

Space Careers Wayfinder

Space: The legal, the ethical and the moral

Background

Australia is a country with a democratically elected government (parliament). The Australian Constitution contains the rules by which the country is governed. The constitution covers the structure, powers, and responsibilities of the federal parliament which includes the law-making powers of the parliament. For new national laws or amendments to existing national laws ministers of the parliament prepare and enter a bill in the form of a draft Act. The bill becomes an Act or law only after it has been passed by both Houses of the Parliament (the Senate and the House of Representatives) and has been assented to by the Governor-General.

The task

- ❖ In his video Deen mentions law, ethics and morals. Complete the table with a definition and example of each of the listed obligations.

Responses to this activity are likely to vary particularly in defining ethical responsibility and moral responsibility.

	Definition	Example
Legal Obligation	A set of duties/rules passed by state and federal parliaments and imposed on individual members of society, institutions, associations, organisations and corporations.	Requirement to hold a full drivers licence to drive a vehicle unaccompanied on Australian roads.
Ethical Obligation	A set of guiding principles which help inform individual members of society, institutions, associations, organisations and corporations what is right or wrong/good or bad.	Companies/retailers purchasing ethically sourced goods which respect the rights, health and welfare, and working conditions of the people involved.
Moral Obligation	Tend to be values, based on a shared belief about how individuals and groups ought to behave. Morals are typically adopted through social and cultural interactions.	A student sitting a crucial test which will directly impact their end of year grade is, struggling on the last question of the test which is worth 20% of the total. Sitting opposite is the class whizz and the student is close enough to see the class whizz's solution – do they copy?

Background

Shortly after World War II in 1945 representatives from fifty countries gathered in San Francisco to sign the United Nations Charter, with Australia playing a key role. Today the 193 member states uphold the objectives of the United Nations (UN). In 1967 appointed government officials from the Russian Federation, the United States of America and the United Kingdom were all signatories to a UN Outer Space Treaty. As of March 2023, 113 countries are parties to the treaty, with another twenty-three countries signing the treaty but yet to complete ratification¹.

The task

- ❖ How would you summarise the [Outer Space Treaty](#)?

The Outer Space Treaty is an international agreement that establishes fundamental principles governing the exploration and use of outer space. Promoting the peaceful exploration and use of outer space for the benefit of all humankind.

The key provisions

- Outer space is a global common and cannot be claimed by any country as their own
- Space exploration and use must be for peaceful purposes only
- Military activities, such as the placement of weapons of mass destruction, are prohibited in outer space
- Countries are responsible for their own space activities and must avoid harmful interference with the activities of other countries
- Astronauts must be treated humanely and returned to their home country in the event of an accident
- Countries must conduct space activities in accordance with international law and bear responsibility for any damage caused by their activities

Background

Countries around the world are defined by international borders. Borders can be determined by international agreements or treaties and may be based on geographical features, cultural, religious or historical factors. A country's sovereign right to the airspace vertically above its territory is governed by international law. However, the vertical height above sea level (altitude) to which sovereignty extends is not clearly defined.

The task

- ❖ If the airspace vertical height relating to sovereignty is not defined, how is it possible for signatories to comply with underlying principles of the Outer Space Treaty?

Outer space is broadly accepted to begin at an altitude of 100 km above sea level. The Outer Space Treaty of 1967 states that outer space is not subject to national appropriation or ownership. Therefore, any claim to sovereignty beyond 100 km above sea level is not recognised by the international community.

¹ https://en.wikipedia.org/wiki/Outer_Space_Treaty#cite_note-unoda-1

For over 50 years the treaty has worked well with very few challenges to the status quo. Arguably the two most serious challenges occurred just over a decade apart. The first in 1976 in what was later referred to as the 'Bogota Declaration', and then again in 2007 when China was thought to have violated the treaty.

❖ What was the basis of the Bogota Declaration?

Eight states crossed by the equator (Colombia, Ecuador, Congo, Indonesia, Kenya, Uganda, and Zaire-Democratic Republic of the Congo with Brazil observing) argued that a geostationary object placed in orbit (GEO) in space remains directly above a specific location of Earth. The countries argued the fact that this area was 'permanently' above their territory and if the countries territories were projected vertically into space, they should have sovereignty of that region.

Their claim to sovereignty failed.

