



universität
wien

MASTER THESIS | MASTER'S THESIS

Titel | Title

“For the Benefit of All Peoples”

Towards a comprehensive interpretation of Article I (1) Outer Space Treaty

verfasst von | submitted by

Klara-Maria Töpfer

angestrebter akademischer Grad | in partial fulfilment of the requirements for the degree of

Master of Advanced International Studies (M.A.I.S.)

Wien | Vienna, 2026

Studienkennzahl lt. Studienblatt | UA 992 940
Degree programme code as it appears
on the student record sheet:

Universitätslehrgang lt. Studienblatt | Internationale Studien | International Studies
Degree programme as it appears on
the student record sheet:

Betreut von | Supervisor: Prof. Dr. Holger Hestermeyer



**diplomatische
akademie wien**
Vienna School of International Studies
École des Hautes Études Internationales de Vienne

Abstract (English)

Article I (1) of the Outer Space Treaty provides that the exploration and use of outer space shall be carried out “for the benefit and in the interests of all countries” and shall be “the province of all mankind”. Despite its central position within the first operative provision of the foundational treaty of international space law, the legal content of this clause remains contested. In particular, uncertainty persists as to whether binding rights and obligations are created by Article I (1) OST, who the relevant duty-bearers and right-holders are, and how its interpretation has been shaped by subsequent state practice. A comprehensive interpretation of Article I (1) OST is undertaken through the framework of Articles 31 and 32 VCLT.

Through this textual analysis, the broad material and personal scope of the provision is established, while the limits of interpretation based on wording alone are also demonstrated. Given the indeterminacy of the text, later instruments and practice relevant to the interpretation of Article I (1) OST are subsequently analysed. These materials show that Article I (1) OST has not been treated as a merely aspirational statement. Rather, practical content has been given to the provision through subsequent practice by linking benefit-sharing to international cooperation, capacity-building, access to space applications, data, training, technical assistance, institutional support and, increasingly, intergenerational sustainability. At the same time, it is argued that the scope of Article I (1) OST has also been delimited by subsequent practice. An interpretation requiring mandatory technology transfer, material redistribution, or an immediately enforceable entitlement to a defined share of the economic gains arising from individual space activities has not been accepted by States. Instead, an intermediate legal position is occupied by Article I (1) OST: it is a binding treaty norm, but not a fully operationalised distributive regime.

It is concluded that Article I (1) OST remains binding, universal and central to the interpretation of the Outer Space Treaty. As the Treaty’s first operative provision, it frames the freedoms of exploration and use that follow by requiring that they remain directed towards the benefit and interests of all countries. Its legal relevance therefore lies not in the creation of a rigid redistributive mechanism, but in establishing a benefit-oriented framework of non-exclusion, consideration and cooperation. While Article I (1) OST does not impose compulsory technology transfer, mandatory profit-sharing or externally determined forms of cooperation, it prevents the legal order of outer space from being reduced to formal freedom among materially unequal actors. Properly understood, the provision remains a foundational normative orientation for future discussions on space sustainability, development, access and participation, the further operationalisation of which will depend on continued institutional practice and interpretative consolidation.

Abstract (German)

Diese Arbeit untersucht, welche Rechte und Pflichten sich aus Artikel I Absatz 1 des Weltraumvertrags ergeben und wie dessen Auslegung durch spätere Staatenpraxis geprägt wurde. Die Bestimmung, wonach die Erforschung und Nutzung des Weltraums zum Nutzen und im Interesse aller Länder erfolgen und „Sache der gesamten Menschheit“ sein soll, wird anhand der Artikel 31 und 32 VCLT ausgelegt. Die Analyse zeigt, dass Artikel I (1) Weltraumvertrag keine bloß programmatische Erklärung darstellt, sondern eine verbindliche, jedoch offen formulierte Norm. Ihr Inhalt wurde insbesondere durch die Space Benefits Declaration, die UNISPACE-Prozesse und Programme der Vereinten Nationen zu Kapazitätsaufbau, Zugang zu Weltraumanwendungen und nachhaltiger Entwicklung konkretisiert. Zugleich wurde keine Pflicht zu zwingendem Technologietransfer, materieller Umverteilung oder Gewinnbeteiligung anerkannt. Durch eine Untersuchung der Staatenpraxis lässt sich feststellen, dass Artikel I (1) OST einen nutzenorientierten, bindenden Rechtsrahmen schafft, der auf Nichtausschluss, Rücksichtspflicht und internationaler Zusammenarbeit beruht.

Acknowledgements

This thesis would not have been possible without:
the ever-present care and support of my loving family,
Lidia, Pepe, and Jon;
the relentless and motivating encouragement by my closest friends,
Patrick, Lisa, Onur;
my dearest colleagues and friends that inspired my love for space law,
Jane, Martin, Gina;
the amazing help and legal advice from the ESA Legal Department,
Celine, Arianna, and most of all Romane;
and the incredible feedback and patience of my supervisor,
Prof. Dr. Hestemeyer.

Pledge of Honesty

*On my honour as a student of the Diplomatische Akademie Wien,
I submit this work in good faith and pledge that
I have neither given nor received unauthorised assistance on it.*

Table of Contents

A.	Introduction	1
I.	Research Question	2
II.	Methodological Approach.....	3
B.	Textual Interpretation of Article 1 (I) OST	3
I.	Determining the Ordinary Meaning (Article 31 (1) VCLT)	4
1.	Interpretation and Definition of Terms (Article 31 (1) VCLT).....	4
2.	Object and Purpose of the Outer Space Treaty (Article 31 (1) VCLT).....	9
II.	Contextual Interpretation of Article I (1) OST	12
1.	Within the provision itself	12
2.	Within the wider context of the Treaty	14
3.	Conclusion	17
III.	Conclusion	17
C.	Systematic Interpretation of Article I (1) OST	18
I.	Subsequent agreements between the parties (Art 31 (3) (a) VCLT)	19
1.	The Space Benefits Declaration	19
2.	Further Instruments to be considered.....	24
3.	Conclusion	27
II.	Subsequent practice (Art 31 (3) (b) VCLT)	27
1.	The UN Programme on Space Application	29
2.	Expansion through UNISPACE II and III.....	30
3.	Further UN capacity-building initiatives	31
4.	Conclusion	31
III.	Conclusion	31
D.	Supplementary means of interpretation (Article 32 VCLT).....	32
I.	Drafting History and Historical Context.....	33
1.	Legally binding nature	33
2.	Economic exploitation	34
3.	The Scope of 'Province of Mankind'	35
II.	Subsequent state practice	35
1.	Official statements regarding its interpretation.....	36
2.	Implementation through domestic legislation.....	41
3.	Statements at diplomatic conferences.....	43
III.	Conclusion	44
E.	Rights and obligations arising from Article I (1) OST	45
I.	Legal Nature of Article I (1) OST	45
II.	Scope of Article I (1) OST	45

1.	Duty-bearers	45
2.	Right-holders	46
III.	Legal Effect of Article I (1) OST	46
1.	Rights and Obligations arising from Article I (1) OST.....	47
2.	Delimitation of the Scope through subsequent practice.....	48
3.	Remaining Ambiguities.....	48
F.	Conclusion	49
1.	Centrality of the provision.....	49
2.	Outlook	50
G.	Table of Sources	I
I.	Legislation	I
1.	Treaties and International Instruments	I
2.	Resolutions and Declarations.....	II
3.	Domestic Legislation	II
4.	International Cases	III
II.	Bibliography	IV
1.	Books.....	IV
2.	Chapters in Edited Books.....	V
3.	Journal Articles.....	VII
III.	Additional Materials.....	VIII
1.	UN Documents.....	VIII
2.	Reports and Working Papers	XII
IV.	Online Sources	XII

A. Introduction

Since the inception of the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1959,¹ both the use and exploration of outer space itself and the development of law and policy instruments on its governance have continuously increased. The 1967 Outer Space Treaty² represents the first, and the foundational treaty of this *corpus iuris spatialis*; the treaty has been ratified by a majority of countries³ and is widely regarded as customary international law.⁴ While the treaty contains the foundational principles of space law, such as the freedom of exploration (Art I (2) OST), the non-appropriation principle (Art II OST) and the use of space for exclusively peaceful purposes (Art IV OST), its first operative provision instead places a different focus. Article I (1) OST reads:

“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.”

Despite being a central provision to the treaty, the question of equitable access and benefit-sharing has largely failed to gain wider academic and political attention. While attempts have been made within COPUOS to elaborate such equitable access rights to benefits arising from space exploration both in the 1979 Moon Agreement⁵ and the 1992 Benefits Declaration,⁶ the former failed to gain significant ratifications,⁷ and the latter was adopted in a very limited extent following a deadlock of the Committee.⁸ This led to a long period of neglect of the topic within the Committee; while UNOOSA-led initiatives such as the UN Programme on Space Applications,⁹ Access2Space4All¹⁰ and the Global Space Law Project¹¹ have placed a focus on the autonomy of emerging spacefaring states through developmental assistance,¹² the legal

¹ UN Committee on the Peaceful Uses of Outer Space, *Report of the Ad Hoc Committee on the Peaceful Uses of Outer Space* UN Doc A/4141 (14 July 1959).

² Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, entered into force Oct. 10, 1967, 610 U.N.T.S. 205 [Outer Space Treaty (OST)], Preamble.

³ UN Committee on the Peaceful Uses of Outer Space, *Status of International Agreements relating to activities in outer space as at 1 January 2025* UN Doc A/AC.105/C.2/2025/CRP.9, 10.

⁴ See, *inter alia*, Francis Lyall and Paul B Larsen, *Space Law: A Treatise* (Ashgate 2009), 54.

⁵ Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (adopted 5 December 1979, entered into force 11 July 1984) 1363 UNTS 3 [Moon Agreement].

⁶ *Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries* UNGA Res 51/122, UN Doc A/RES/51/122 (13 December 1996) [Space Benefits Declaration].

⁷ See UN Doc A/AC.105/C.2/2025/CRP.9 (n 3).

⁸ See Marietta Benkö and Kai-Uwe Schrogl, ‘History and Impact of the 1996 UN Declaration on “Space Benefits”’ (1997) 13 *Space Policy* 139.

⁹ See United Nations Office for Outer Space Affairs, ‘[Programme on Space Applications](#)’ accessed 2 June 2026.

¹⁰ See United Nations Office for Outer Space Affairs, ‘[Access to Space for All](#)’ accessed 2 June 2026.

¹¹ See United Nations Office for Outer Space Affairs, ‘[Global Space Law Project](#)’ accessed 2 June 2026.

¹² Ram S Jakhu and Joseph N Pelton, ‘Extending the Benefits and Uses of Outer Space to All Humankind’ in Ram S Jakhu and Joseph N Pelton (eds), *Global Space Governance: An International Study* (Springer 2017), 552.

rights and obligations of nations not actively engaged in space exploration have not been exhaustively addressed.¹³

In the last years, however, the effect of space exploration on developing states has increasingly regained importance. With the adoption of the Space2030-Agenda in 2021,¹⁴ the focus of effects of space exploration and the access to space data were centred in the discussion.¹⁵ As an outcome of the 2024 Summit of the Future, states have agreed to host the *Fourth United Nations Conference on the Exploration and Peaceful Uses of Outer Space* (UNISPACE IV) in 2027,¹⁶ with Morocco and Italy co-facilitating the process.¹⁷ The current draft of the proceedings includes the objective:

*“International cooperation and space for development. Identify existing and future opportunities and evolving needs and challenges in order to enhance and increase the sharing of the benefits of the exploration and use of outer space for all, particularly for developing countries and emerging spacefaring states;”*¹⁸

While the draft proposal refrains from addressing legal obligations, speaking rather of “evolving needs and challenges”, the question arises how such an approach would relate to the existing *corpus juris spatialis* and its current interpretation, especially regarding the “sharing of the benefits of the exploration and use of outer space for all”.

I. Research Question

A systematic interpretation of Article I Outer Space Treaty to identify existing commitments and its evolving application could not only help clarify the persisting debates surrounding its content; it could also serve as the basis for turning the abstract obligations enshrined within to a cohesive approach to benefit-sharing in outer space. Such a proposal could form a constructive contribution to the preparation of the UNISPACE IV, and prevent a back-sliding in the legal commitments made by all spacefaring states regarding the “great prospects opening up before mankind as a result of man’s entry into outer space”.¹⁹ Therefore, this thesis aims to answer the following question:

What rights and obligations arise from Article I (1) Outer Space Treaty, and how has subsequent state practice influenced its interpretation?

¹³ International Law Association, *Report of the Fifty-Fourth Conference Held at The Hague, 23–29 August 1970* (International Law Association 1971), 427.

¹⁴ *The “Space2030” Agenda: Space as a Driver of Sustainable Development* UNGA Res 76/3, UN Doc A/RES/76/3 (25 October 2021).

¹⁵ See *Report of the Scientific and Technical Subcommittee on its Sixty-first Session, Held in Vienna from 29 January to 9 February 2024* UN Doc A/AC.105/1307 (12 April 2024).

¹⁶ *The Pact for the Future* UNGA Res 79/1, UN Doc A/RES/79/1 (22 September 2024), para. 86.

¹⁷ *Report of the Committee on the Peaceful Uses of Outer Space: Sixty-eighth Session, 25 June–2 July 2025* UN Doc A/80/20 (3 September 2025), Annex II.

¹⁸ *Ibid*, A (1) (b).

¹⁹ Outer Space Treaty (n 2), Preamble.

II. Methodological Approach

This thesis applies a doctrinal legal methodology, interpreting Article I (1) OST through the structured framework of Articles 31 and 32 of the Vienna Convention on the Law of Treaties (VCLT).²⁰ Following the approach reflected in the work of the International Law Commission (ILC) and in the jurisprudence of the International Court of Justice (ICJ), in **Chapter B.I**, the ordinary meaning of treaty terms is examined together with their context. Accordingly, in **Chapter B.II**, the thesis analyses Article I (1) OST in relation to the remaining paragraphs of Article I, the wider structure of the Outer Space Treaty, and the Treaty's Preamble.

Given that the textual and contextual interpretation of Article I (1) OST does not exhaustively determine its legal content, in accordance with Article 31 (3) (a), **Chapter C.I** identifies subsequent agreements between the parties that bear on the interpretation of Article I (1) OST. In accordance with Article 31 (3) (b) VCLT, **Chapter C.II** thereafter examines subsequent practice in the application of the Treaty. The identification of such practice follows the approach proposed by the ILC in its conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties,²¹ as well as the work of Special Rapporteur Georg Nolte on the subject.²² Lastly, in **Chapter C.III**, supplementary means of interpretation, including the preparatory work of the Outer Space Treaty and the circumstances of its conclusion, are used to confirm and clarify the interpretation reached under Article 31 VCLT.

Finally, in **Chapter D**, a rights-based analytical framework is applied to synthesise the interpretative findings, distinguishing between right-holders, duty-bearers, and the legal nature and scope of the identified obligations.

B. Textual Interpretation of Article 1 (I) OST

Many authors have remarked that Article I (1) OST raises "interpretive difficulties as to the delimitation of its content and scope".²³ Given the indeterminacy of the provision, this chapter first proceeds with a textual interpretation of the provision, applying the general rules of interpretation as enshrined in Article 31 VCLT, which are widely accepted as reflecting customary international law and are therefore applicable to the interpretation of the OST despite its conclusion before their adoption.²⁴ This chapter does not seek to definitively resolve these ambiguities of the provision but rather to identify the range of legally plausible

²⁰ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 [Vienna Convention (VCLT)].

²¹ See International Law Commission, 'Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries' in *Report of the International Law Commission on the Work of Its Seventieth Session* UN Doc A/73/10 (2018) Ch IV.

²² See Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013).

²³ Rossana Deplano, 'Inclusive Space Law: The Concept of Benefit Sharing in the Outer Space Treaty' (2023) 72 *International and Comparative Law Quarterly* 671, 677.

²⁴ *Case Concerning the Territorial Dispute (Libyan Arab Jamahiriya/Chad)* (Judgment) [1994] ICJ Rep 6, para. 41.

interpretations that emerge from the text, its context, and relevant interpretative tools. These findings will provide the basis for the subsequent examination of subsequent agreements and subsequent practice in **Chapter C** and the synthesis in **Chapter D**.

I. Determining the Ordinary Meaning (Article 31 (1) VCLT)

As opposed to the later space treaties, such as the Liability Convention (LIAB)²⁵ and the Registration Convention (REG),²⁶ the Outer Space Treaty (OST) does not include any definitions of the terms enshrined therein, including those in Article 1 (1) OST; neither do the provisions of the treaty make explicit references to other Agreements²⁷ when it comes to the definition of terms defined within. Given this absence of explicit definitions within the Treaty and the well-documented ambiguity of its central terms,²⁸ a structured interpretative approach is required to clarify their possible meanings.

