THE RESCUE AND RETURN AGREEMENT IN TIMES OF NON-GOVERNMENTAL SPACEFLIGHT

By Anita Dhillon
1 Introduction and contextual background

This essay will discuss the relationship between the Return and Rescue Agreement and non-governmental spaceflight with particular focus on issues that are of relevance to the types of spaceflight ventures that non-governmental bodies commonly invest their time, money, and efforts into.

1.1 Spaceflight then and now

The Return and Rescue Agreement came into force in an era that was greatly defined by government-funded spaceflights in the ongoing space race between the United States of America (USA) and the Soviet Union (USSR). Today, spaceflight is increasingly defined by private non-governmental companies including famous names such as SpaceX and Virgin Galactic. Whilst private companies are not usually directly subject to international law, it is still necessary to discuss how the Return and Rescue Agreement should apply in times of non-governmental spaceflight if the rights and duties conferred by it are to continue serving their purpose in the emerging age of private spaceflight.

1.2 The aims of the Return and Rescue Agreement

The Return and Rescue Agreement builds upon the Outer Space Treaty, specifically Article V, which provides that Contracting Parties to the Treaty should assist astronauts ‘in the event of accident, distress, or emergency’, and Article VIII, which provides that objects that are launched into space are owned by the Contracting State it is registered to and that any such objects that are found outside their Contracting State are to be returned to that Contracting State.

---

1 Steven Freeland, *Fly me to the moon: how will international law cope with commercial space tourism?*, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 6 (2010).
2 Steven Freeland, *Fly me to the moon: how will international law cope with commercial space tourism?*, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 7-9 (2010).
Being such key Articles in ensuring that spaceflight development occurs in a peaceful and cooperative manner, the Return and Rescue Agreement was needed to provide extra clarity. With the space race of the 1960s reflecting the intense Cold War between the USA and USSR, the wishes of ‘international cooperation in the peaceful exploration of outer space...prompted by sentiments of humanity’ that were noted in the Agreement demonstrate that political tensions should be set aside in regards to space exploration for the sake of keeping outer space a neutral zone and ensuring that there is collaboration between nations in space exploration efforts. The Return and Rescue Agreement provides assurance that assistance will be given when necessary; if the Agreement were to apply in times of non-governmental spaceflight this might instil confidence in private companies to venture into the space sector and contribute to space exploration efforts.

1.3 The extent of the Return and Rescue Agreement

Although private companies are not directly subject to international law and therefore do not have any rights or duties directly conferred on them by international space law, Article VI of the Outer Space Treaty states that Contracting Parties are responsible for ensuring that all outer space activities carried out by national bodies, whether they be governmental or non-governmental, conform to the provisions of the Treaty. The Return and Rescue Agreement was designed to develop on the provisions included in the Treaty so in essence private bodies involved in spaceflight ventures may gain some indirect benefit from these major Agreements that define international space law. Moreover, if international space law is to continue to achieve its aim of peaceful collaboration in space exploration efforts in an age where non-

---

8 Steven Freeland, Fly me to the moon: how will international law cope with commercial space tourism?, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 21 (2010).
10 Peter Malanczuk, Actors: space, international organisations, private entities, in OUTLOOK ON SPACE LAW OVER THE NEXT 30 YEARS: ESSAYS PUBLISHED FOR THE 30TH ANNIVERSARY OF THE OUTER SPACE TREATY, 31 (Gabriel Lafferranderie & Daphné Crowther eds., 1997).
governmental companies are emerging as the biggest players in a new space race, it is necessary for international space law to have some bearing on non-governmental spaceflight.11

There are still many uncertainties surrounding when exactly the rights and duties contained within the Return and Rescue Agreement arise. Many of these uncertainties are particularly relevant to the type of spaceflight activities that a number of non-governmental companies focus on.

Firstly, the ever-present issue of where the realm of air space law ends and the realm of outer space law starts remains relevant to understanding the application of the Agreement to non-governmental spaceflight. The two sets of law are very different: the first is intertwined with nationalism and sovereignty whereas the latter is intended to promote collaboration so that outer space is treated as a ‘province of all mankind’.12 Several non-governmental companies perform tests in sub-orbit and some focus greatly on sub-orbital spaceflight, which puts their activity in this grey area of the law.13

Secondly, there is the issue of who the Agreement intends to give rights to: is it limited to the classic image of a professionally trained astronaut or could a space tourist also benefit from these rights?14 Many non-governmental bodies have ambitions to be part of a thriving space tourism market, but the legal status of these space tourists is unknown as space tourism is a recent phenomenon that was not present at the time of the Return and Rescue Agreement entering into force.

---

13 Steven Freeland, Fly me to the moon: how will international law cope with commercial space tourism?, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 3 (2010).
The answers to these questions are crucial in ensuring that international space law is equipped to deal with situations that are fast becoming a reality.