❖ How was China thought to have violated the treaty?

In 2007 China shot down one of its weather observation satellites. The satellite was destroyed using a ground based medium range missile. As the missile wasn't considered a 'weapon of mass destruction' they were found not to have violated the treaty.

Background

During Deen's video he talks about space belonging to all of us and at the same time belonging to none of us, "Space belongs to all of us, and it belongs to none of us. It is something that every single human being on this planet sees every single night. It's one of the few things that we genuinely share. We don't always share the same country. We don't always share the same language. We all of us share the same skies. And those stars that tell us their stories, they belong to all of us."

Aboriginal and Torres Strait Islanders have used the night sky for over 50 000 years They have used the night sky to predict seasonal changes to the environment, the availability of native foods and the behaviour of plants and animals.

The task

❖ Choose an area of the night sky which has a particular relevance to Aboriginal and Torres Strait Islanders and describe the feature and its relevance.

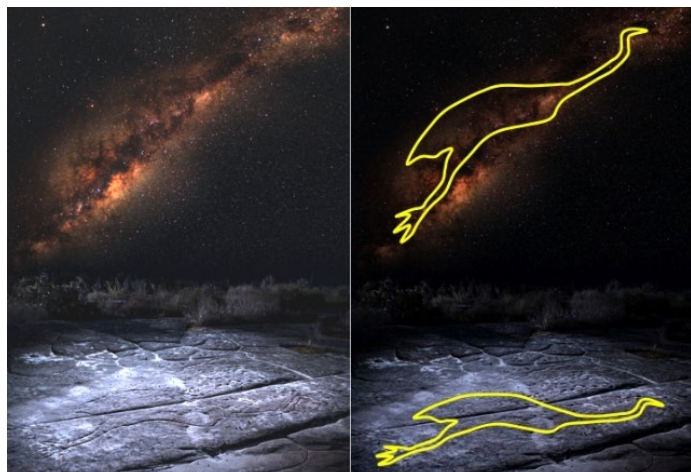


Photo by Barnaby Norris (2007) <https://arxiv.org/ftp/arxiv/papers/1009/1009.4753.pdf>
Astronomical Symbolism in Australian Aboriginal Rock Art.

One example:

The Emu in the Sky is perhaps one of the most widely known. Emus were considered creator spirits, looking over the land from the skies above. The Emu in the Sky constellation appears in the Milky way and can be found by looking for the Southern Cross. It's the dark areas between the stars in the constellation that make up the emu. Depending on the time of year the Emu in the Sky has a different orientation. In April-May the Emu in the Sky appears to be upright and running. This represents the female emu chasing the male during mating season. In June-July the emu in the constellation shifts to a horizontal position in the sky. Signifying the terrestrial male emu sitting on eggs which have embryos in them. A time to stop collecting eggs for food to ensure survival of the emu and a future food source. During October-November only the tail of the emu is visible in the night sky, the emu is 'sitting in the billabong' marking the coming of the summer rain.

Background

To many Aboriginal and Torres Strait Islander cultures the Sun and the Moon have a place in the Dreaming Stories. To some the Moon is a powerful man, to the people of the Nuenonne territories of Southeast Tasmania the Sun is a man named Puywin and the Moon his wife Venna². The associated rise and fall of the seas and oceans with the phases of the Moon was recognised by the Yolngu people of East Arnhem Land.

According to the Outer Space Treaty 1967 'No country has a unique ownership of the Moon, and all nations are accorded equal rights an access.' The treaty also states, 'The Moon and other celestial bodies shall be used exclusively for peaceful purposes.'

The task

- ❖ Imagine a well-developed nation with an established space program are proposing to build a settlement on the Moon and mine the mineral resources there. They plan to ship the minerals back to Earth for use in consumer goods. Many Aboriginal and Torres Strait Islanders have a strong cultural connection to the Moon and the stars. What do you think their reaction might be to a settlement on the Moon and mining of the Moon?

There is no definitive answer to this activity, providing students with an excellent opportunity to debate aspects of this conundrum.

For example:

- The historical significance of the Moon to many cultures around the world
- The inequity of access
- Prioritising investment here on Earth against the investment in outer space
- Where might the UN Sustainable Development Goals feature in the proposal
- Etc.

² <https://cosmosmagazine.com/space/lunar-traditions-of-the-first-australians-2/>