The aim of this chapter is a textual interpretation of Article I (1) OST in accordance with the general rules of treaty interpretation codified in Article 31 VCLT. First, the ordinary meaning of the terms included within the provision shall be examined in **Section B.I.1**. Second, given that Article 31 VCLT dictates the interpretation of a treaty “in the light of its object and purpose”, said object and purpose of the Outer Space Treaty, albeit limited to the specific context of benefit-sharing, will be discussed in **Section B.I.2**.

1. Interpretation and Definition of Terms (Article 31 (1) VCLT)

As established by the International Court of Justice in the *Territorial Dispute Case*, “Interpretation must be based above all upon the text of the treaty.”²⁹ Therefore, to achieve a comprehensive interpretation of the provision, the ordinary meaning of the words enshrined shall be analysed in their context first, following the general rule of interpretation as laid out in Article 31 (1) VCLT. It should be noted, however, that, as emphasized by the ILC during the drafting of the VCLT, such an interpretation should not be limited to “a ‘dictionary’ or intrinsic

²⁵ See Convention on International Liability for Damage Caused by Space Objects (adopted 29 March 1972, entered into force 1 September 1972) 961 UNTS 187 [Liability Convention (LIAB)], Article I.

²⁶ See Convention on Registration of Objects Launched into Outer Space (adopted 12 November 1974, entered into force 15 September 1976) 1023 UNTS 15 [Registration Convention (REG)], Article I.

²⁷ See Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (adopted 19 December 1967, opened for signature 22 April 1968, entered into force 3 December 1968) 672 UNTS 119 [Rescue and Return Agreement (ARRA)], Article 10: “within the meaning of article V [OST]”.

²⁸ Stephan Hobe and Niklas Hedman, ‘Preamble’ in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (BWV Berliner Wissenschafts-Verlag 2017) 151, para. 9.

²⁹ *Case Concerning the Territorial Dispute* (Libyan Arab Jamahiriya/Chad) (Judgment) [1994] ICJ Rep 6, para. 41.

meaning”.³⁰ Therefore, this subsection applies the interpretative framework of Article 31(1) VCLT read “immediately and intimately linked with context”.³¹

a. ‘exploration and use of outer space’

The provision begins with laying out its scope. Article I (1) OST finds application during “the exploration and use of outer space, including the Moon and other celestial bodies.” This phrasing establishes a broad material and spatial scope. The definition and delimitation of the exact border between airspace and “outer space” remains an ongoing debate within COPUOS discussions³² and within space law literature;³³ while most countries advocate for the legal recognition of the Kármán line 100km over the sea level, no unanimous position has been found.³⁴ A close examination of these debate would go beyond the scope of this analysis; however, it should be noted that the scope of the provision expressly extends to all celestial bodies.³⁵

The phrase “exploration and use” is central to the Outer Space Treaty, and is included in its title and in multiple of its preambular paragraphs and finds repetition in Article I, III, IX, X, XI and XIII of the Treaty.³⁶ “Exploration” is defined by the Oxford Dictionary as “the act of travelling through a place in order to find out about it or look for something in it”,³⁷ while use is defined as “to do something with a machine, a method, an object, etc. for a particular purpose”;³⁸ both suggest broad applicability. Interestingly, Article I (1) OST does not make reference to the “States Parties to the Treaty” as a subject of the obligation, making it the only provision together with Article IX OST³⁹ to do so. This is especially interesting within the contemporary space governance developments, with space use and exploration being an increasingly private undertaking.⁴⁰ While Article I (1) OST does not expressly reference private actors, States remain obliged to ensure that private-led space activity under their jurisdiction is conducted

³⁰ United Nations Conference on the Law of Treaties, First Session, Vienna, 26 March–24 May 1968, *Official Records: Summary Records of the Plenary Meetings and of the Meetings of the Committee of the Whole* UN Doc A/CONF.39/11 (1969) 184, para. 70 [Sir Humphrey Waldock].

³¹ Richard Gardiner, *Treaty Interpretation* (2nd edn, Oxford University Press 2015), 181.

³² See UN Committee on the Peaceful Uses of Outer Space, *Historical summary on the consideration of the question on the definition and delimitation of outer space: report of the Secretariat* (3 February 2020) UN Doc A/AC.105/769/Add.1.

³³ See Tennis Gangale, *How High the Sky?: The Definition and Delimitation of Outer Space and Territorial Airspace in International Law* (vol 13, Brill Nijhoff 2018).

³⁴ Paul Stephen Dempsey. *Public International Air Law*. Montreal, Institute and Center of Air and Space Law, McGill University, 750.

³⁵ Alexander Soucek, ‘International Law’ in Christian Brünner (ed), *Outer Space in Society, Politics and Law* (Springer 2011) 294, 312.

³⁶ In contrast, two articles, namely Articles II and IV OST, do refer to the “use” of outer space without including its “exploration” in the context of national appropriation and disarmament – arguably, activities which cannot be construed as exclusively exploratory.

³⁷ Oxford Learner’s Dictionaries, ‘exploration’ *Oxford Advanced Learner’s Dictionary* (online, accessed 1 May 2026).

³⁸ Oxford Learner’s Dictionaries, ‘use noun’ *Oxford Advanced Learner’s Dictionary* (online, accessed 1 May 2026).

³⁹ See **Chapter B.II.2.a.**

⁴⁰

within the Treaty's benefit-oriented framework in line with Article VI OST,⁴¹ raising interesting questions the obligation of supervision and authorisation of private activities enshrined in the provision requires implementation that obligates private actors to contribute to benefit-sharing.

b. 'for the benefit and in the interest'

Article I (1) OST continues by stipulating that exploration and use "shall be carried out for the benefit and in the interests of all countries", forming the central obligation of the provision. It requires the exploration and use "for the benefit and in the interests" of all countries, meaning that the terms need to be read cumulatively.⁴² 'Benefit' is defined by the Cambridge Dictionary as "a helpful or good effect",⁴³ and 'interest' as "bring[ing] advantages to or affects";⁴⁴ the Merriam-Webster Dictionary lists both as synonymous with "advantage",⁴⁵ which it defines as a "benefit resulting from some course of action".⁴⁶ However, as observed by Gorove, "a repeated reference to the same term would be clearly redundant."⁴⁷ It is interesting to note that these definitions could both point towards an obligation of outcome ('effect' and 'affect'; 'resulting'); to simply "take into account interests and rights of other states in their activities in outer space"⁴⁸ might not be enough, possibly requiring "substantive rather than only formal equality".⁴⁹ However, the provision does not state this in clear terms, making further examination necessary.

c. 'all countries'

Next, the scope of application of Article I (1) OST shall be examined by clarifying its intended addressees, which encompasses "all countries, irrespective of their degree of economic or scientific development". While some authors have argued that the provisions concerns primarily "non-space faring countries",⁵⁰ a purely textual reading indicated otherwise. As opposed to other provisions of the Treaty, including Article V, VII and IX OST, the obligation enshrined in Article I (1) OST is not only owed to other parties of the Treaty, but explicitly to all

⁴¹ See Michael Gerhard, 'Article VI' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009) 103, para. 35.

⁴² This is especially interesting given that the term "interest" does find introduction separately into the text of the treaty, such as the interest of "maintaining international peace and security" (Article III OST), or the "due regard to the corresponding interests" of other state parties (Article IX OST).

⁴³ Cambridge Dictionary, 'benefit' *Cambridge Dictionary* (online, accessed 1 May 2026).

⁴⁴ *Ibid*, 'interest' *Cambridge Dictionary* (online, accessed 1 May 2026).

⁴⁵ Merriam-Webster, 'benefit' and 'interest' *Merriam-Webster.com Dictionary* (online, accessed 1 May 2026).

⁴⁶ *Ibid*, 'advantage' *Merriam-Webster.com Dictionary* (online, accessed 1 May 2026).

⁴⁷ Stephen Gorove, 'Freedom of Exploration and Use in the Outer Space Treaty: A Textual Analysis and Interpretation' (1971) 1(1) *Denver Journal of International Law and Policy* 93, 100.

⁴⁸ Sergio Marchisio, 'Article IX' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009), 175.

⁴⁹ Stephan Hobe, 'Article I' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009), para. 50.

⁵⁰ See Atip Latipulhayat, 'Privatization of Space Law: Negotiating Commercial and Benefit-Sharing Issues in the Utilization of Outer Space' in *Proceedings of the 55th Colloquium on the Law of Outer Space* (2012), 243.

countries irrespective of the Treaty's ratification, making it the only provision of the Treaty with such a universal scope.

Article I (1) OST therefore frames the relevant benefit not as one owed only to States Parties or to non-spacefaring States, but as one owed universally to all countries regardless of their level of development or participation in the Treaty regime. It therefore establishes an expansive framework for identifying beneficiaries, the concrete consequences of which require further clarification through the subsequent interpretative steps undertaken in this analysis.

d. 'province of mankind'

Article I (1) OST concludes by declaring that the exploration and use of outer space "shall be the province of all mankind". Academic interpretation of the phrase ranges between describing it as a "general political principle with certain moral overtones"⁵¹ to claims that it creates distinct legal obligations such as environmental preservation⁵² and equal access to space,⁵³ and even preferential treatment of developing states.⁵⁴ In contrast, other authors consider it void of "practical obligations or restrictions"⁵⁵ and ascribe it a "declaratory nature".⁵⁶ The phrasing "province of all mankind" is unique to the space treaties,⁵⁷ and this wide range of interpretations can be partially explained by the difficulty to determine its ordinary meaning.

First, while the ordinary meaning of "province" points to a geographical scope,⁵⁸ an examination of authentic translations⁵⁹ in accordance with Article 33 (3) VCLT and in line with a plethora of case law⁶⁰ and the ILC⁶¹ confirms⁶² a reading in line with the alternative ordinary meaning of the word as a "particular area of knowledge, interest or responsibility".⁶³ This argument is

⁵¹ Tanja Masson-Zwaan and Mahulena Hofmann, *Introduction to Space Law* (4th ed., Kluwer Law International B.V., 2019), 49.

⁵² Lotta Viikari, *The Environmental Element in Space Law* (Brill 2008), 59.

⁵³ Cassandra Steer, Sources and Law-Making Processes Relating to Space Activities' in Ram S Jakhu and Paul S Dempsey (eds), *Routledge Handbook of Space Law*, 15.

⁵⁴ Hobe (n 49), para. 52.

⁵⁵ Ricky J Lee, 'Exploitation Rights: Evolving from the "Province of Mankind" to the "Common Heritage of Mankind"' in Ricky J Lee, *Law and Regulation of Commercial Mining of Minerals in Outer Space* (Springer Netherlands 2012) 203, 270.

⁵⁶ Joanne Irene Gabrynowicz, 'The Province and Heritage of Mankind Reconsidered: A New Beginning' in W W Mendell (ed), *The Second Conference on Lunar Bases and Space Activities of the 21st Century, Volume 2* (NASA Conference Publication 3166, Johnson Space Center 1992), 492.

⁵⁷ Finding repetition in Article 4 of the Moon Agreement (n 5).

⁵⁸ Cambridge Dictionary, 'province' *Cambridge Dictionary* (online, accessed 1 May 2026).

⁵⁹ Ulf Linderfalk, 'The Special Rule Regarding the Interpretation of Treaties Authenticated in Two or More Languages' in Ulf Linderfalk, *On the Interpretation of Treaties: The Modern International Law as Expressed in the 1969 Vienna Convention on the Law of Treaties* (Springer 2007), 356.

⁶⁰ Succinctly summarized by Barton Legum and Aline Crevon-Tarassova, 'VCLT Article 33: Interpretation of Treaties Authenticated in Two or More Languages' in Esmé Shirlow and Kiran N Gore (eds), *The Vienna Convention on the Law of Treaties in Investor-State Disputes: History, Evolution and Future* (Kluwer Law International 2022), 46.

⁶¹ Sir H Waldock, 'Third Report on the Law of Treaties' [1964] II *Yearbook of the International Law Commission* 63, para. 6.

⁶² The French version opts for the wording "l'apanage" which translates to 'prerogative'. Similarly, in Russian, the word used is "достояние", a 'possession' or 'wealth'. See ⁶² Linguee, 'apanage' *Linguee English-French Dictionary* (online, accessed 1 May 2026); LEO Dictionary, 'достояние' *LEO Online Dictionary* (online, accessed 1 May 2026).

⁶³ Oxford Learner's Dictionaries, 'province' *Oxford Advanced Learner's Dictionary* (online, accessed 1 May 2026).

further confirmed through the syntax of the provision. As a multitude of authors have observed,⁶⁴ the subject of the sentence is not outer space, including the Moon and other celestial bodies, but the exploration and use of it:

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 [...] and shall be the province of all mankind.

Accordingly, it can be concluded that it is activities to outer space, not outer space, that belong to all of mankind – "the former relates to, but is not the same as, the latter".⁶⁵ Indeed, both the comparison of authentic language versions and the syntactical structure of the provision suggest that it does not denote a spatial regime. Rather, it attaches to activities in outer space, pointing towards a shared entitlement or responsibility whose precise legal implications remain to be clarified.

Second, a short reflection on the use of the word "mankind" is necessary. References to "mankind" were already made in the first resolution of the UNGA passed relating to outer space,⁶⁶ but its inclusion in the Treaty text itself is notable.⁶⁷ Indeed, while other treaties, including the UN Charter, had included references to "mankind" in their preambular paragraphs,⁶⁸ Article I Outer Space Treaty marks the first introduction of 'mankind' within the operative part of a treaty,⁶⁹ denoting "mankind as a single entity"⁷⁰ entrusted with the exploration and use of outer space.

To summarize, the phrase "province of all mankind" remains one of the most ambiguous elements of Article I(1) OST. The comparison of equally authentic treaty texts suggests that it does not refer to a territorial designation, but rather relates to the activities conducted in outer space. The concept therefore functions as an important contextual element for the obligations enshrined in the beginning of the provision, but the precise significance of which cannot be determined solely on the basis of textual analysis.

⁶⁴ See, *inter alia*, Chi Eric Nnadozie and Ibrahim Sule, 'The Principle of Common Heritage of Mankind in the Law of Outer Space' (2022) 1(4) *Law and Humanities Quarterly Reviews* 64, 68; Carol R Buxton, 'Property in Outer Space: The Common Heritage of Mankind Principle v the First in Time, First in Right, Rule of Property' (2004) 69(4) *Journal of Air Law and Commerce* 689, 699.

⁶⁵ Gabrynowicz (n 56), 492.

⁶⁶ *International Co-operation in the Peaceful Uses of Outer Space*, UNGA Res 1721 (XVI) (20 December 1961) UN Doc A/RES/1721(XVI).

⁶⁷ Soucek (n 35), 308.

⁶⁸ Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI, Preamble ("scourge of mankind"); Antarctic Treaty (adopted 1 December 1959, entered into force 23 June 1961) 402 UNTS 71, Preamble ("interests of science and mankind"); Treaty on the Non-Proliferation of Nuclear Weapons (adopted 1 July 1968, entered into force 5 March 1970) 729 UNTS 161, Preamble ("the devastation that would be visited upon all mankind by a nuclear war").

⁶⁹ Rüdiger Wolfrum, 'The Principle of the Common Heritage of Mankind' (1983) 43 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 312, 318.

⁷⁰ UN General Assembly First Committee, 'Summary Record of the 1493rd Meeting' (17 December 1966) UN Doc A/C.1/SR.1493, par. 74, quoted in Bin Cheng, *Studies in International Space Law* (Clarendon Press 1997) at 234.

e. Conclusion

The textual interpretation of Article I (1) OST establishes the provision's broad scope but leaves its precise legal consequences unresolved. Its language applies to all exploration and use of outer space, including celestial bodies, and identifies all countries as beneficiaries. The terms "benefit" and "interest" suggest more than formal equality, while "province of all mankind" frames outer space activities as a shared concern of humanity.

Despite these findings, the precise substantive content of the obligations remains unclear. The extent to which "benefit and interests" require concrete outcomes, rather than mere consideration, cannot be conclusively determined through textual analysis alone. Similarly, while "province of all mankind" suggests a collective dimension, its legal implications remain unsettled. In accordance with Article 31 (1) VCLT, which requires interpretation in light of a treaty's object and purpose, further analysis beyond the text itself is therefore necessary.

