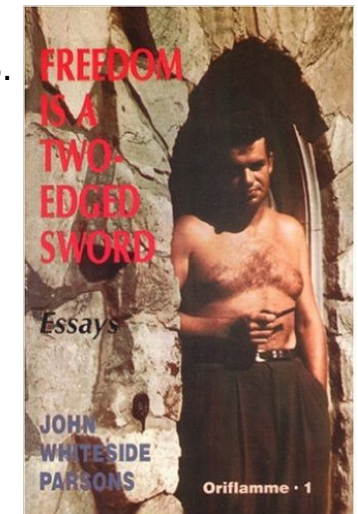
Parsons, J.W. 1989. *Freedom is a Two-Edged Sword, Tempe AZ: New Falcon Publications*, p.45.

Campion: In Parsons' world-view, knowledge of rocket fuel was therefore as important to the practice of magick as were the rules and rites set out by the OTO.

Crowley & Parsons: The Age of Horus is Beginning

At the end of the Age of Osiris, 'Feeling himself unloved and unknowing of the way to live, Western man moves in a sterile wasteland of the mind, lacking the knowledge, understanding and will to save himself by an act of love'

Parsons, J.W. 1989. *Freedom is a Two-Edged Sword*, Tempe AZ: New Falcon Publications, p.45.





Value Rationality

A major outburst of value rationality accompanied the journey of British astronaut Tim Peake to the International Space Station in December 2015.

That Peake was British was used by the BBC programme 'Star Gazing Live' in order to promote the identification of the space programme with nationalist pride.

The launch was broadcast live to commentary by the presenters Brian Cox and Dara O' Briain from the Science Museum in London; an audience of school children waved Union Jacks and expressed excitement and enthusiasm at the prospect of going into space. The message was clear: to support the space programme is to be patriotic.

'Principia Mission', <https://principia.org.uk/> [accessed 19 April 2016].

'Blast Off Live', Tim Peake Specials, Episode 1, *Stargazing Live*, 15 December 2015, <http://www.bbc.co.uk/programmes/b06sgb95>.





Technically Peake was 'the first Briton to join the European Space Agency's astronaut corps'. However, the notion of the 'first' became compressed so that Peake was the first 'official' British astronaut.:

A 37-year-old helicopter test pilot has joined the European Space Agency as Britain's first official astronaut.

Ian Sample, 'Tim Peake, Britain's first ESA astronaut, set for liftoff from Kazakhstan', *The Guardian*, 15 December 2015,

<https://www.theguardian.com/science/2015/dec/14/britain-iss-astronaut-tim-peake-international-space-station> [accessed 19 April 2016].



There was then a small media storm on the grounds that Helen Sharman had been the first British astronaut. Jennifer Rigby observed in *The Telegraph* women's pages, the term 'first official astronaut' was easily contracted to 'Britain's first astronaut':

Ian Sample, 'Tim Peake, Britain's **first ESA astronaut**, set for liftoff from Kazakhstan', *The Guardian*, 15 December 2015, <https://www.theguardian.com/science/2015/dec/14/britain-iss-astronaut-tim-peake-international-space-station> [accessed 19 April 2016].

Ian Sample, 'European Space Agency recruits test pilot as Britain's **first official astronaut**', *The Guardian*, 21 May 2009, <https://www.theguardian.com/science/2009/may/20/british-astronaut-european-space-agency-training> [accessed 19 April 2016].

Jasper Hamill, 'Is Tim Peake the **first British astronaut**? **Space fans slam 'sexists' who forgot this brave space-woman**', *The Daily Mirror*, 15 December 2015, <http://www.mirror.co.uk/news/technology-science/science/tim-peake-first-british-astronaut-7015232> [accessed 19 April 2016].



- Peake was neither the first British astronaut, not the first official British astronaut. Even Wikipedia observes that the definition of British is somewhat fluid. So what was behind the narrative that he was the 'first'? An obvious suspect must include pressure on the UK government to fund human space travel. As *The Guardian* noted in 2009:
-
- *The appointment [of Peake], announced at a special ceremony at the space agency's headquarters in Paris yesterday, is surprising because Britain has a long-standing policy of refusing to fund human spaceflight.*
- *Although Britain is the fourth largest contributor to Esa, its £200m annual donation is used exclusively for satellites and robotic missions.*
- Ian Sample, 'European Space Agency recruits test pilot as Britain's first official astronaut', *The Guardian*, 21 May 2009,
- <https://www.theguardian.com/science/2009/may/20/british-astronaut-european-space-agency-training> [accessed 19 April 2016].



Following Peake's launch in December 2015, The British Interplanetary Society (BIS) made a substantial argument for UK funding of human space travel:

"The BIS is delighted that in May 2009 the European Space Agency (ESA) appointed Major Tim Peake of the UK as a new "European" astronaut. Now Tim has flown on Expedition 46/47 to the ISS in December 2015, via Soyuz, which is excellent for the UK.