2 What turns ‘flight’ into ‘spaceflight’?

2.1 Sub-orbital and orbital spaceflight

Orbital spaceflight involves the spacecraft taking off with great velocity to escape the gravitational pull of the Earth, by travelling at least 100 kilometres above sea level, thereby allowing the spacecraft to orbit the Earth.\textsuperscript{15} Orbital spaceflight activities are covered by international space law. On the other hand, sub-orbital spaceflights do not escape the gravitational pull of the Earth and therefore do not require as much take off velocity as orbital spaceflights. Whilst sub-orbital spaceflights can enter outer space, they do not enter an orbit.\textsuperscript{16}

As less take off velocity is required for a sub-orbital spaceflight, it is less expensive than orbital spaceflight making sub-orbital spaceflight an attractive business prospect for non-governmental bodies.\textsuperscript{17} Blue Origin, a private company, is working towards providing sub-orbital spaceflight for space tourism purposes.\textsuperscript{18} Similarly, Virgin Galactic plans to create ‘the world’s first commercial spaceline’\textsuperscript{19} that will use sub-orbital spaceflight to take passengers into space for a short time.\textsuperscript{20}

These are monumental technological advancements, but there is a lack of clarity surrounding whether sub-orbital spaceflight is subject to law that governs airspace or law that applies to outer space activities. For example, Article 5 of the Return and Rescue Agreement refers to

\textsuperscript{15} Stephen Freeland, \textit{Fly me to the moon: how will international law cope with commercial space tourism?}, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 9 (2010).
\textsuperscript{16} Stephen Freeland, \textit{Fly me to the moon: how will international law cope with commercial space tourism?}, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 9 (2010).
\textsuperscript{17} Stephan Hobe, \textit{Legal Aspects of Space Tourism}, 86 NEBRASKA LAW REVIEW 439, 440 (2007); Steven Freeland, \textit{Fly me to the moon: how will international law cope with commercial space tourism?}, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1, 9 (2010).
\textsuperscript{19} Virgin Galactic, https://www.virgingalactic.com/who-we-are/ (last accessed 7th March 2018).
‘objects launched into outer space’, but without a universal consensus on where the jurisdiction of ‘outer space’ begins it is difficult to know whether the activities that a number of non-governmental bodies are carrying out are protected by the provisions of the Return and Rescue Agreement.

2.2 Where does ‘outer space’ begin?

It might make sense to look to science for an answer to this question, which might then allow for legal categorisation of sub-orbital spaceflight. However, amongst the scientific community there is no universal consensus. One theory is that the Kármán line, 100 kilometres above sea level, is the boundary between airspace and outer space and this has been accepted by the Fédération Aéronautique Internationale who use the Kármán line to distinguish aeronautics from astronautics. However, others have presented theories that outer space does not begin until at least 150 kilometres above sea level. The issue with these theories is that they are all prone to change as scientific and technological advancements continue.

It appears that there is no simple answer: ‘airspace’ does not suddenly become ‘outer space’ at a specific altitude. Moreover, using such a boundary as the basis for differentiating between ‘flight’ and ‘spaceflight’ would lead to undesirable application of the law as it would suggest that only once that boundary is passed does ‘flight’ become ‘spaceflight’. For all the time and distance that a spacecraft spends beneath that boundary, law of airspace would apply, which does not coincide with the intention to travel into outer space.

2.3 A proposed legal status for sub-orbital spaceflight

There is still a great deal to be learnt about spaceflight and the sub-orbital spaceflight ventures of non-governmental bodies are set to contribute greatly to space exploration efforts and knowledge of spaceflight so it would be just for international space law to apply to such
ventures. This would encourage non-governmental bodies in their sub-orbital spaceflight missions and give them greater protection, especially through the Return and Rescue Agreement, which adequately reflects the risks they are taking and the efforts they have made.

If the intention of a non-governmental body in their sub-orbital missions is to provide a ‘spaceline’\(^\text{27}\) that will give individuals the opportunity to experience outer space then international space law should apply from launch to landing.\(^\text{28}\) In the context of the Return and Rescue Agreement, this would mean that ‘space objects’\(^\text{29}\) or ‘objects launched into outer space’\(^\text{30}\) are any objects that are launched with an intention for them to travel into outer space. This functionalist approach of defining ‘outer space activities’ as opposed to a spatialist approach of defining ‘outer space’ itself will allow the Return and Rescue Agreement to operate in a way that supports the endeavours of many non-governmental bodies contributing to the space exploration effort.

3 **Who is an ‘astronaut’?**

3.1 ‘Envoys of mankind’

The majority of the provisions in the Return and Rescue Agreement are dedicated to the return and rescue of astronauts.\(^\text{31}\) In the Outer Space Treaty, the phrase ‘envoys of mankind’\(^\text{32}\) was used to describe astronauts with a view that astronauts are working for the greater good of all humanity and they should therefore be treated as such in the event that they require assistance: borders, nationalities, and citizenship should be of little relevance in such a situation.\(^\text{33}\) This description suggests that only those professional trained astronauts who partake in government-


\(^{28}\) I. H. PH. DIEDERIKS-VERSCHOOR & V KOPAL, AN INTRODUCTION TO SPACE LAW, 18 (2008).