2. Object and Purpose of the Outer Space Treaty (Article 31 (1) VCLT)

As established by the Court in the *Maritime Delimitation in the Indian Ocean Case*, "interpretation must take account of all these elements considered as a whole",⁷¹ rather than "simply taking words that are the subject of controversy and digging out their meaning solely from dictionary, grammar, and syntax."⁷² In addition to the ordinary meaning of the terms, Article 31 (1) VCLT calls for the interpretation of any provision "in the light of its object and purpose".

Given the lack of an explicit provision on the treaty's object and purpose, recourse to other forms of determination has to be made. In the *Whaling in Antarctica Case*, the Court approached the determination of the object and purpose of the Treaty in question through "Taking into account the Preamble and other relevant provisions of the Convention".⁷³ In academic practice, this list is often to the preparatory works and historical background;⁷⁴ the same approach shall be taken below.

a. Object and Purpose in the Preamble

The Preamble of the Outer Space Treaty opens with preambular "secondary clauses (*considérants*)"⁷⁵, laying out the general purpose and context of the treaty.⁷⁶

⁷¹ *Maritime Delimitation in the Indian Ocean (Somalia v Kenya) (Preliminary Objections)* [2017] ICJ Rep 3, para. 64.

⁷² Gardiner (n 31), 165.

⁷³ *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)* [2014] ICJ Rep 226, para. 58.

⁷⁴ For a detailed examination, see Kit De Vriese, 'How to?: A Methodological Guide to Identify a Treaty's Object and Purpose' (2022) 21 *The Law & Practice of International Courts and Tribunals* 35, 49-61.

⁷⁵ Makane Moïse Mbengue, 'Preamble' in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press, September 2006), para. 1.

⁷⁶ *Ibid*, para. 9.

“Inspired by the great prospects opening up before mankind as a result of man’s entry into outer space,
Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,”

While the reference to “the great prospects opening up before mankind” reveals the forward-facing, and tentatively positive, approach the OST takes to space exploration, the reiteration of the wording “mankind” and “all mankind” respectively places humanity at the beginning of the Agreement. This is especially interesting given that in the context of the Genocide Convention, the ICJ has repeatedly stressed that the reference to “mankind” in its Preamble⁷⁷ establishes the “universal character”⁷⁸ of the Convention.⁷⁹ In 2006, the Court went even further, linking the Preamble to the establishment of an *erga omnes* obligation arising from it:

“[T]hat conception is “the universal character both of the condemnation of genocide and of the cooperation required ‘in order to liberate mankind from such an odious scourge’ (Preamble to the Convention)” [...] It follows that “the rights and obligations enshrined by the Convention are rights and obligations *erga omnes*”.”⁸⁰

Given that the reference to mankind is repeated in both the Preamble and the operative part of the Outer Space Treaty, the universal scope determined by the textual reading can therefore be seen as confirmed through the Preamble.

Interestingly, the third preambular paragraph replicates the language of Article I (1) OST, showcasing the centrality of the provision to the architecture of the Outer Space Treaty and supports an interpretation of benefit-sharing as integral to the Treaty’s normative design. The Preamble therefore indicates that preserving the exploration and use of outer space as a matter of common interest to humankind is central to the object and purpose of the Outer Space Treaty.

b. Preparatory Works and Historical Background

A contextualisation of these preambular paragraphs in the time of its drafting can further help with determining the object and purpose of the treaty. With the Cold War and nuclear tensions serving as the backdrop to the negotiations, the danger of the militarization of outer space was ubiquitously felt;⁸¹ at the same time, states repeatedly stressed the opportunities presented by

⁷⁷ Convention on the Prevention and Punishment of the Crime of Genocide (adopted 9 December 1948, entered into force 12 January 1951) 78 UNTS 277 [Genocide Convention], Preamble (“in order to liberate mankind”)

⁷⁸ *Reservations to the Genocide Convention* (Advisory Opinion) [1951] ICJ Rep 15, 23.

⁷⁹ *Ibid.*

⁸⁰ *Armed Activities on the Territory of the Congo (DRC v Rwanda) (Jurisdiction and Admissibility)* [2006] ICJ Rep 6, para. 63.

⁸¹ See Nicholas Michael Sambaluk, *The Other Space Race: Eisenhower and the Quest for Aerospace Security* (Naval Institute Press 2015).

space exploration for a more cooperative approach. As summarized by Manfred Lachs, Chair of the First Session of the Legal Subcommittee, in his opening speech:

"The modern world was confronted with two conflicting philosophies: [...] fear lest man should become a prisoner of his own scientific and technical inventions; on the other hand, [...] confidence in the progressive development of man's mastery over nature [...]. There was little doubt to which [...] the Sub-Committee would subscribe: the philosophy of doom had no place in its deliberations. [...] The key had been found to many of the secrets of nature, and its forces could now be turned to serving the interests of mankind."⁸²

Within this context, the centrality of questions relating to benefit-sharing within the drafting of the Treaty, and the expressed goal of the "participation by nations at all levels of development"⁸³ in space exploration become even more pertinent. As stated by the Soviet delegate:

"The declaration that we are proposing is based on the premise that the exploration of outer space should serve the interests and the welfare of the whole of mankind. Who can oppose this key provision, which determines all the perspectives of international co-operation in the field of peaceful penetration of outer space?"⁸⁴

The phrasing "carried out for the benefit and in the interests of the whole of mankind" already found introduction in the 1962 Soviet Draft of the 1963 Principles Declaration,⁸⁵ a non-binding instrument preceding the adoption of the OST. While the United States opposed the Soviet draft in many accounts,⁸⁶ it concurred that the central goal was to advance international cooperation "for the benefit of all States",⁸⁷ a sentiment reiterated by many other delegations that took the floor.⁸⁸ While the interpretation of the *travaux* needs to be handled with caution,⁸⁹ the drafting history nevertheless reinforces a purposive interpretation of Article I (1) OST in which benefit-sharing is central to the Treaty's object and purpose.

⁸² UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Summary Record of the 1st Meeting' UN Doc A/AC.105/C.2/SR.1, 3-4 [Statement of the Chair].

⁸³ U.N. Doc. A/4141 (n 10), para 10.

⁸⁴ See UN Committee on the Peaceful Uses of Outer Space, 'Provisional verbatim record of the 10th meeting' UN Doc A/AC.105/PV.10, 42 [Soviet Union].

⁸⁵ USSR, *Draft declaration of the basic principles governing the activities of States pertaining to the exploration and use of outer space* UN Doc A/AC.105/L.02 (1962).

⁸⁶ See UN Committee on the Peaceful Uses of Outer Space, 'Provisional verbatim record of the 11th meeting' UN Doc A/AC.105/PV.11, 5-7 [United States of America].

⁸⁷ *Ibid*, 8.

⁸⁸ *Ibid*, 10 [United Arab Republic] ("the more advanced, as well as the less advanced countries can benefit, one from the other, regardless of the degree of advancement of each state."); *ibid*, 14 [Italy] ("for the benefit of all mankind"); *ibid*, 18 [Romania] ("protection of the legitimate interests of each State").

⁸⁹ *Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v Bahrain) (Jurisdiction and Admissibility)* [1995] ICJ Reports 6, 35-37 and 39.

c. Conclusion

Read in light of the Preamble and the Treaty's drafting history, Article I (1) OST emerges as part of a broader normative design aimed at ensuring that outer space activities are conducted cooperatively and with regard to the interests of humankind. While this does not automatically transform the provision into a detailed redistributive mechanism, it strongly supports the conclusion that benefit-sharing forms part of the object and purpose against which Article I (1) OST must be interpreted.

II. Contextual Interpretation of Article I (1) OST

Under the general rules of interpretation, Article 31 VCLT stipulates that the ordinary meaning of a term is to be determined "in their context". As established by the ILC, the meaning of the terms provision "emerge[s] in the context in which they were used, in the context of the treaty as a whole".⁹⁰ In the following, such a contextual interpretation shall include both for the other two paragraphs of Article I OST as the immediate context of the provision, as well as the OST as a whole in regard to selected provisions which relate to Article I (1) OST.

1. Within the provision itself

The first approach to a contextual reading must necessarily be one of "reading something in context as meaning reading words in their immediate surroundings."⁹¹ The clarification of the content and scope of a provision's paragraph through the examination of its other paragraphs has been applied by the ICJ both in the *La Grand Case*⁹² and in the *Avena Case*.⁹³ Such an approach is especially interesting for Article I OST given that the two second paragraphs of the provision are aimed towards the establishments of freedoms, rather than obligations, a tensions which shall be briefly examined below.

a. Freedom of exploration (Article I (2) OST)

On first glance, Article I (2) OST forms a juxtaposition to the previous obligation of benefit-sharing, establishing that outer space "shall be free for exploration and use by all States without discrimination of any kind". This freedom of exploration is widely considered⁹⁴ customary international law,⁹⁵ and forms the "fundamental freedom in the former context for individual

⁹⁰ United Nations Conference on the Law of Treaties, First Session, Vienna, 26 March–24 May 1968, *Official Records: Summary Records of the Plenary Meetings and of the Meetings of the Committee of the Whole* UN Doc A/CONF.39/11, para. 70 [Sir Humphrey Waldock].

⁹¹ Gardiner (n 31), 197.

⁹² *LaGrand (Germany v United States of America)* [2001] ICJ Rep 466, para. 89.

⁹³ *Avena and Other Mexican Nationals (Mexico v United States of America)* [2004] ICJ Rep 12, paras. 50, 99–104.

⁹⁴ Ram S Jakhu and Steven Freeland, 'The Relationship Between the Outer Space Treaty and Customary International Law' (2016) *SSRN Electronic Journal*, 6.

⁹⁵ See Judge Lachs, dissenting opinion in *North Sea Continental Shelf Cases (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)* [1969] ICJ Rep 3, 230.

states to act unless specific international obligations have been agreed upon",⁹⁶ without any authorization by the international community.⁹⁷ However, academic analysis of the provision often proposes a cumulative reading with the first paragraph:

"Any evaluation of the freedom of outer space can only be made if one has a careful look into the limitations of these rights which are contained in this Article I as well as in other provisions of the Outer Space Treaty and in general international law"⁹⁸

Similarly, Gorove views the mandated benefit-sharing of Article I (1) OST as the "first and perhaps most important limitation"⁹⁹ to the freedoms elaborated in the second paragraph, while Soucek describes it as the requirement of such freedom and an essential characteristic of the Outer Space Treaty.¹⁰⁰ Article I (2) OST therefore does not displace the benefit-sharing obligation in Article I (1) OST, but situates freedom of exploration and use within a legally conditioned framework. This supports an interpretation of Article I (1) OST as a binding limitation on the exercise of space freedoms, meaning that operationalization must reconcile access and equality of use with the requirement that space activities be carried out for the benefit and in the interests of all countries.

b. Freedom of scientific investigation (Article I (3) OST)

The third and final paragraph of Article I OST establishes the freedom of scientific investigation in outer space as a separate right to the general freedom of use and exploration, "showing the importance of this activity"¹⁰¹ The Cologne Commentary of the Outer Space Treaty defines exploration as "the general finding out of something yet to be explored, which may or may not include scientific activity."¹⁰² While it could be argued that freedom of scientific investigation is already enshrined in the freedom of access and use,¹⁰³ the inclusion of the provision helps us clarify the scope of "exploration and use" within Article I (1) OST. Article I (3) OST refers to the freedom of "scientific investigation" as a separate freedom to that of "exploration and use" codified in Article I (2) OST; it follows that scientific investigation denotes a specific activity within the provision, with "exploration" including broader, non-scientific activities.

Article I (3) OST therefore confirms that "exploration and use" in Article I (1) OST encompasses a broader range of outer space activities. It follows that any benefit-sharing obligation arising under Article I (1) OST must apply beyond scientific cooperation and extend, at least in

⁹⁶ Frans von der Dunk (ed), *Handbook of Space Law* (Edward Elgar Publishing 2015), 58.

⁹⁷ Hobe (n 49), para. 34.

⁹⁸ *Ibid*, para. 42.

⁹⁹ Gorove (n 44), 100.

¹⁰⁰ Jakhu and Freeland (n 94), 311.

¹⁰¹ Hobe (n 49), para. 42.

¹⁰² Hobe (n 49), para. 35.

¹⁰³ Oliver Strank, *Common Concern of Humankind im Völkerrecht* (Beiträge zum ausländischen öffentlichen Recht und Völkerrecht vol 289, Springer Berlin Heidelberg 2019), 150.

principle, to the wider spectrum of contemporary space activities capable of producing benefits or affecting the interests of all countries.

c. Conclusion

A reading of the provision within the context of Article I OST therefore shows that the freedoms established in Article I (2) OST and Article I (3) OST do not weaken the benefit-sharing language of Article I (1) OST, but help define its scope and function. Article I (1) OST gives rise to a legally relevant limitation on the exercise of space freedoms, extending beyond scientific cooperation to contemporary space activities more generally, ensuring that the exercise of such access remains compatible with the Treaty's universal benefit-oriented framework.

2. Within the wider context of the Treaty

As stated by both the ILC, "the ordinary meaning of a term is not to be determined in the abstract but in the context of the treaty".¹⁰⁴ It is clear that the Treaty must be interpreted in its entirety, rather than by isolating specific phrases which, taken out of context, could bear multiple meanings.¹⁰⁵ While a comprehensive analysis of the Outer Space Treaty falls beyond the scope of this thesis, the following section adopts the Court's interpretative approach in the *Oil Platforms Case* to briefly examine those provisions that "affect the interpretation or application of that text."¹⁰⁶

a. Duty of International Cooperation

The first interrelation to be shortly examined is between the benefit-sharing approach of Article I (1) OST and the duty for cooperation repeatedly reiterated throughout the Treaty, limiting the freedom principle of Article I (2) OST.¹⁰⁷ In accordance with Article IX OST, State Parties should be "guided by the principle of co-operation and mutual assistance" in the exploration and use of outer space; "promoting international co-operation and understanding" is furthermore invoked as the basis for the adherence to international law in outer space (Article III OST)¹⁰⁸ and wide-reaching information-sharing obligations (Article X, XI OST),¹⁰⁹ creating an active duty of cooperation throughout the treaty.¹¹⁰ These cooperation obligations directly interrelate with the benefit-sharing outlined in Article I (1) OST:

¹⁰⁴ International Law Commission, 'Draft Articles on the Law of Treaties with Commentaries' [1966] II *Yearbook of the International Law Commission* 187, 221.

¹⁰⁵ *Competence of the ILO in Regard to International Regulation of the Conditions of the Labour of Persons Employed in Agriculture* (Advisory Opinion) PCIJ Rep Series B No 2, 23.

¹⁰⁶ *Oil Platforms (Islamic Republic of Iran v United States of America)* [2003] ICJ Rep 161, para. 31.

¹⁰⁷ Dunk (n 96), 59.

¹⁰⁸ Oliver Ribbelink, 'Article III' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017) 271, 283.

¹⁰⁹ Regarding the operationalisation, see International Institute of Space Law, 'An Expert Legal Analysis of Article XI of the Outer Space Treaty' UN Doc A/AC.105/C.2/2026/CRP.19 (15 April 2026).

¹¹⁰ International Law Association, *Report of the Sixty-Fifth Conference, Cairo* (International Law Association 1992), at 149.

"The cooperation principle is premised on two ideas that are both closely related to the concept of the mankind clause. On the one hand, most space activities are of high benefit for all mankind. On the other hand, these activities can only be carried out effectively and with least amount of cost through the framework of cooperation of the international community."¹¹¹

The cooperation provisions of the Outer Space Treaty therefore support a reading of Article I (1) OST as part of a wider treaty structure aimed at ensuring that outer space activities are not conducted solely for the unilateral advantage of individual States by linking the exploration and use of outer space to cooperation, mutual assistance, transparency, observation, and information-sharing.

b. Sovereignty and non-appropriation

The second provision of relevance to the interpretation of Article I (1) OST is Article II OST, which established the non-appropriation principle, stipulating that outer space “not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”, forming a “wide, clear, and indisputable”¹¹² rule at the core of the *corpus iuris spatialis*.¹¹³ It is often read concurrently with both the benefit-sharing and freedom provisions from Article I OST¹¹⁴ to establish outer space as a *res communis omnium*.¹¹⁵ The concept, which arises from Roman law,¹¹⁶ was first recognized in the context of the law of the sea as a classification of the high seas,¹¹⁷ but the status of outer space as such has been proposed by a multitude of scholars as early as 1962,¹¹⁸ predating the OST.¹¹⁹ This nature of outer space as a *res communis*, a (legal) object owned by no one but available to everyone,¹²⁰ has been recognized by a “great majority of lawyers today”,¹²¹ creating a “coherent governance structure for space activities”,¹²² and is widely considered customary international law.¹²³

¹¹¹ Detlev Wolter, *Common Security in Outer Space and International Law* (UNIDIR, United Nations Publications 2006), at 93.