Also, in November in 2012 the UK's Science Minister David Willetts confirmed at the ESA Ministerial meeting that £12 million would be put into the ELIPS microgravity research initiative and £16 million will help support UK involvement in the NASA Orion crewed spacecraft for the future.

However, despite being one of the world's largest economies, the UK still has no large scale manned space presence or interest in human space industry activities. ... Whilst the rest of Europe, the US, Russia, China, Japan and many emerging industrialised nations (for example Brazil, Malaysia, South Korea and India) all explore space through human approaches, the UK has missed out – this is against the national good."

- The British Interplanetary Society, 'Human Space Flight', <http://www.bis-space.com/what-we-do/advocacy/human-space-flight> [accessed 19 April 2016].



Value Rationality - popular narratives: Space as threatening



The Astronaut as Hero, Priest or Psychopomp

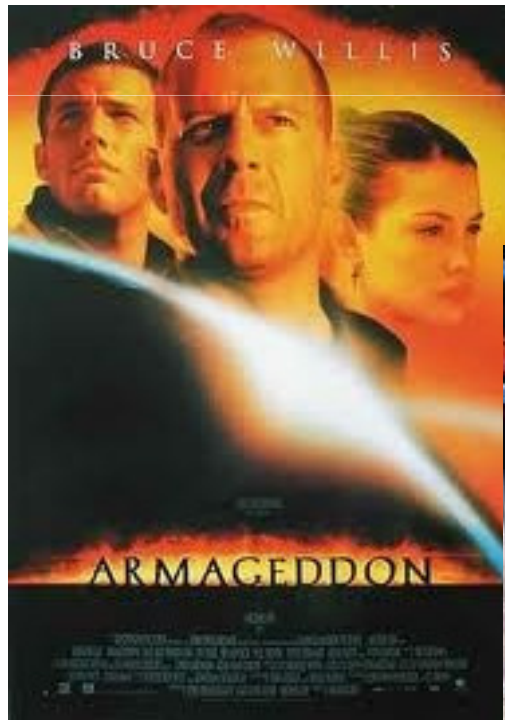


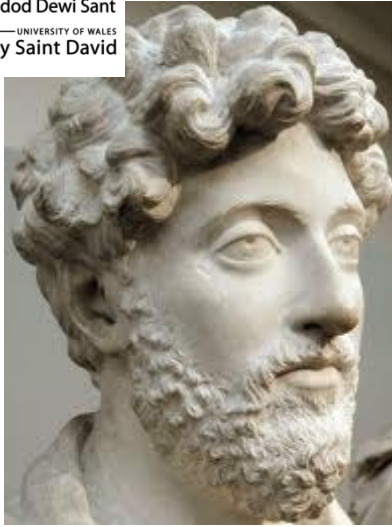
- *'the heavens, formerly the province of priests, were now to be seized by uniformed astronauts'* Stephen Shukakis (2009)
- But did this happen?



The Astronaut as Saviour

The Astronaut as Cowboy. Or the Cowboy as Astronaut: the Astronaut as authentic American hero. The Christ sacrifice.





Marcus Aurelius. Emperor 161-80

- ‘Survey the circling stars as though yourself were in mid-course with them. Often picture the changing and re-changing dance of the elements. Visions of this kind purge away the dross of our earth-bound life’.
- Marcus Aurelius, *Meditations*, trans. Maxwell Staniforth, Harmondsworth, Middlesex: Penguin, 1964, V.47, p. 112; see also IX.29, p. 144.
- *One’s soul can be cleansed by an imaginative union with the stars.*
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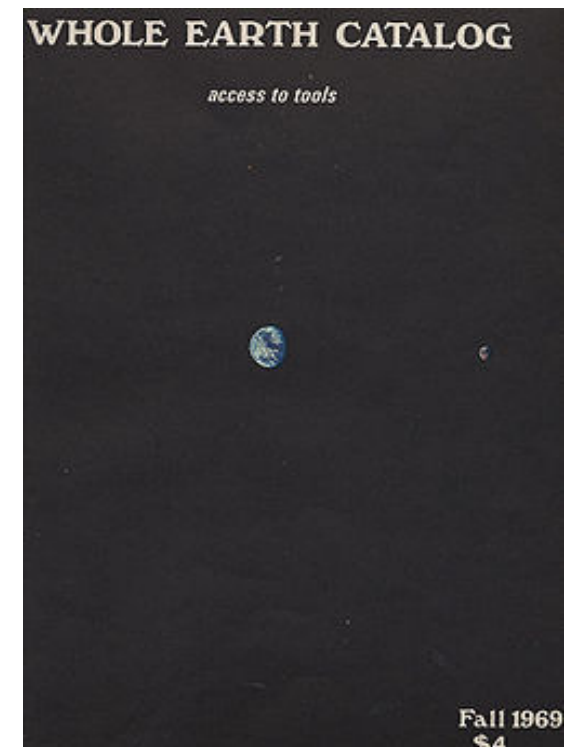
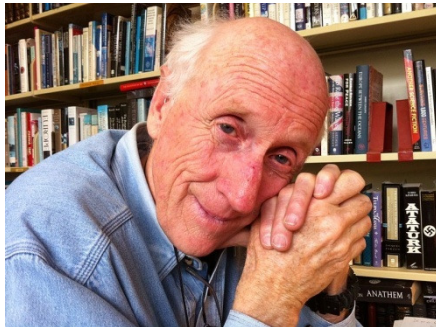
Seeing the Earth from Space: consequences