funded missions are protected by international space law.\textsuperscript{34} Interestingly, the Return and Rescue Agreement abandons the description of astronauts as ‘envoys of mankind’\textsuperscript{35} and instead uses the phrase ‘personnel of spacecraft’ \textsuperscript{36}

\subsection*{3.2 ‘Personnel of spacecraft’}

The change of phrasing evident in the Return and Rescue Agreement indicates that the previous notion of ‘astronaut’ within the Outer Space Treaty was too narrow. ‘Personnel of spacecraft’,\textsuperscript{37} in particular the term ‘personnel’,\textsuperscript{38} suggests that the spaceflight somehow needs to be connected to the passenger’s employment, which would include individuals such as a professional astronaut or a scientist accompanying on a mission.\textsuperscript{39} Nevertheless, since the phrase ‘envoys of mankind’\textsuperscript{40} was not included in the Agreement, it appears that the law is not looking to only protect those who become heroes as a result of their space endeavours.\textsuperscript{41} Today spaceflight is becoming a much more diverse activity beyond having only occupational purposes giving rise to the question of whether the ‘human sentiment’\textsuperscript{42} motivation behind the provisions of the Agreement provides reason to extend the law to space tourists.

\subsection*{3.3 Space tourists}

A unique characteristic of non-governmental spaceflight is that those on board the spacecraft are not and will not typically be professional astronauts. In fact, many are envisaging

\textsuperscript{34} Stephen Gorove, \textit{International Protection of Astronauts and Space Objects}, 20 DEPAUL LAW REVIEW 597, 600 (1971).


spaceflight as an exciting leisure experience and space as the next big holiday destination. Space tourists do not make the same scientific and technological contributions that professional astronauts and personnel of a spacecraft do and if the predictions of five million space tourists per year by 2030 are to become a reality then the provisions of the Return and Rescue Agreement might be disproportionate to appealing to feelings of ‘human sentiment’. However, international space law should ideally protect space tourists as they do contribute to the greater good of mankind especially as the space tourism industry is still in its early stages and involves taking on a number of inherent risks.

Whilst it is not appropriate to call a space tourist an ‘envoy of mankind’ or even ‘personnel of spacecraft’, their activity in space should give rise to new categorisation and this logic is even evident from the few instances of space tourism that have already taken place. In 2001, Dennis Tito spent a week on board the International Space Station (ISS) despite opposition from many ISS participants. In response to this space tourism on the ISS, an Agreement was made between several nations that established the category of ‘spaceflight participant’, which allows space tourists on board the ISS subject to following said Agreement. As space tourism increases due to non-governmental influence in the spaceflight sector, a special category beyond the ones already listed in the Outer Space Treaty and Return and Rescue Agreement will need to be created.

---

4 Conclusion

In times of non-governmental spaceflight, it is necessary to think beyond the confines of stereotypical spaceflight. The Return and Rescue Agreement builds on the principles of international space law that were established in the Outer Space Treaty and the legacy of those principles must remain if the law is to extend further into issues that are of particular relevance to non-governmental spaceflight such as sub-orbital spaceflight and space tourism. Currently, non-governmental bodies are not directly subject to the Treaty and subsequent Agreements stemming from it, but may indirectly reap benefits from it.\textsuperscript{50} This is a recurring issue that is inevitable as these laws were drafted and entered into force before non-governmental bodies had any plans to carry out spaceflight missions, but the ideology can be adapted for the modern era of non-governmental spaceflight.

Whilst the activity of non-governmental bodies is typically of a commercial nature and their ventures into spaceflight are no exception, there is potential for great contribution to the space sector. Therefore there is reason to cater to this emerging category of spaceflight using the principles behind the Return and Rescue Agreement as a basis to ensure that the contributions of non-governmental bodies are not halted by lack of legal certainty.

\textsuperscript{50} Peter Malanczuk, \textit{Actors: space, international organisations, private entities}, in \textit{OUTLOOK ON SPACE LAW OVER THE NEXT 30 YEARS: ESSAYS PUBLISHED FOR THE 30TH ANNIVERSARY OF THE OUTER SPACE TREATY}, 31 (Gabriel Lafferranderie & Daphné Crowther eds., 1997).
**Bibliography**

**Treaties & International Agreements**


**Books**

I. H. PH. DIEDERIKS-VERSCHOOR & V KOPAL, AN INTRODUCTION TO SPACE LAW (2008)


JEAN-LUC LEFEBVRE, SPACE STRATEGY (2017)
Chapters in books

Peter Malanczuk, *Actors: space, international organisations, private entities*, in *OUTLOOK ON SPACE LAW OVER THE NEXT 30 YEARS: ESSAYS PUBLISHED FOR THE 30TH ANNIVERSARY OF THE OUTER SPACE TREATY*, (Gabriel Lafferranderie & Daphné Crowther eds., 1997)


Journal articles


Steven Freeland, *Fly me to the moon: how will international law cope with commercial space tourism?*, 11 MELBOURNE JOURNAL OF INTERNATIONAL LAW 1 (2010)


**Websites**


Virgin Galactic, https://www.virgingalactic.com/who-we-are/ (last accessed 7th March 2018)