¹¹² Armel Kerrest, ‘Outer Space as International Space: Lessons from Antarctica’ in Paul A Berkman and others (eds), *Science Diplomacy: Antarctica, Science, and the Governance of International Spaces* (Smithsonian Institution Scholarly Press 2011) 133, 135.

¹¹³ Ram S Jakhu and Steven Freeland, ‘Article II’ in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogel (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017) 221, 269.

¹¹⁴ Lee (n 55), 219.

¹¹⁵ Jakhu and Freeland (n 94), 6.

¹¹⁶ Christopher C Joyner, *Antarctica and the Law of the Sea* (Martinus Nijhoff Publishers 1992), 90.

¹¹⁷ *Ibid.*

¹¹⁸ Michel Smirnov, ‘Legal Status of Celestial Bodies’ (1962) 28 *Journal of Air Law and Commerce* 385, 393.

¹¹⁹ Jakhu and Freeland (n 94), 7.

¹²⁰ Joyner (n 116), 194.

¹²¹ Smirnov (n 118), 393.

¹²² Maximilian Bettmann, *The Political Origins of International Space Law: Preference Formation and Regime Development in the Early Space Age* (Master’s thesis, Rheinische Friedrich-Wilhelms-Universität Bonn 2017), 93.

¹²³ Strank (n 103), 118.

Despite its wide acceptance, however, a clear definition seems to be lacking. While some authors stress the ideological nature of the *res communis* doctrine,¹²⁴ or view it as an attempt to "underline interest of all States and all generations (present and future) in the use and exploration of outer space and celestial bodies",¹²⁵ others read it as establishing that "rival and mutually exclusive competitive consumption is forbidden",¹²⁶ and that any claim of sovereignty would be incompatible with the principle.¹²⁷ Similarly, while some countries reject the *res communis* character of outer space outright,¹²⁸ others call on it as a barrier to national exploitation of celestial bodies.¹²⁹

Despite the discursive questions surrounding its implementation, Article II OST contextualizes Article I (1) OST by confirming that outer space is not subject to unilateral appropriation but forms a legal domain available for use by all States under conditions that preserve its collective character. The non-appropriation principle thus strengthens the legally binding character of benefit-sharing by situating it within a broader anti-exclusionary framework, while establishing the negative boundary that any benefit-sharing must reject appropriation and preserve the non-exclusive character of outer space.

c. Within the context of the Preamble

While the Preamble of the Outer Space Treaty has already been subject to analysis in this thesis to determine the treaty's object and purpose in **Chapter B.I.2.a**, the difference in language between the Preamble and the operative text shall be shortly examined. In particular, the word choice "all countries" in Article I (1) OST deserves closer scrutiny, especially in contrast to the wording of the Preamble, which refers to "all peoples irrespective of the degree of their economic or scientific development,"

Peoples includes "all peoples and territories which 'have not yet attained independence'".¹³⁰ The term bears special relevance in the context of the right to self-determination and

¹²⁴ Lee (n 55), 218.

¹²⁵ Stephan Hobe and Kuan-Wei Chen, 'Legal Status of Outer Space and Celestial Bodies' in Ram S Jakhu and Paul S Dempsey (eds), *Routledge Handbook of Space Law* (Routledge 2017) 25, 32.

¹²⁶ Scott J Shackelford, 'The Tragedy of the Common Heritage of Mankind' (2009) 28(1) *Stanford Environmental Law Journal* 109, 109.

¹²⁷ Jakhu and Freeland (n 94), 21.

¹²⁸ John S Goehring, 'Why Isn't Outer Space a Global Commons?' (2021) 11 *Journal of National Security Law & Policy* 573, 582.

¹²⁹ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'Russian Federation — Input to the Working Group on Legal Aspects of Space Resource Activities' UN Doc A/AC.105/C.2/2023/CRP.20 (20 March 2023), 7.

¹³⁰ *Legal Consequences for States of the Continued Presence of South Africa in Namibia notwithstanding Security Council Resolution 276 (1970)* (Advisory Opinion) [1971] ICJ Rep 16, 31; see also Declaration on the Granting of Independence to Colonial Countries and Peoples, UNGA Res 1514 (XV) (14 December 1960) UN Doc A/RES/1514(XV).

decolonization.¹³¹ Given that the decolonization continues to be an ongoing process,¹³² the discrepancy in wording between Article I and the Preamble continuous to remain relevant,¹³³ especially given the fact that operative provisions of other agreements, most prominently the UN Charter¹³⁴ and multiple human rights instruments,¹³⁵ do include the wording in the operative part of the respective treaties.

The contrast between “all peoples” and “all countries” therefore suggests that the operative benefit-sharing obligation is framed primarily in inter-State terms, even though it remains informed by the Treaty’s broader concern for humanity and peoples beyond formally equal sovereign States. While the provision may be animated by universal and decolonial concerns reflected in the Preamble, any legally binding benefit-sharing obligation arising from its operative text is owed, at minimum, to countries as the express beneficiaries of the provision.

3. Conclusion

Read as part of the wider treaty structure, Article I (1) OST emerges as an introductory provision that “informs the interpretation of the substantive obligations”¹³⁶ of cooperation, non-appropriation and transparency. This contextual analysis therefore supports the existence of a legally relevant benefit-sharing obligation under Article I (1) OST which “receives its material substance directly from the Outer Space Treaty”.¹³⁷ At the same time, Article II OST established that the benefit-sharing envisaged by the Treaty cannot interfere with the non-appropriation obligation of Parties to the Treaties engaged in space exploration.¹³⁸ Additionally, the contrast between the operative text and the Preamble helps delimit the immediate legal beneficiaries of Article I (1) OST without severing the provision from its broader universalist scope.

III. Conclusion

Taken together, the textual and contextual interpretation of Article I (1) OST establish that the provision creates legally relevant rights and obligations, while leaving their precise content open. The ordinary meaning of the terms establishes a broad scope of application and frames such activities as part of a shared concern of mankind. The cumulative reference to “benefit” and “interests” suggests that the provision requires more than the mere absence of

¹³¹ See Gudmundur Alfredsson, ‘Peoples’ in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press 2007).

¹³² *Dissemination of Information on Decolonization*, UNGA Res 80/104 (5 December 2025) UN Doc A/RES/80/104.

¹³³ See United Nations, ‘Non-Self-Governing Territories’ accessed 3 June 2026.

¹³⁴ Charter of the United Nations (signed 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI [UN Charter], Art. 1(2)

¹³⁵ International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3, Art. 1; International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171, Art. 1

¹³⁶ *Pulp Mills on the River Uruguay (Argentina v Uruguay)* [2010] ICJ Rep 14, para. 173.

¹³⁷ Wolter (n 111), 95

¹³⁸ Hobe (n 49), 211.

discrimination, while the phrase “province of all mankind” reinforces the universal and collective character of the activities concerned.

The object and purpose of the Outer Space Treaty, as reflected in its Preamble and drafting background, further confirms that benefit-sharing is not incidental to the Treaty but forms part of its normative design. Similarly, the immediate and wider treaty context supports a reading of Article I (1) OST as a limitation on the freedoms of exploration, use, and scientific investigation contained in Article I (2) and (3) OST. The wider treaty context, in particular the principles of cooperation, transparency, mutual assistance and non-appropriation, further supports this interpretation by situating Article I (1) OST within an anti-exclusionary and cooperative legal framework.

However, this chapter also demonstrates the limits of interpretation based on Article 31 (1) VCLT alone. While Article I (1) OST can be read as giving rise to a binding obligation of benefit-oriented conduct, neither its ordinary meaning nor its treaty context establishes a concrete entitlement to specific material benefits. The textual and contextual interpretation therefore support the existence of rights of access, participation and benefit, together with corresponding obligations of cooperation, inclusion and non-exclusion. Yet the precise legal intensity and operational content of these obligations remain insufficiently determined by the text itself, making the examination of subsequent agreements and subsequent State practice necessary.

C. Systematic Interpretation of Article I (1) OST

Having examined the ordinary meaning, context, object and purpose of Article I (1) OST, the following section turns to its systematic interpretation, “examining how the treaty was applied after its conclusion”.¹³⁹ As the text of Article I (1) OST establishes broad principles without specifying the precise legal consequences that follow from them, “the context is the final test”.¹⁴⁰ This section accordingly examines whether subsequent agreements and subsequent practice demonstrate an agreement among the parties regarding the interpretation of Article I (1) OST, or “the continued commitment of [the] parties”¹⁴¹ to the provision. First, **Chapter C.I** will examine the elaboration and restrictions placed on the provision through subsequent instruments adopted by COPUOS. Afterwards, **Chapter C.2** will turn towards the subsequent practice through both through official statements regarding its interpretation (**Chapter C.II.1**) and institutional implementation (**Chapter C.II.2**).

¹³⁹ Nolte (n 22), 177.

¹⁴⁰ ILO Competence Advisory Opinion (n 103), 35.

¹⁴¹ Nolte (n 22), 18.

I. Subsequent agreements between the parties (Art 31 (3) (a) VCLT)

While the Outer Space Treaty lacks any declarations regarding its interpretation made in connection with its conclusion,¹⁴² it has been “developed upon, clarified or varied in subsequent treaties or relevant international instruments.”¹⁴³ Accordingly, an examination of the subsequent agreements in accordance with Article 31 (3) (a) VCLT can constitute “objective evidence of the understanding of the parties as to the meaning of the treaty.”¹⁴⁴ As established by the ILC, such agreements “may take a variety of forms”¹⁴⁵ and “are not necessarily legally binding”.¹⁴⁶ Given that neither the Rescue and Return Agreement,¹⁴⁷ nor the Registration Convention or the Liability Convention, address benefit-sharing within their operative texts,¹⁴⁸ and given furthermore the controversial nature of the MOON as more closely examined in **Chapter C.II.1.b**, the focus of the following examination will be based on soft law instruments adopted by COPUOS following the adoption of the Outer Space Treaty.

1. The Space Benefits Declaration

The central instrument aimed at “clarify[ing] the meaning and significance of the principle of cooperation in outer space”¹⁴⁹ is undoubtedly the Space Benefits Declaration,¹⁵⁰ unanimously adopted by the General Assembly in 1996. In accordance with the ILC, Article 31 (3) (a) VCLT requires “a determination whether the parties, by an agreement or a practice, have taken a position regarding the interpretation of the treaty.”¹⁵¹ Therefore, the qualification as a subsequent agreement to the OST shall be established first; afterwards, both the content and the negotiation history of the Declaration shall be examined to further establish the obligations enshrined in Article I (1) OST.

a. Qualification as a subsequent Agreement

The classification of the relationship between the Space Benefits Declaration and the Outer Space Treaty vary widely in literature; while some authors present it as an authoritative interpretation of Article I,¹⁵² others have argued that “negotiating history of the Declaration does not provide evidence of an intention by the UN member states to consensually agree on a

¹⁴² The Resolution accompanying its adoption merely states the “importance of international co-operation in the field of activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, and the importance of developing the rule of law in this new area of human endeavour”. See *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, UNGA Res 2222 (XXI) (19 December 1966) UN Doc A/RES/2222(XXI).

¹⁴³ Ram S Jakhu, Steven Freeland and Kuan-Wei Chen, ‘The Sources of International Space Law: Revisited’ (2018) 67(4) *Zeitschrift für Luft- und Weltraumrecht* 606, 617,

¹⁴⁴ ILC SAPS Draft Conclusions (n 21), Conclusion 3.

¹⁴⁵ *Ibid*, Conclusion 6.

¹⁴⁶ *Ibid*, Conclusion 3 para. 4.

¹⁴⁷ Rescue and Return Agreement (n 25).

¹⁴⁸ See Liability Convention (n 23), Preamble; Registration Convention (n 24), Preamble.

¹⁴⁹ Hobe and Chen (n 123), 36.

¹⁵⁰ Space Benefits Declaration (n 6).

¹⁵¹ ILC SAPS Draft Conclusions (n 21), Conclusion 6

¹⁵² Benkö and Schrogl (n 8), 143.

specific interpretation of Article I.”¹⁵³ Two characteristics of the Declaration point directly towards it being a subsequent agreement in the sense of Article 31 (3) (a) VCLT. First, the full title of the Space Benefits Declaration refers to it as, inter alia, a “Declaration on [...] the Exploration and Use of Outer Space for the Benefit and in the Interest of All States”. Furthermore, the Preamble of the document explicitly states the goal of “facilitating the application of the principle” enshrined in Article I (1) OST. Given that the title and preamble of a document can be used to infer its object and purpose,¹⁵⁴ this direct reference to the language of Article I (1) OST points towards a relationship between the instruments. Second, the drafting history of the Declaration shows that the Declaration was developed within the mandate of the Agenda Item

“Consideration of the Legal Aspects Related to the Application of the Principle that the Exploration and Utilization of Outer Space Should be Carried out for the Benefit and in the Interest of all States Taking into Particular Account the Needs of Developing Countries”¹⁵⁵

which in turn was introduced in 1988 with the express goal of elaborating the rights and obligations enshrined within Article I (1) OST.¹⁵⁶ It follows that the Declaration should be considered a subsequent agreement to the Outer Space Treaty for the purposes of interpreting Article I (1) OST.

b.Expansion of the language of Article I (1) OST

The first paragraph of the Declaration reiterates the language enshrined in Article I (1) OST while making two substantial changes which expand the scope of the provision:

It shall be carried out for the benefit and in the interest of all States, irrespective of their degree of economic, social or scientific and technological development, and shall be the province of all mankind. Particular account should be taken of the needs of developing countries.

First, it extends the list of differences between states to also include scientific and technological development. This expansion, which had already been introduced through Principle II of the Remote Sensing Principles adopted by the Committee in 1986,¹⁵⁷ explicates the discrepancy between “technologically advanced nations [...] and other nations watching and wishing to take part”¹⁵⁸ in space activities, which had already been recognized in the inaugural COPUOS

¹⁵³ Deplano (n 23), 682.

¹⁵⁴ Gardiner (n 31), 165.

¹⁵⁵ UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* UN Doc A/43/20 (1988), para. 87.

¹⁵⁶ Benkö and Schrogl (n 8), 139.

¹⁵⁷ Principles Relating to Remote Sensing of the Earth from Outer Space, UNGA Res 41/65 (3 December 1986) UN Doc A/RES/41/65 [Remote Sensing Principles], Principle II.

¹⁵⁸ U.N. Doc. A/4141 (n 10), para 10.

session.¹⁵⁹ By placing the focus explicitly on scientific and technological, rather than the broader social and economic capacities, this provision also points towards benefit-sharing as providing access to advancements through space technology itself.

Second, the Declaration adds a sentence referring in particular to “the needs of developing countries”. While some authors argue that Article I (1) OST aims at addressing “the ever-widening technological gap between developed and developing States”¹⁶⁰ both in “intention and wording”,¹⁶¹ the Outer Space Treaty itself does not contain explicit references to developing countries. Interestingly, the Declaration refers both to “developing countries and countries with incipient space programmes”, implying that the terms may have overlapping, but separate meaning. It is also notable that instead of “interests”, the word “needs” is used by the drafters, mirroring the language of both the MOON¹⁶² and the UNCLOS¹⁶³ used in the context of the common heritage of mankind principle.¹⁶⁴

Taken together, these changes in the Space Benefits Declaration develop Article I (1) OST in its language by making capacity disparities between States more explicit and by identifying the needs of developing countries as a relevant consideration. However, these expansions need to be read concurrently with the limitations imposed within the Declaration, as examined below.

c. Limitations on the scope of benefit-sharing

The first draft of the Declaration, introduced by nine countries of the G77 group, including wide-reaching obligations to “provide a remedy for the deficiency of norms providing for technology transfer in the space sector”,¹⁶⁵ replicating demands of the New International Economic Order (NIEO) movement,¹⁶⁶ which arose in the UN system concurrently to the space treaty negotiations.¹⁶⁷ The focus of NIEO was on limiting western economic exploitation,¹⁶⁸ as well as dismantling the power structures remaining of the “colonialist order”¹⁶⁹ in the newly

¹⁵⁹ *Ibid.*

¹⁶⁰ Stephan Hobe, ‘Outer Space Treaty: Historical Background’ in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017), para. 47.

¹⁶¹ *Ibid.*

¹⁶² Moon Agreement (n 5), Article 11 (7) (d).

¹⁶³ United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 [UNCLOS], Articles 140, 148.