Ecology, environmental movement, green politics,
counter-culture

The *Whole Earth Catalogue* (published 1968-72,
occasionally to 1988)

Stewart Brand (below in 2010):

Biologist, associated with Ken Kesey,
early LSD use



The Overview Effect

Named by Frank White in 1987 in order to describe the experiences reported by some astronauts when seeing Earth from space for the first time.

Frank White, *The Overview Effect—Space Exploration and Human Evolution* (Boston, Houghton-Mifflin, 1987).



The Overview Institute.

The Institute's apocalyptic and Utopian agenda is clearly spelled out:

'We live at a critical moment in human history. The challenges of climate change, food, water and energy shortages as well as the increasing disparity between the developed and developing nations are testing our will to unite, while differences in religions, cultures, and politics continue to keep us apart. The creation of a 'global village' through satellite TV and the Internet is still struggling to connect the world into one community. At this critical moment, our greatest need is for a global vision of planetary unity and purpose for humanity as a whole.'

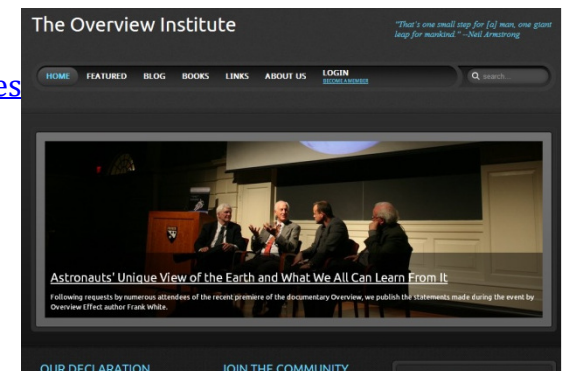
'Overview', <http://vimeo.com/55073825>; The Overview Institute,

<http://www.overviewinstitute.org/>.

The Overview Institute: Declaration of Vision and Principles,

<http://www.overviewinstitute.org/index.php/about-us/declaration-of-vision-and-principles>

[accessed 25 May 2013].



From the International Space Station

Live feed n

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

Time lapse selection

<https://www.youtube.com/watch?v=qyEzsAy4qeU>

Night

https://www.esa.int/spaceinvideos/Videos/2017/09/A_time-lapse_view_of_Earth_from_the_Space_Station_from_Africa_to_Russia

Environmental thought ...in general

Planet Earth is seen as valuable and coincident with nature, while space, and the sky, are ignored.

Dobson (2007), Eckersley (1992) and Jardins (1997) all review environmental and ecological theories, from those which prioritise preservation and conservation to those which advocate radical solutions, from those which prioritise human welfare to those which subordinate humanity to nature as a whole, and from those which reject capitalism to those which accept it. **None have anything to say about outer space, confining their theories to the terrestrial environment.** They are still in thrall to an eighteenth century rejection of any connection between Earth and sky (Westrum 1978, pp. 462-3).

Dobson, A 2007, *Green Political Thought*, 4th edn, Routledge, London.

Eckersley, R 1992, *Environmentalism and Political Theory*, UCL Press, London.

Westrum R 1978, 'Science and Social Intelligence about Anomalies: the Case of Meteorites', *Social Studies of Science*, Vol 8, no 4, pp. 461-483.



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A last word



*We are already in space. The Earth is in space.
It tells you all you need to know about how
we think, right now, that we presume we are
anything other than on a space mission, right
now, and always have been.*

**Caitlin Moran, 'Why I don't want us exploring space', *The Times*, 18
January 2014,**

**<http://www.thetimes.co.uk/tto/magazine/article3974083.ece>
[accessed 25 March 2016].**

Some Reading



- Campion, Nicholas, 'The Moral Philosophy of Space Travel: A Historical Review', in Jai Galliot (ed.), *Commercial Space Exploration: Ethics, Policy, Governance* (Abingdon: Ashgate, 2015), pp. 9-22.
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- Parsons, J.W. 1989. *Freedom is a Two-Edged Sword*, Tempe AZ: New Falcon Publications.
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