¹⁶⁴ See **Chapter C.III.2.**

¹⁶⁵ Viikari (n 49), 242.

¹⁶⁶ See Stephan Hobe and Kai-Uwe Schrogl, “Space Benefits” — Towards a New International Order for Space’ (1993) 11 *Space Communications* 3.

¹⁶⁷ Soucek (n 35), 358.

¹⁶⁸ John Noyes, ‘The Common Heritage of Mankind: Past, Present, and Future’ (2011) 40(1) *Denver Journal of International Law & Policy* 447, 458.

¹⁶⁹ Marjoleine Y A Zieck, ‘The Concept of “Generations” of Human Rights and the Right to Benefit from the Common Heritage of Mankind with Reference to Extraterrestrial Realms’ (1992) 25(2) *Verfassung und Recht in Übersee / Law and Politics in Africa, Asia and Latin America* 161, 184.

independent countries,¹⁷⁰ while aiming for distributive justice¹⁷¹ and to “correct inequalities and readdress existing injustices, [and] make it possible to eliminate the widening gap between the developed and the developing countries”.¹⁷² In line with these goals, the aim of the initial proposal of the Space Benefits Declaration was to significantly widen the scope of obligations enshrined within Article I (1) OST:

“Member States looked at moving beyond Article I of the Outer Space Treaty, possibly to codify the rights and responsibilities of countries with respect to international cooperative space activities, and not let the Article stand, as some States viewed it, merely as an artifact or a moral appeal to the space-faring nations.”¹⁷³

Following a three-year deadlock of the Committee, however, a counterproposal by Germany and France stressing the benefits of cooperation, but also the lack of legal obligations surrounding it,¹⁷⁴ led to a compromise which recognizes the benefits and goals of benefit-sharing while leaving the extent of it up to the states themselves:

“States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis”¹⁷⁵

Consequently, the Declaration does not impose a general obligation on spacefaring states to cooperate, nor a general duty to grant benefits to non-spacefaring states.¹⁷⁶ Instead, the freedom to determine cooperation and the choice of the appropriate modes of cooperation consolidates the developed-country position;¹⁷⁷ as noted by one author, “equity in this context is subjective and discretionary”.¹⁷⁸

This suggests that as a subsequent agreement, the Declaration supports the existence of a benefit-sharing principle connected to Article I (1) OST, but does not confirm a binding obligation to transfer technology, redistribute material gains, or participate in cooperation on terms determined by other States. The Declaration therefore represents less evidence of a fully operationalized benefit-sharing regime and rather of the boundaries within which States have so far been willing to develop Article I (1) OST.

¹⁷⁰ Ram S Jakhu, Steven Freeland, Stephan Hobe and Fabio Tronchetti, ‘Article 11’ in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume II: Rescue Agreement, Liability Convention, Registration Convention, Moon Agreement* (Carl Heymanns Verlag 2013), 290.

¹⁷¹ Strank (n 103), 144.

¹⁷² *Programme of Action on the Establishment of a New International Economic Order*, UNGA Res 3202 (S-VI) (1 May 1974) UN Doc A/RES/3202(S-VI), Preamble.

¹⁷³ Nandasiri Jasentuliyana, *International Space Law and the United Nations* (Brill Nijhoff 2023), 158.

¹⁷⁴ Benkö and Schrogl (n 8), at 141

¹⁷⁵ Space Benefits Declaration (n 6), Principle 2.

¹⁷⁶ Hobe (n 49), para. 50–52.

¹⁷⁷ Timiebi Aganaba-Jeanty, ‘Common Benefit from a Perspective of “Non-Traditional Partners”: A Proposed Agenda to Address the Status Quo in Global Space Governance’ (2015) 117 *Acta Astronautica* 172, 177.

¹⁷⁸ Deplano (n 23), 698

d. Operationalization of Article I (1) OST

Article I (1) OST does not contain an “explicit rule on the distribution of the benefits”,¹⁷⁹ and based on the textual reading alone, it has remained unclear which specific obligations for benefit sharing it contains.¹⁸⁰ Therefore, it is especially interesting that in addition to substantiating the language of the provision, the Space Benefits Declaration contains concrete goals for benefit-sharing. In particular, the Declaration suggests three goals for international cooperation for the benefit and interest of all countries:

- “(a) Promoting the development of space science and technology and of its applications;
- (b) Fostering the development of relevant and appropriate space capabilities in interested States;
- (c) Facilitating the exchange of expertise and technology among States on a mutually acceptable basis”¹⁸¹

In addition, the Declaration calls for a holistic application of space technology to support the reaching of development goals,¹⁸² a strengthening of COPUOS as an international forum, and the contribution to the United Nations Programme on Space Applications (UNSPA) by all states.¹⁸³ This list of activities, while not exhaustive, points towards an interpretation of Article I (1) OST that is focussed on capacity-building and institutional support through UN initiatives, rather than through more concrete redistributive content as initially envisioned in the first proposal by the G77.¹⁸⁴

e. Conclusion

As a subsequent agreement in accordance with Article 31 (3) (a) VCLT, the Space Benefits Declaration therefore both strengthens and limits the interpretation of Article I (1) OST as a source of benefit-sharing obligations. On the one hand, the recontextualization of Article I (1) OST within the developmental aid context does lend some credibility to the characterization of provision as a “common welfare provision”¹⁸⁵ representing “a first example of the developing international welfare concept, including a duty to international solidarity”.¹⁸⁶ On the other hand, the explicit limitation to voluntary contributions by state parties in Principle 2 as well as the

¹⁷⁹ Stephan Hobe and Philip de Man, ‘National Appropriation of Outer Space and State Jurisdiction to Regulate the Exploitation, Exploration and Utilization of Space Resources’ (2017) 66(3) *Zeitschrift für Luft- und Weltraumrecht* 460, 465.

¹⁸⁰ Viikari (n 49), 242.

¹⁸¹ Space Benefits Declaration (n 6), Principle 5.

¹⁸² Ibid, Principle 6.

¹⁸³ Ibid, Principle 7 and 8; as closer examined in **Chapter C.II.2.**

¹⁸⁴ Argentina, Brazil, Chile, Colombia, Mexico, Nigeria, Pakistan, Philippines, Uruguay and Venezuela, ‘Principles Regarding International Cooperation in the Exploration and Utilization of Outer Space for Peaceful Purposes’ UN Doc A/AC.105/C.2/L.182 (9 April 1991).

¹⁸⁵ Simon Korbinian Köcher, ‘Die militärische Nutzung des Weltalls in Zeiten von GPS und „Space Force“: Eine Analyse des Art IV Weltraumvertrag’ (2021) 70(4) *Zeitschrift für Luft- und Weltraumrecht* 586, 590 (“Gemeinwohlklausel des Weltraumrechts”).

¹⁸⁶ Wolter (n 111), 110.

focus capacity-building and institutional cooperation rather than distributive mechanisms weakens the expansive scope of Article I (1) OST. The negotiation history and final compromise text show that States were unable to agree on an interpretation of Article I (1) OST as a general obligation of mandatory technology transfer or material redistribution.

Even if the Space Benefits Declaration were not accepted as a subsequent agreement within the strict meaning of Article 31(3)(a) VCLT, it would remain interpretatively relevant. At minimum, its unanimous adoption, express reference to the application of Article I (1) OST, and direct reproduction and elaboration of the provision's language make it relevant as subsequent practice in a broader sense, or as supplementary evidence under Article 32 VCLT, demonstrating the extent to which States were willing to develop Article I (1) OST.

2. Further Instruments to be considered

The arduous process leading up to the adoption of the Space Benefits Declaration as examined above was followed by a large drafting inactivity of the Committee regarding the topic, placing the focus on technical issues instead.¹⁸⁷ Later instruments, however, such as the 2019 the Long-Term Sustainability Guidelines for Outer Space Activities (LTS Guidelines)¹⁸⁸ and beyond reiterate and expand on the language of the provision, as shall be shortly outlined below.

a. The Long-Term Sustainability Guidelines

Following a nearly two-decade negotiation process,¹⁸⁹ in 2019, COPUOS unanimously adopted the LTS Guidelines.¹⁹⁰ Intended to serve as voluntary soft law building on the existing UN treaties and principles governing outer space activities,¹⁹¹ they address the sustainability on space regarding the safety of space operations, capacity-building and awareness, as well as scientific and technical research. While recalling both the Principles Declaration and the Outer Space Treaty, the Guidelines put forward the following definition of space sustainability:

“[T]he ability to maintain the conduct of space activities indefinitely into the future in a manner that realizes the objectives of equitable access to the benefits of the exploration

¹⁸⁷ *Space Debris Mitigation Guidelines of the UN Committee on the Peaceful Uses of Outer Space*, UN Doc A/62/20 (2007) Annex [SDM Guidelines].

¹⁸⁸ *Guidelines for the Long-term Sustainability of Outer Space Activities of the UN Committee on the Peaceful Uses of Outer Space*, UN Doc A/74/20 (2019) Annex II [LTS Guidelines].

¹⁸⁹ The first Working Group was established in 2010, but an influential first speech began negotiations for such a Working Group in 2004, see Laura Delgado López, Christopher D Johnson, Victoria Samson, Michael Simpson and Brian Weeden, 'The Importance of the United Nations Guidelines for the Long-Term Sustainability of Space Activities and Other International Initiatives to Promote Space Sustainability' (2014) 20 OASIS 37.

¹⁹⁰ LTS Guidelines (n 186).

¹⁹¹ UN Committee on the Peaceful Uses of Outer Space, 'Terms of Reference and Methods of Work of the Working Group on the Long-term Sustainability of Outer Space Activities of the Scientific and Technical Subcommittee' UN Doc A/AC.105/L.277 (2010).

and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations.”¹⁹²

Fully cognisant of the fact that the Court has explicitly warned against the overstating of Guidelines and Resolutions as subsequent agreements only because they concern the same subject,¹⁹³ it is doubtful that a subsumption of the entirety of the instruments into the interpretation would be a fruitful exercise based solely on their unanimous adoption¹⁹⁴ by all State Parties.¹⁹⁵ However, the definition, objectives and scope of the guidelines, as included in the Context of the guidelines for the long-term sustainability of outer space activities preambular to the included principles,¹⁹⁶ make explicit reference to the interpretation of Article I OST, arguably meeting the threshold for “clarity and specificity”¹⁹⁷ required for its inclusion in the interpretation of the provision:

“Preserving the use of outer space for current and future generations is consistent with upholding the long-standing principle contained in Article I of the Outer Space Treaty”¹⁹⁸

This delimitation of scope, which is followed by a verbatim reproduction of the provision itself, widens the application of the provision significantly. While authors have argued as early as 1983¹⁹⁹ that the idea of future generations can be directly inferred from the use of the term “mankind” in the provision,²⁰⁰ this paragraph of the LTS Guidelines explicitly posits that the beneficiaries of Article I (1) OST “includes not only those who are present but also those who are to come”.²⁰¹

The LTS Guidelines therefore do not, as a whole, amount to a subsequent agreement conclusively interpreting Article I (1) OST. Nevertheless, their express linkage between long-term sustainability and the principle contained in Article I OST introduces an intergenerational dimension: the rights and obligations it entails should arguably be informed by preserving outer space as a usable and accessible domain for future generations.

b. Instrument outside of COPUOS

In recent years, outer space has assumed increasing importance within the United Nations system. Consequently, the use of outer space, particularly the relevance of space technology

¹⁹² LTS Guidelines (n 186), para. 5.

¹⁹³ *Ibid*, para. 83, see also *Kasikili/Sedudu Island (Botswana/Namibia)* [1999] ICJ Rep 1045, para. 74.

¹⁹⁴ UN General Assembly, ‘General Assembly Adopts 47 Fourth Committee Texts, Covering Decolonization, Israeli-Palestinian Issues, Peacekeeping, Outer Space’ UN Press Release GA/12228 (13 December 2019).

¹⁹⁵ *Whaling in the Antarctic* (n 71), para. 83.

¹⁹⁶ LTS Guidelines (n 186), Nr. 1 para. 8.

¹⁹⁷ ILC SAPS Draft Conclusions (n 21), Conclusion 9 para. 2.

¹⁹⁸ LTS Guidelines (n 186), para. 8

¹⁹⁹ Wolfrum (n 67), 318.

²⁰⁰ Glenn H Reynolds and Robert P Merges, *Outer Space: Problems of Law and Policy* (2nd edn, Westview Press 1998), 130.

²⁰¹ Sylvia Maureen Williams, ‘The Law of Outer Space and Natural Resources’ (1987) 36 *International and Comparative Law Quarterly* 142, 150–151.

for sustainable development, has increasingly been integrated into high-level processes and summits convened under the auspices of the General Assembly, such as the 2023 SDG Summit and the 2024 Summit of the Future.²⁰²

Following the adoption of the Space2030-Agenda,²⁰³ an auxiliary instrument to the 2030 Agenda establishing Guidelines on implementing the Sustainable Development Goals²⁰⁴ through space technology, the Ministerial Declaration of the 2022 High-Level Political Forum on Sustainable Development made explicit reference to benefit-sharing in the context of sustainable development:

“We support emerging avenues in support of acceleration of the 2030 Agenda, such as the “Space2030” Agenda [...] while recognizing that the benefits of space will be brought to everyone, everywhere.”²⁰⁵

The same interrelation was acknowledged in the lead-up to the Summit of the Future. Following the 75th anniversary of the United Nations in 2020, the General Assembly had tasked the UN Secretary-General Antonio Guterres to develop solutions regarding current challenges, including the impact of space exploration on humanity.²⁰⁶ The outcome document of the intergovernmental negotiation regarding these suggestions, the Pact for the Future, directly invokes the language of Article I (1) OST:

“The Outer Space Treaty of 1967 identifies the exploration and use of outer space as the province of all humankind. Humanity’s reliance on space is increasing day by day and the Outer Space Treaty must be recognized as the cornerstone of the international legal regime governing outer space activities [...] The opportunities for people and planet are enormous, but there are also risks that must be managed.”²⁰⁷

While holding limited direct interpretative weight given their distance to the Outer Space Treaty, the instruments adopted outside COPUOS show that Article I (1) OST and its language have increasingly been integrated into the broader UN considerations of sustainable development and a wider developmental understanding of the role of outer space within the UN system.

²⁰² See Gina Petrovici and Lew Töpfer, ‘Potenziale der Raumfahrt für die Agenda 2030 nutzen’ (2023) 71(4) *Vereinte Nationen* 172.

²⁰³ Space2030 Agenda (n 13).

²⁰⁴ *Transforming Our World: The 2030 Agenda for Sustainable Development*, UNGA Res 70/1 (25 September 2015) UN Doc A/RES/70/1.

²⁰⁵ Ministerial Declaration of the High-Level Segment of the 2022 Session of the Economic and Social Council and the 2022 High-Level Political Forum on Sustainable Development, UN Doc E/HLS/2022/1 (15 August 2022), Nr. 112.

²⁰⁶ UN Secretary-General, *Our Common Agenda* UN Doc A/75/982 (2021), 49.

²⁰⁷ Pact for the Future (n 15), para. 86. While some countries later revoked their support of the Declaration, unanimity regarding the outer space elements was upheld. See Permanent Mission of the Russian Federation to the United Nations, ‘Statement by Deputy Foreign Minister Sergey Vershinin on amending the draft Pact for the future’ (22 September 2024)

3. Conclusion

Taken together, the instruments examined in this chapter demonstrate that subsequent agreements and related instruments have influenced the interpretation of Article I (1) OST in two directions. On the one hand, they confirm that the provision cannot be reduced to a merely symbolic or aspirational statement. The Space Benefits Declaration, in particular, expressly links itself to the application of Article I (1) OST and develops its language by emphasizing disparities in economic, social, scientific and technological development, as well as the particular needs of developing countries. Later instruments, including the LTS Guidelines and broader United Nations sustainable-development documents, further show that the “benefit and interests of all countries” have been understood in increasingly functional, developmental, and temporal terms. Article I (1) OST is therefore not confined to formal equality among States, but is connected to access to space-derived benefits, capacity-building, sustainable development, and the preservation of outer space for present and future generations.

On the other hand, these instruments also reveal the limits of the rights and obligations arising from Article I (1) OST. The drafting history and final text of the Space Benefits Declaration show that States were unwilling to transform Article I (1) OST into a general regime of mandatory redistribution, compulsory technology transfer, or cooperation on terms determined by non-spacefaring States. The Declaration’s emphasis on equitable and mutually acceptable cooperation preserves State discretion over the form and extent of cooperation. Similarly, the LTS Guidelines and instruments adopted outside COPUOS reinforce the normative relevance of Article I (1) OST, but do not convert it into a detailed environmental, developmental, or distributive regime.

Accordingly, subsequent agreements and related instruments indicate that all countries have a legally significant interest in the exploration and use of outer space being conducted for broadly shared benefit, and that States are expected to pursue this objective not by creating a comprehensive benefit-sharing regime, but by shaping its interpretation around cooperative, developmental, and intergenerational considerations while preserving the absence of compulsory distributive mechanisms.

II. Subsequent practice (Art 31 (3) (b) VCLT)

In accordance with the findings of the ILC,²⁰⁸ the interpretation of subsequent state practice should “possess the same importance for the process of interpretation”²⁰⁹ as the other forms of interpretation applied above. Given the some of the ambiguities identified through the examination of both the ordinary meaning and the context of the provision remain, “it is State

²⁰⁸ ILC SAPS Draft Conclusions (n 21), Conclusion 2, para. 14.

²⁰⁹ Nolte (n 22), 182.

practice that must be seen as the strongest indicator of whether such an obligation exists”²¹⁰ Many other interpretations of the provision come to a similar conclusion. While some simply conclude that “States have largely overlooked the obligation of benefit sharing”,²¹¹ the Cologne Commentary closes its examination of Article I OST with the following observation:

“How precise this may be and whether this all amounts to an obligation of the sharing of the benefits of a respective later space activity is, due to its general wording, doubtful. Some of the language of this provision is unclear, and a clear interpretation can only be made in view of the subsequent State practice.”²¹²

While such subsequent practice can serve in “recognizing possibilities and challenges which those who have concluded the treaty had not (fully) envisaged”,²¹³ it is noted that “caution must be exercised”²¹⁴ in the identification of such practice which should be limited to conduct in agreement between the parties²¹⁵ which is “concordant, common and consistent”.²¹⁶ While the ILC lists multiple examples of such subsequent practice in its Conclusion,²¹⁷ the lack of jurisprudence and uniform state conduct given the amount of parties significantly narrows the identifiable practice truly in agreement between the parties

As recognized by the ILC, such subsequent practice under Article 31 (3) (b) VCLT “may arise from, or be expressed in, the practice of an international organization in the application of its constituent instrument”.²¹⁸ COPUOS had been established as a subsidiary organ²¹⁹ of the Fourth Committee of the UN General Assembly (UNGA)²²⁰ with the express mandate to:

“study practical and feasible means for giving effect to programmes in the peaceful uses of outer space which could appropriately be undertaken under United Nations auspices”.²²¹

²¹⁰ Aganaba-Jeanty (n 175), 178.

²¹¹ Deplano (n 23), 672

²¹² Hobe (n 49), para. 51.

²¹³ Nolte (n 22), 22

²¹⁴ Marcelo G Kohen, ‘Keeping Subsequent Agreements and Practice in Their Right Limits’ in Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013, online edn, Oxford Law Pro), 34.

²¹⁵ *Ibid*, 44.

²¹⁶ Ian Sinclair, *The Vienna Convention on the Law of Treaties* (2nd edn, Manchester University Press 1984) 137–138, cited in Laurence Boisson de Chazournes, ‘Subsequent Practice, Practices, and “Family-Resemblance”: Towards Embedding Subsequent Practice in its Operative Milieu’ in Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013, online edn, Oxford Law Pro), 56.

²¹⁷ ILC SAPS Draft Conclusions (n 21), Conclusion 4, para. 18; with the exception of “statements in the course of a legal dispute, or judgments of domestic courts” given the lack of jurisprudence on conduct in space.

²¹⁸ ILC SAPS Draft Conclusions (n 21), Conclusion 12, para. 2 and 3

²¹⁹ UN Charter (n 133), Article 22.

²²⁰ See, *inter alia*, UN General Assembly Special Political and Decolonization Committee (Fourth Committee), ‘International cooperation in the peaceful uses of outer space: report of the Special Political and Decolonization Committee (Fourth Committee)’ UN Doc A/79/421, 4 November 2024.

²²¹ UN General Assembly, ‘International Co-operation in the Peaceful Uses of Outer Space’ (12 December 1959) UN Doc A/RES/1472(XIV), Nr. 1 (a).

While the overlap between COPUOS membership and OST State Parties is not coextensive;²²² nevertheless, “silence on the part of one or more parties may constitute acceptance of the subsequent practice when the circumstances call for some reaction”.²²³ Additionally, all COPUOS Reports, including the establishment of programmes and further mandates, are unanimously endorsed through the UNGA, making the work of the Committee arguable conduct which is “in agreement of all parties”, allowing for it to be categorised as subsequent practice in accordance with Article (3) (b) VCLT.

1. The UN Programme on Space Application

Building on the tasks entrusted with the Committee and following the adoption of the Outer Space Treaty, UNISPACE I, the first global UN conference on space held in 1968 under the auspices of the Committee took place in 1968,²²⁴ with a clear mandate aimed towards benefit-sharing:

“We had set as the objective of the Conference the examination of the practical benefits to be derived from space research and exploration and the extent to which non-space Powers, and in particular the developing countries, could enjoy these benefits.”²²⁵

The report of the UNISPACE I conference highlights the need for wider participation by developing countries and proposes stronger UN coordination in space activities.²²⁶ Based on the proposal from a Sierra Leonean representative,²²⁷ the UNGA resolution adopting the COPUOS report of the same year called for “the appointment [...] of a qualified individual with the full-time task of promoting the practical applications of space technology”.²²⁸

As a result of the UNISPACE I deliberations, the UN Programme on Space Application (UNSPA)²²⁹ was established in 1971, with the view of addressing the “needs of developing countries and the ability of the United Nations to meet those needs, especially in the field of space applications”.²³⁰ Implementation began through expert meetings, training courses, and fellowships focused on remote sensing, satellite communications, meteorology, and related applications.²³¹

²²² See A/AC.105/C.2/2025/CRP.9 (n 3).

²²³ ILC SAPS Draft Conclusions (n 21), Conclusion 10, para. 2.

²²⁴ United Nations Office for Outer Space Affairs, ‘UNISPACE Conference’ accessed 5 June 2026.

²²⁵ UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* (1968) UN Doc A/7285, 10.

²²⁶ *Ibid.*

²²⁷ *Ibid.*, para 24

²²⁸ UNGA Res 2601 (XXIV), ‘International Co-operation in the Peaceful Uses of Outer Space’ (16 December 1969) UN Doc A/RES/2601(XXIV), Nr. 8.

²²⁹ See *Programme on Space Applications* (n 9).

²³⁰ UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* (1971) UN Doc A/8420, para. 13

²³¹ United Nations Office for Outer Space Affairs, ‘History of the United Nations Programme on Space Applications’ accessed 5 June 2026.

Two factors are significant for the interpretation of Article I(1) of the OST. First, this represents a particularly early, institutionally established practice, approved unanimously, which operationalises the benefit criterion set out in the article. Second, this operationalisation already indicates the fundamental direction: “for the benefit and in the interests of all countries” is not understood as a direct obligation to transfer mission-related economic gains, but as a commitment to broaden access to applications, knowledge and opportunities for use.

2. Expansion through UNISPACE II and III

The UNSPA mandate was further strengthened and expanded during the following two UNISPACE conferences. While the UNISPACE II mandate from 1982 reiterated the need for training and knowledge exchange in space science and technology between industrialized and developing countries, it also tasked UNSPA with It calls for enhanced cooperation and exchange of experience between industrialised and developing countries, a fellowship programme for advanced training, seminars on advanced applications, the promotion of an indigenous technological base in developing countries, the dissemination of relevant information, and technical advisory services at the request of Member States.²³² Especially interesting is the inclusion in the mandate of “stimulation of the growth of indigenous nuclei and an autonomous technological base,” demonstrates that, according to commonly accepted practice, the benefits of space are not merely to be received passively but are understood as empowering people to participate themselves.

The UNISPACE III mandate from 1999 expanded on this by shifting towards active implementation of operational space projects and institutional capacity-building, expanding the Programme’s role into public outreach, youth engagement, formal education, regional institutional support, and partnerships between governments, universities, research institutions, and private industry.²³³ Accordingly, benefit-sharing in the sense of the updated mandate primarily involves providing access to applications, training, technical advice, capacity-building, institutional support and access to data and projects; it does not, however, entail recognising a general entitlement to a material share of the proceeds from individual space missions.

This consolidation of mandates is central to Article I (1) OST because it defines the content of the benefit requirement in more concrete terms. The common denominator is not the obligation to materially redistribute the results of every single space venture. Rather, ‘benefit’ is translated

²³² See UN General Assembly, ‘Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space’ (10 December 1982) UN Doc A/RES/37/90, Nr. 7.

²³³ UN General Assembly, ‘Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space’ UNGA Res 54/68 (6 December 1999) UN Doc A/RES/54/68, para. 11 (d).

into a set of cooperative obligations: training, information, advice, capacity-building, and enabling independent use.

3. Further UN capacity-building initiatives

In recent years, the institutional capacity-building offered by UNOOSA has been expanded through two further notable programmes. Established under the UNSPA mandate in 2018, Access to Space for All (A2S4A)²³⁴ focuses on technical capacity-building by facilitating access to space infrastructure, research opportunities, satellite development support and expertise, particularly for States with limited space capabilities. The Global Space Law Project,²³⁵ building on the previous capacity-mandate granted to UNOOSA,²³⁶ addresses the legal dimension of this same objective by assisting States in developing national space laws, policies and regulatory frameworks consistent with international space law.

This current practice confirms the understanding that the principle of benefit-sharing is realised primarily through access, data, applications, training, institutional capacity-building and cooperative engagement.

4. Conclusion

An examination of the UNPSA mandate and its expansion through the UNISPACE conferences has twofold implications for the interpretation of Article I (1) OST. First, it shows the causal link between the interpretation of the provision in 1968 to the current initiatives pursued by UNOOSA, making them a possible example of “practice of an international organization in the application of its constituent instrument”²³⁷ regarding to Article I (1) OST. Second, the content and scope of the programmes examines points towards an interpretation of benefit-sharing as being operationalised through cooperation and capacity-building; rather than sharing the material benefits arising from space exploration, such sharing is achieved through to the upstream question of equitable access to capabilities and opportunities for use, both on a technical and regulatory basis.

III. Conclusion

The subsequent agreements and subsequent practice examined in this chapter support an interpretation of Article I (1) OST as a legally relevant, but deliberately open. The Space Benefits Declaration develops the provision in a more concrete developmental direction. At the same time, its drafting history and final compromise text show that States did not accept an

²³⁴ See [Access to Space for All](#) (n 10).

²³⁵ See [Global Space Law Project](#) (n 11).

²³⁶ UN General Assembly, ‘Declaration on the Fiftieth Anniversary of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies’ (7 December 2017) UN Doc A/RES/72/78, para. 18.

²³⁷ ILC SAPS Draft Conclusions (n 21), Conclusion 12, para. 2 and 3

interpretation of Article I (1) OST as imposing mandatory technology transfer or material redistribution.

The evolved UNSPA mandate indicates that the benefits of outer space are understood as access to capabilities and opportunities enabling States, especially developing States and States with incipient space programmes, to make use of space applications themselves. Later instruments, including the LTS Guidelines and broader UN sustainable development documents, further situate Article I (1) OST within developmental and intergenerational considerations. Subsequent state practice has therefore influenced Article I (1) OST by giving practical content to its benefit-sharing language while preserving substantial discretion for States as to the form, extent and terms of cooperation.

Remaining ambiguities persist, particularly regarding whether compliance is satisfied through participation in cooperative mechanisms, whether capacity-building and institutional support fulfil legally binding obligations, and whether the emerging sustainability dimension can support more concrete intergenerational duties. Article I (1) OST has therefore acquired interpretative substance through subsequent practice, but its precise normative consequences remain open.

D. Supplementary means of interpretation (Article 32 VCLT)

The ICJ has expressly stated that the recourse to supplementary means of interpretation should only be taken in exceptional cases.²³⁸ Nevertheless, the general rule of interpretation “is not an absolute one”;²³⁹ in accordance with Article 32 VCLT, supplementary means can be applied both to “confirm the meaning” and to clear up “ambiguous or obscure” elements of the provision.²⁴⁰ Despite the textual and systematic interpretation of the provision, some ambiguities regarding its scope undoubtedly remain. As stated by multiple authors, Article I OST “does not lend itself to easy determination”,²⁴¹ and academic interpretation of the terms varies widely, with the only agreement being that “scholars unanimously acknowledge that the text lacks clarity”.²⁴² While neither the *travaux préparatoires* nor the wider subsequent practice represent an authentic means of interpretation, forming “simply evidence to be weighed against any other relevant evidence of the intentions of the parties”,²⁴³ they may nonetheless

²³⁸ *Competence of the General Assembly for the Admission of a State to the United Nations*, Advisory Opinion, I.C.J. Reports 1950, p. 8

²³⁹ *South West Africa*, Preliminary Objections, Judgment, I.C.J. Reports 1962, 336.

²⁴⁰ Yves le Bouthillier, ‘1969 Vienna Convention: Article 32 Supplementary Means of Interpretation’ in Olivier Corten and Pierre Klein (eds), *The Vienna Conventions on the Law of Treaties: A Commentary* (OUP 2011) 841, 966.

²⁴¹ Ogunisola O Ogunbanwo, ‘Outer Space is the Province of Mankind’ in *International Law and Outer Space Activities* (Brill Nijhoff 1975), 63.

²⁴² Deplano (n 23), 677.

²⁴³ Sir Humphrey Waldock, ‘Third Report on the Law of Treaties’ [1964] II *Yearbook of the International Law Commission* 5, UN Doc A/CN.4/167, para. 22.

provide some interpretative benchmarks for the comprehensive interpretation of Article I (1) OST, which shall be examined in the following.

I. Drafting History and Historical Context

In accordance with Article 32 VCLT, supplementary means of interpretation expressly include the “preparatory work of the treaty and the circumstances of its conclusion”. Conscious of the specific conditions required for the examination of the *travaux préparatoires* by the VCLT²⁴⁴ as well as the hierarchical nature of Article 31 and 32 VCLT,²⁴⁵ the examination in the following follows the express goal to identify “common understanding of the parties as to the meaning attached to the terms of the treaty”²⁴⁶ to confirm and further expand on, rather than replace, the determinations of both the textual and systematic reading²⁴⁷ and how it was “influenced by the historical context in which it has emerged”.²⁴⁸

1. Legally binding nature

As stated by the ICJ in the *Aegean Continental Shelf Case*, any determination of the legal nature of a provision “must have regard above all to its actual terms”;²⁴⁹ the use of mandatory language such as “shall” is generally understood in international law as indicating an intention to create legal obligations,²⁵⁰ and as recently elaborated by ILC Special Rapporteur Mathias Forteau, “an agreement’s text or wording is a key indicator for determining its nature.”²⁵¹ Terms are to be interpreted in their context, the context of Article I (1) OST is, to borrow from the *South China Sea Arbitration*, “the context of a treaty, whose legally binding character [is] not in any doubt”.²⁵² Following these observations, as well as the principle *ut res magis valeat quam pereat*, which requires “provisions [...] to be interpreted so as to give them their fullest weight and effect consistent with the normal sense of the words”,²⁵³ a purely declaratory nature of the provision can be decisively rejected.

While the intention of the parties cannot displace the wording of the text,²⁵⁴ there is a tendency within legal scholarship to portray the binding nature of the provision as ambiguous, “leading

²⁴⁴ Malgosia Fitzmaurice, ‘Treaties’ in *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press, February 2021), para. 112.

²⁴⁵ Luigi Sbolci, ‘Supplementary Means of Interpretation’ in Enzo Cannizzaro (ed), *The Law of Treaties Beyond the Vienna Convention* (Oxford University Press 2011) 145, 149.

²⁴⁶ Waldock (n 59), 58, para. 21.

²⁴⁷ Sbolci, (n 244), 149.

²⁴⁸ *Ibid*, 157.

²⁴⁹ *Aegean Sea Continental Shelf* (Greece v Turkey) (Judgment) [1978] ICJ Rep 3, para 96.

²⁵⁰ See *Nuclear Tests Case (Australia v France)* (Judgment) [1974] ICJ Rep 253, para. 27.

²⁵¹ Mathias Forteau, ‘Second report on non-legally binding international agreements’ (*International Law Commission*, 76th session, UN Doc A/CN.4/784, 18 February 2025), para. 130.

²⁵² *The South China Sea Arbitration between the Republic of the Philippines and the People’s Republic of China* (Award of 12 July 2016) (2016) XXXIII RIAA 153, para. 216.

²⁵³ Waldock (n 59), 7.

²⁵⁴ *Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v Bahrain)* (*Jurisdiction and Admissibility*) [1994] ICJ Rep 112, para. 29.

scholars to conclude it is only a moral, as opposed to a legal, obligation".²⁵⁵ An examination of the *travaux préparatoires* in accordance with Article 32 VCLT to determine the intention of the parties, however, corroborates the reading as legally binding. While some delegations proposed to include the sentence in the Preamble instead during the first reading²⁵⁶ since, to quote the Indian delegate, "it did not seem to lay down a legal obligation",²⁵⁷ the argument of the USSR that it had also been part of the legal body of the Principle Declaration²⁵⁸ persisted, and it was included in the operative text. Consequently, the first draft proposal of the Outer Space Treaty reiterated the language of the Declaration,²⁵⁹ and the inclusion of the provision in the operative part of the treaty was one the first points²⁶⁰ that the Working Group on the Outer Space Treaty reached agreement on.²⁶¹ Therefore, a declaratory reading can be decisively rejected.

2. Economic exploitation

Second, some authors have argued that the "use of outer space [...] can include exploitation of outer space and/or the celestial bodies with the goal of making economic profit."²⁶² The word "exploitation", however, was not explicitly included in the treaty, raising the question whether "the choice of one word rather than another could amount to a telling omission of that other".²⁶³ The *travaux préparatoires* confirm that this question was indeed already under discussion during drafting:

"The texts referred to exploration and "use". Did the latter term imply use for exploration purposes, such as the launching of satellites, or did it mean use in the sense of exploitation, which would involve far more complex issues?"²⁶⁴

In response, a Soviet delegate clarified that the treaty was to cover "human activity on the moon or any other celestial body" as a whole.²⁶⁵ Therefore, an examination of the *travaux* confirms the universalist interpretation of the provision established through the textual reading.

²⁵⁵ For a comprehensive overview of the different positions taken, see Deplano (n 23), 672.

²⁵⁶ See UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 64th Meeting* (1966) UN Doc A/AC.105/C.2/SR.64, 5 [Italy], 6 [France].

²⁵⁷ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 63rd Meeting, Held at the Palais des Nations, Geneva, on 20 July 1966* (1966) UN Doc A/AC.105/C.2/SR.63, 7 [India].

²⁵⁸ A/AC.105/C.2/SR.64 (n 255), 9 [Soviet Union].

²⁵⁹ USSR, *Letter dated 11 July 1966* (1966) UN Doc A/AC.105/C.2/L.13.

²⁶⁰ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary record of the 70th meeting* UN Doc A/AC.105/C.2/SR.7, 4 [United States].

²⁶¹ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Interim Report by the Chairman* UN Doc A/AC.105/C.2/L.16, 4.

²⁶² Hobe (n 49), para. 36.

²⁶³ Gardiner (n 31), 167.

²⁶⁴ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 63rd Meeting, Held at the Palais des Nations, Geneva, on Wednesday, 20 July 1966* (1966) UN Doc A/AC.105/C.2/SR.63, 8 [France]

²⁶⁵ *Ibid*, 10 [Soviet Union].

3. The Scope of ‘Province of Mankind’

Lastly, the phrase “province of mankind” shall be re-examined using supplementary means of interpretation given the lack of conclusions from the textual reading. Unfortunately, the *travaux préparatoires* do little to clarify the ambiguity of the phrase. Despite its widely uncontested introduction during the drafting process,²⁶⁶ neither the substantive content of the phrase, nor “rules for acceptance and application of the principle”²⁶⁷ found much articulation within the Drafting Committee.²⁶⁸

“[...] that he had some difficulty in understanding the phrase “the province of all mankind” in the first sentence of article I of the Soviet text. It would be useful to know what legal meaning was to be attributed to it in the present context.”²⁶⁹

Such legal meaning was not elaborated within the further General Debate. Unfortunately, given that the Working Group negotiations itself are not available as verbatim records, the discussions on the substantive meaning of the wording – if it took place – cannot be accessed. Therefore, to mirror the approach of the ICJ in the *Territorial Dispute between Qatar and Bahrain* Case, the *travaux préparatoires* regarding the substantive obligations arising from the phrase, “must be used with caution in the present case, on account of their fragmentary nature”,²⁷⁰ and the examination of both subsequent agreements and subsequent practice remains the main source of interpretation regarding the province of mankind principle.

II. Subsequent state practice

While the subsequent practice in the express agreement of all parties has been examined in **Chapter C.II**, some further examination of subsequent practice “in the broad sense”,²⁷¹ i.e. state practice lacking concordant agreement, can “serve as additional evidence as regards the meaning to be attributed to the text”.²⁷² As observed by the ICJ in the *Anglo-Iranian Oil Co Case*:

“The unilateral behaviour of the parties following the conclusion of a treaty was also considered a useful means of interpretation, as it was deemed to be indicative of the manner in which each of the contracting parties understood the treaty.”²⁷³

²⁶⁶ Hobe (n 49), para. 17.

²⁶⁷ Gabrynowicz (n 56), 691.

²⁶⁸ Hobe (n 49), para. 15.

²⁶⁹ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, Summary record of the 63rd meeting, held at the Palais des Nations, Geneva, on 20 July 1966 (20 October 1966) UN Doc A/AC.105/C.2/SR.63, 9 [United Kingdom].

²⁷⁰ *Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (n 87), 19.

²⁷¹ ILC SACS Draft Conclusions (n 21), Conclusion 5, para. 35

²⁷² *Case concerning the Interpretation of the Air Transport Services Agreement between the United States of America and Italy, signed at Rome on 6 February 1948* (Advisory Opinion, 17 July 1965) XVI RIAA 81, para. 6.

²⁷³ Sbolci (n 244), 158.

While this practice can accordingly not serve as proof of an agreement of all parties,²⁷⁴ it may help confirm whether Article I (1) OST has been understood as giving rise to concrete rights and obligation, and especially, which interpretation approaches to it have not found wider recognition.

1. Official statements regarding its interpretation

In their Conclusions, the ILC includes “official communications to which the treaty gives rise” as a form of subsequent practice.²⁷⁵ While the information and notification duties under the Outer Space Treaty are limited to consultation requirements in accordance with Article IX OST and a largely underutilized²⁷⁶ notification obligation under Article XI OST, there was an attempt to gather views of States on the implementation of Article I OST specifically during the discussions preceding the negotiations of the Space Benefits Declaration.²⁷⁷ Following the invitation of three separate *note verbales* issued by the UN Secretary General,²⁷⁸ Member States submitted information on their national laws and international agreements regarding benefit-sharing, as well as their views on whether the subject should be considered as a priority of the Committee.²⁷⁹ The received answers submitted by thirty States were consequently summarized by the Chair of the Committee, providing insight into the agreement of the parties regarding the interpretation approaches included in the answers.²⁸⁰ In the following, these answers shall be examined in the light of being subsequent practice under Article 32 VCLT insofar as they record how OST parties, after the treaty’s conclusion, understood and applied Article I (1) OST.²⁸¹

a. Interpretation of Article I (1) OST

First, regarding the question whether benefit-sharing should be treated as a priority issue of the Committee, an interesting picture emerges with most countries that made proposals being in favour of prioritising the issue, while differing widely in the avenues proposed to reach this prioritisation.

A first group of States interprets Article I (1) OST as requiring concrete mechanisms to operationalise Article I (1) OST, with many of them echoing the need for equitable

²⁷⁴ ILC SAPS Draft Conclusions (n 21), Conclusion 4, para. 18.

²⁷⁵ Ibid.

²⁷⁶ See Article XI Project (n 17).

²⁷⁷ Benkö and Schrogl (n 8), 140.

²⁷⁸ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, UN Doc A/AC.105/C.2/15, para. 2.

²⁷⁹ UN Committee on the Peaceful Uses of Outer Space, *Report of the Legal Subcommittee on the Work of Its Thirty-First Session* UN Doc A/AC.105/514 (1992) annex II, Nr. 2, para. 2.

²⁸⁰ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, UN Doc A/AC.105/C.2/L.187 (22 January 1992).

²⁸¹ Given their unilateral implementation, the national laws will be included as indirect evidence under Article 32 VCL, as elaborated in **Chapter C.III.2.a.**

participation.²⁸² Proposed elements of such equitable access include technology transfer,²⁸³ training,²⁸⁴ participation in programmes,²⁸⁵ access to data,²⁸⁶ as well as financial²⁸⁷ and technical²⁸⁸ assistance. Most importantly, these countries strongly emphasize the legally binding “right to share in the benefits of space activities”.²⁸⁹ While many of them recognize the need for further elaboration of the principles enshrined²⁹⁰ and the need for new legal or institutional arrangements,²⁹¹ “the lack of procedural or institutional machinery should not impede recognition of this circumstance.”²⁹²

A second cluster of states emphasize Article I (1) OST through voluntary cooperation²⁹³ and bilateral agreements,²⁹⁴ while also highlighting the freedom of space exploration²⁹⁵ and sovereign equality of states.²⁹⁶ These State Parties put forward an interpretation of benefit-sharing as implemented mainly through cooperative conduct,²⁹⁷ including through the United Nations programmes²⁹⁸ as examined in **Chapter C.II.2.** rather than through a strict redistributive rule. The United States takes the most cautious approach, prioritizing studying national legal frameworks, state practice, and international agreements before drawing conclusions.²⁹⁹

²⁸² UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.4 (23 March 1989), 2 [Indonesia]; UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.1 (7 March 1989), 2 [Chile]; UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.2 (20 March 1989), 2 [Mexico].

²⁸³ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.3 (22 March 1989), 8 [Qatar].

²⁸⁴ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.6 (7 April 1989), 2 [Mongolia].

²⁸⁵ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.9 (2 April 1990), 2–3 [Czechoslovakia].

²⁸⁶ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.10 (15 May 1990), 4 [Libyan Arab Jamahiriya].

²⁸⁷ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.11 (20 February 1991), 3 [Syrian Arab Republic].

²⁸⁸ A/AC.105/C.2/15/Add.2 (n 281), 2 [Mexico].

²⁸⁹ A/AC.105/C.2/15/Add.1 (n 281), 3 [Chile].

²⁹⁰ See A/AC.105/C.2/15/Add.10 (n 285), 2 [Cuba]. Czechoslovakia in particular calls for “an attempt at interpreting the terms “for the benefit and in the interests” and similarly “the province of mankind”, bearing in mind their close relation to the words “the exploration and use of outer space”, should be made in order to establish the correct meaning of this principle.”. I have done my best. See A/AC.105/C.2/15/Add.9 (n 284), 2 [Czechoslovakia].

²⁹¹ A/AC.105/C.2/15/Add.1 (n 281), 7 [Pakistan].

²⁹² *Ibid.*, 3 [Chile].

²⁹³ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15 (9 February 1989), 2 [Bulgaria].

²⁹⁴ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.13 (25 March 1991), para. 6 [Germany].

²⁹⁵ A/AC.105/C.2/15/Add.3 (n 282), 2 [Argentina].

²⁹⁶ See A/AC.105/C.2/15 (n 292), 4 [Soviet Union].

²⁹⁷ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.12 (19 March 1991), 2 [Ukrainian Soviet Socialist Republic].

²⁹⁸ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/15/Add.8 (2 March 1990), 3 [Sweden].

²⁹⁹ A/AC.105/C.2/15/Add.1 (n 223), 7–8 [United States].

Regarding the list of countries that have submitted responses, there are two notable observations. For one, a comparison of the positions with the *UNOOSA Index of Objects Launched into Outer Space*³⁰⁰ shows that most of the countries calling for a more robust legal framework on benefit-sharing were not yet spacefaring nations,³⁰¹ why states with established space programmes took the latter position, foreshadowing the capacity-based divide that hardened during the negotiations of the Space Benefit Declaration. Furthermore, many early spacefaring nations did not submit answers, including France, the United Kingdom, and China.³⁰²

Despite different approaches to operationalisation, in the vast majority of the attached statements, Article I (1) OST and benefit-sharing are treated as priority issues. As summarized by the Chair:

“It would seem safe to say that all respondents agree that the main, and perhaps the most practical and promising way of realizing the principle contained in the first sentence of article I of the Outer Space Treaty, is by further developing international cooperation in the exploration and peaceful uses of outer space.”³⁰³

Subsequent state practice as evidenced by the questionnaire therefore supports the conclusion that Article I (1) OST is not merely aspirational, as States have repeatedly engaged with it as a source of normative guidance. However, this practice has not produced a settled interpretation on the operationalisation of the provision, leaving the degree of legally required implementation attached to Article I (1) OST contested.

b. Relevant International Agreements

Next to questions about the implementation of the benefit-sharing provision, the second question of the UN Secretary General addressed the “international agreements that member States have entered into that are relevant to the principle”³⁰⁴ enshrined in Article I (1) OST. While “many agreements on a wide variety of subjects were being viewed by different responding States as relevant”,³⁰⁵ the submitted responses provide evidence of subsequent practice by identifying international agreements concluded for the purpose of implementation.³⁰⁶ Given the limited amount of responses received, the answers cannot in their own right be viewed as identifying “relevant rules of international law applicable” in

³⁰⁰ United Nations Office for Outer Space Affairs, ‘[Online Index of Objects Launched into Outer Space](#)’ accessed 3 June 2026.

³⁰¹ With the notable exception of Czechoslovakia.

³⁰² Both China and the UK did however submit to the second questionnaire, which as elaborated in **Chapter C.III.2.a.**

³⁰³ UN Committee on the Peaceful Uses of Outer Space, *Report of the Legal Subcommittee on the Work of Its Thirty-First Session* UN Doc A/AC.105/514 (1992) Annex II, para. 10.

³⁰⁴ *Ibid*, para. 2.

³⁰⁵ *Ibid*, para. 28.

³⁰⁶ ILC SAPS Draft Conclusions (n 21), Conclusion 5, para. 18.

accordance with Article 31 (3) (c) VCLT; nevertheless, they help contextualize the provision within the wider *corpus iuris spatialis*.

The connection of the listed Agreements to the interpretation of Article I (1) OST is highlighted by the fact that all States have identified the OST as the central instrument “fundamental for international space co-operation, presuppos[ing] that the exploration of outer space shall be carried out for the benefit and in the interest of all countries”.³⁰⁷ While some states have chosen to forgo a rationale for the agreements listed,³⁰⁸ the Outer Space Treaty finds inclusion in all such lists provided.³⁰⁹ Some states go as far as to expressly deny being part of other international agreements which implement Article I OST,³¹⁰ despite their membership in Agreements listed by other State Parties,³¹¹ or limit themselves to reiterating their arguments from the previous questionnaire³¹² that the OST requires implementation.³¹³ Nevertheless, some patterns in the listed additional agreements emerge.

First, a few states make prominent reference to the Moon Agreement³¹⁴ or the principles contained therein³¹⁵ as an institutional model for stronger benefit-sharing. The Moon Agreement, which had been adopted by the General Assembly in 1979³¹⁶ following ten years of protracted negotiations,³¹⁷ does not contain a concrete framework³¹⁸ or a requirement³¹⁹ for the establishment of a benefit-sharing regime;³²⁰ instead, it “merely foreshadows the establishment of a regime”³²¹ “that is still to be negotiated”³²² at a point where such exploitation is feasible.³²³ Nevertheless, the tensions regarding its inclusion of the common heritage of

³⁰⁷ A/AC.105/C.2/15/Add.1 (n 281), 5 [Sweden]

³⁰⁸ A/AC.105/514 (n 278), para. 29.

³⁰⁹ See, for example, UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.6 (9 April 1990), 2 [Peru].

³¹⁰ See UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16 (27 February 1990), 3 [Spain]; see further UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.1 (13 March 1990), 3 [Czechoslovakia]

³¹¹ United Nations Office for Outer Space Affairs, ‘Status of International Agreements Relating to Activities in Outer Space’ accessed 5 June 2026.

³¹² UN Doc A/AC.105/C.2/16 (n 251), 2 [Chile].

³¹³ A/AC.105/C.2/16/Add.1 (n 252), 4 [Pakistan]

³¹⁴ See, *inter alia*, UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.10 (19 March 1991), 3 [Mexico].

³¹⁵ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.3 (20 March 1990), 2 [Togo]

³¹⁶ UN General Assembly, *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 89th Plenary Meeting, U.N. Doc. A/RES/34/68 (Dec. 5, 1979).

³¹⁷ See Strank (n 103), 119; Lee (n 55), 258.

³¹⁸ Strank (n 103), 21.

³¹⁹ Gangale (n 32), 102.

³²⁰ Jakhu, Freeland, Hobe and Tronchetti (n 168), para. 201.

³²¹ Lee (n 55), 265.

³²² Jakhu, Freeland, Hobe and Tronchetti (n 168), para. 201.

³²³ In 1994, the UNGA decided that it was not yet time. UN General Assembly, *Report of the UN Committee on the Peaceful Uses of Outer Space*, 37th Session, U.N. Doc. A/49/20 (Aug. 12, 1994), para. 153.

mankind principle³²⁴ and equitable sharing of benefits,³²⁵ including actual³²⁶ and perceived³²⁷ demands for and a mandatory transfers of technology made in connection to the principle led to a lack of ratifications of the adopted treaty,³²⁸ and it is widely regarded as a failed treaty.³²⁹ Nevertheless, in their responses, some states declare that outer space is “beyond any doubt the common heritage of mankind”.³³⁰

Second, many states connect the question of benefit-sharing to international telecommunication coordination through the invocation of the founding documents of different satellite communications organizations. Building on Resolution 1721 (XVI) of the United Nations General Assembly which posits that “communication by means of satellites should be available to the nations of the world”,³³¹ both the International Telecommunications Satellite Organization (ITSO)³³² and the Intersputnik International Organization of Space Communications (INTERSPUTNIK)³³³ were founded in parallel as intergovernmental organisations for telecommunications.³³⁴ Consequently, given that both constitutional instruments invoke the Outer Space Treaty, both the United States³³⁵ and the USSR³³⁶ reference the organisations as examples of practical benefit-sharing mechanisms. In addition, the International Maritime Satellite Organization (INMARSAT)³³⁷ finds mentions, with the United Kingdom highlighting the reference to “due regard to the interests of developing countries” in its procedures.³³⁸

The international agreements identified by States confirm that Article I (1) OST has been understood as requiring practical implementation through cooperative legal and institutional arrangements. While references to the Moon Agreement reflect a more far-reaching

³²⁴ Reynolds and Merges (n 198), 127.

³²⁵ Lee (n 55), 228.

³²⁶ Noyes (n 166), 470.

³²⁷ Nnadozie and Sule (n 62), 67.

³²⁸ Stephan Hobe, Peter Stubbe and Fabio Tronchetti, ‘Moon Agreement: Historical Background and Context’ in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law: Rescue Agreement, Liability Convention, Registration Convention, Moon Agreement* (Heymanns 2013) 336, para 35.

³²⁹ See Lesley Jane Smith and Lew Toepfer, ‘National Space Legislations and the Appropriability of Space Resources’ in Ronald Davies, Joseph Francois and Rodrigo Polanco (eds), *Regulating Space-Based Commerce: Insights from Economics and International Economic Law* (Hart Publishing forthcoming 2026).

³³⁰ A/AC.105/C.2/15/Add.9 (n 284), at 4 [Uruguay]

³³¹ UNGA Res 1721 (XVI) (n 64), D.

³³² *Agreement Relating to the International Telecommunications Satellite Organization “INTELSAT”* (opened for signature 20 August 1971, entered into force 12 February 1973) 1220 UNTS 21.

³³³ *Agreement on the Establishment of the “Intersputnik” International System and Organization of Space Communications* (opened for signature 15 November 1971, entered into force 12 July 1972) 862 UNTS 3.

³³⁴ While both organisations have universal mandates, the cold war led to the establishment of two separate institutions in 1971. See Burton I Edelson and Joseph N Pelton, ‘Can Intelsat and Intersputnik Cooperate?’ (1989) 5(1) *Space Policy* 7, 8.

³³⁵ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.8 (10 April 1990), 8 [United States].

³³⁶ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.5 (2 April 1990), 4 [Soviet Republic].

³³⁷ *Convention on the International Maritime Satellite Organization (INMARSAT)* (opened for signature 3 September 1976, entered into force 16 July 1979) 1143 UNTS 105.

³³⁸ UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, ‘Space Benefits: Report of the Secretary-General, Addendum’ UN Doc A/AC.105/C.2/16/Add.2 (15 March 1990), 2 [United Kingdom]

understanding based on common heritage and equitable sharing, the frequent invocation of satellite communications organizations points to a more functional interpretation, under which benefits are shared through access to services and participation in cooperative programmes.

c. Conclusion

While the results of the questionnaire need to be treated cautiously given that not all Member States of COPUOS, and certainly not all State Parties to the OST, took part in the exercise, they nevertheless reveal interesting tendencies within the interpretation of the provision through states, and especially regarding the emerging fault lines. Taken together, the official statements submitted show that States broadly accepted that the benefit-sharing principle requires implementation, and that international cooperation constitutes the principal means through which this is to be achieved. However, the submissions also reveal a persistent divergence as to the legal scope of this obligation. While some States understood Article I (1) OST as grounding a legally binding right to inclusion in the benefits of space activities, others framed the provision in terms of voluntary cooperation, bilateral arrangements, and access to space-derived services. The relevant international agreements identified by States reinforce this picture: they demonstrate practical forms of implementation, particularly through cooperative institutions and telecommunications regimes, but decisively do not establish “agreement of the parties”³³⁹ regarding a uniform redistributive model. Accordingly, this subsequent practice supports an interpretation of Article I (1) OST as producing concrete obligations of cooperation, while failing to establish consensus regarding more demanding obligation of equitable benefit-sharing.

2. Implementation through domestic legislation

As established by the ICJ in the *Anglo-Iranian Oil Co Case*, domestic law can serve as “piece of evidence” when publicly available to all parties.³⁴⁰ Given that the questionnaire by the UN Secretary General examined above also included the collection on national laws regarding benefit-sharing, the responses, together with a review of more recently adopted national space laws and policies, shall serve as the basis for such examination.

While some countries have incorporated the OST as a whole into their domestic legislation,³⁴¹ many State Parties expressly state that Article I OST has not found domestic implementation.³⁴² The same is still the case today: Japan’s Space Activities Act purpose clause³⁴³ as well as South Africa’s Space Affairs Act include references to international

³³⁹ See Article 31 (3) (b) VCLT.

³⁴⁰ *Anglo-Iranian Oil Co Case* (United Kingdom v Iran) (Preliminary Objection) [1952] ICJ Rep 93, 107.

³⁴¹ A/AC.105/C.2/15/Add.3 (n 282), 3 [Argentina]; *Ibid*, 2 [Sweden].

³⁴² A/AC.105/C.2/15 (n 292), 3 [Bulgaria]; A/AC.105/C.2/15/Add.1 (n 281), 6 [Netherlands]; A/AC.105/C.2/15/Add.9 (n 284), 2 [Czechoslovakia].

³⁴³ Japan, *Act on Launching of Spacecraft, etc and Control of Spacecraft* Act No 76 of 2016, art 1.

commitments,³⁴⁴ and the United Kingdom implements the OST through the Outer Space Act,³⁴⁵ but none of the instruments explicitly replicate the language of Article I OST. The only prominent exception seems to be the 1993 national space law of the Russian Federation, which used to list “solving global problems of mankind” as the purpose of Russian space activities.³⁴⁶ Interestingly, this reference was removed through an amendment in 1996³⁴⁷ coinciding with the adoption of the Space Benefits Declaration.

Nevertheless, the wording of the provision has found introduction into a multitude of non-binding domestic instruments. A multitude of national policy instruments reiterate the language of Article I (1) OST within their texts. The United States Congress declared and reiterated on multiple occasions that “it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all humankind”,³⁴⁸ and the 2020 Space Policy reiterates that goal to “encourage, and expand international cooperation on mutually beneficial space activities that broaden and extend the benefits of space for all humanity”.³⁴⁹ New Zealand “recognises that outer space is shared by all humankind”;³⁵⁰ in its 2010 Strategy, the German Federal Government declares that its motto is “Into space for the benefit of humankind”.³⁵¹ Pakistan has committed itself to “bringing the benefits of scientific and technological development to all of humankind”.³⁵² Similarly, the Luxembourg space strategy declares the development of new space technologies for the benefit of all humanity.³⁵³

Viewed as through the lens of Article 32 VCLT, the absence of express incorporation of the provision into most national space legislation suggests that States have generally not treated Article I (1) OST as requiring direct legislative implementation in the same manner as other obligations under the Outer Space Treaty, such as Article VI-VIII OST.³⁵⁴ At the same time, the frequent reproduction of the language of the provision in national space policies and strategies demonstrates that States continue to regard the provision as a relevant normative orientation

³⁴⁴ South Africa, *Space Affairs Act* 84 of 1993, ss 2, 4(c), 22.

³⁴⁵ United Kingdom, *Outer Space Act 1986* c 38, long title; ss 1, 3.

³⁴⁶ Russian Federation, ‘Law of the Russian Federation “About Space Activity”’: Decree No 5663-1 of the Russian House of Soviets’ (unofficial translation, United Nations Office for Outer Space Affairs). See A/AC.105/C.2/15 (n 292), 4 [Soviet Union].

³⁴⁷ After the amendment through the Federal Law No. 147-FZ of November 29, 1996, the provision reads instead: “обеспечения международной безопасности” (ensuring international security). See Russian Federation, Federal Law No 147-FZ of 29 November 1996, amending the Law of the Russian Federation ‘About Space Activity’ No 5663-1 of 20 August 1993.

³⁴⁸ United States, *Congressional Declaration of Policy and Purpose*, 51 USC § 20102.

³⁴⁹ United States, Executive Office of the President, ‘The National Space Policy’ (Memorandum of 9 December 2020) 85 Fed Reg 81755 (16 December 2020), Sec. 3 Nr. 2.

³⁵⁰ New Zealand, Ministry of Business, Innovation and Employment, *National Space Policy* (New Zealand Space Agency, 2023), 3.

³⁵¹ Germany, Federal Ministry of Economics and Technology, *Making Germany’s Space Sector Fit for the Future: The Space Strategy of the German Federal Government* (November 2010), 3.

³⁵² Pakistan, *National Space Policy* (Space & Upper Atmosphere Research Commission, 2023), 5.

³⁵³ „d’assurer le développement de ces nouvelles activités spatiales au bénéfice de l’humanité tout entière”, see Luxembourg Space Agency, *Stratégie spatiale 2023–2027* (Ministère de l’Économie, 2022) 7.

³⁵⁴ See UN General Assembly, ‘Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space’ UNGA Res 68/74 (11 December 2013) UN Doc A/RES/68/74.

for their space activities. National practice thus reinforces the provision's normative relevance while also illustrating the limits of its legal operationalization at the domestic level.

3. Statements at diplomatic conferences

Beyond the adoption of instruments aimed at benefit-sharing which can be classified as subsequent agreement, Member States have reintroduced the language of Article I (1) OST into the context of COPUOS under a multitude of topics, showcasing, depending on which approach one takes, either the universality or the ambiguity regarding the application of the principles included. While such unilateral statements cannot be viewed as an agreement of all state parties in the sense of Article 31 (3) (b) VCLT, they shall serve as additional evidence of how the scope of the provision has developed since its adoption.

In 2015, the Group of Latin America and the Caribbean (GRULAC) submitted a working paper regarding draft proposals to the Long-Term Sustainability Guidelines which would be adopted in 2019, stressing the important of the Article I (1) OST language:

“The importance of preserving the outer space environment for future generations while promoting its use for the benefit of all of mankind is a paramount principle in all United Nations space treaties.”³⁵⁵

Another context in which Article I (1) OST has found repeated application in the recent years is in the Space Resources Working Group of the Legal Subcommittee of COPUOS. In 2023, the Chairs of the Working Group invited states to submit inputs to the legal aspects of space resources utilization, and a multitude of national submissions directly reference Article I OST. Most poignantly, the Russian Federation insists that:

“In accordance with 1967 Outer Space Treaty Art. I, the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. In other words, all countries of the world should benefit from outer space activities, rather than only those who have provided relevant investments or carried out specific activities. The Working Group therefore needs to determine how to ensure the equal and equitable sharing of the benefits arising from the exploitation of space resources.”³⁵⁶

Interestingly, this insistence is echoed, even though in less clear terms, by the submission of the United States, which stipulated that the outcome of the Working Group should “Promote the use of outer space [...] the benefit and in the interests of all countries, irrespective of

³⁵⁵ UN Committee on the Peaceful Uses of Outer Space, Scientific and Technical Subcommittee, *Long-Term Sustainability of Outer Space Activities: Draft Guidelines* (9 February 2015) UN Doc A/AC.105/C.1/2015/CRP.19/Rev.1, 2.

³⁵⁶ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, ‘Russian Federation – Input to the Working Group on Legal Aspects of Space Resource Activities’ (20 March 2023) UN Doc A/AC.105/C.2/2023/CRP.20, 6.

their degree of economic or scientific development”.³⁵⁷ similar references were made by Germany.³⁵⁸

Although these statements do not amount to an agreement of the parties under Article 31(3)(b) VCLT, their repeated reliance on the language of benefit, interest, humankind and equal participation in relation to emerging questions of access, environmental preservation, and the distribution of benefits from new forms of space activity is relevant as supplementary evidence of how States understand the provision’s continuing significance. As supplementary means of interpretation, diplomatic statements therefore reinforce the conclusion that Article I (1) OST has remained a prominent provision within the wider space law discourse as a flexible principle of inclusive orientation, while its concrete implications continue to be negotiated in response to new technological and institutional contexts.

III. Conclusion

The supplementary means examined in this chapter resolve several ambiguities left by the textual and systematic interpretation of Article I (1) OST, while confirming that others remain open. The broader subsequent practice examined under Article 32 VCLT clarifies the principal mode through which Article I (1) OST has been understood to operate. The official statements submitted in response to the Secretary-General’s questionnaires show that States generally treated benefit-sharing as requiring implementation, and that international cooperation was regarded as the main and most practical means of realizing the principle. This is reinforced by the international agreements identified by States, especially cooperative institutional arrangements and satellite communications organizations, which point towards implementation through access to services, participation in programmes, data, training, technical assistance and institutional cooperation.

The limited incorporation of the provision into binding national space legislation indicates that States have generally not treated Article I (1) OST as requiring direct legislative implementation in the same manner as more specific provisions of the Outer Space Treaty. At the same time, the frequent repetition of its language in national policies and strategies confirms that States continue to regard it as a relevant normative orientation for their space activities. These clarifications, however, do not resolve all interpretative difficulties. Most importantly, the travaux préparatoires do not clarify the legal meaning of “province of mankind”. The available records show that the phrase was questioned during drafting, but its substantive content was not elaborated. Nor does the broader subsequent practice establish agreement on the precise

³⁵⁷ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, ‘United States – Input to the Working Group on Legal Aspects of Space Resource Activities’ (21 March 2023) UN Doc A/AC.105/C.2/2023/CRP.37, 6.

³⁵⁸ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, ‘Germany – Input to the Working Group on Legal Aspects of Space Resource Activities’ (20 March 2023) UN Doc A/AC.105/C.2/2023/CRP.13, 4.

legal consequences of benefit-sharing. Finally, recent diplomatic statements confirm the continuing relevance of Article I (1) OST in relation to sustainability, future generations and space resource utilization, but leave unresolved whether the provision can support concrete obligations in these emerging contexts.

E. Rights and obligations arising from Article I (1) OST

This chapter synthesises the preceding textual, contextual and systematic analysis and examines the legal nature, scope and effect of Article I (1) OST. First, the question whether the provision constitutes a legally binding treaty norm shall be definitively answered. Then, the provision's personal scope by identifying the duty-bearers and right-holders to whom the benefit-oriented obligation is addressed. Finally, the legal consequences flowing from Article I paragraph one OST, including the rights and obligations it generates, the limits imposed by subsequent practice, and the ambiguities that continue to surround its implementation shall be examined.

I. Legal Nature of Article I (1) OST

First and foremost, the preceding analysis clearly shows that Article I (1) OST should be characterised as a legally binding treaty norm. The textual analysis already rejects a purely declaratory reading: the provision uses mandatory language, appears in the operative part of a treaty whose binding character is undisputed, and occupies a central position in the architecture of the Outer Space Treaty itself. The preparatory work reinforces that conclusion, as proposals to move the language into the preamble did not prevail and the clause was instead retained in the operative text. Read together with the Preamble and the Treaty's object and purpose, it is clear that even if ambiguities regarding its implementation remain, Article I (1) OST is a legally binding and operationalizable provision governing the exercise of space freedoms, not as a mere political aspiration.

II. Scope of Article I (1) OST

Building on the conclusion that Article I (1) OST establishes a legally relevant but open-textured benefit-sharing principle, the following chapter turns to its personal scope, to clarify how far the provision extends, how its universal language is to be understood, and how the increasing role of private space activity fits within the Treaty's benefit-oriented framework.

1. Duty-bearers

As a treaty obligation, Article I(1) OST binds States Parties to the Outer Space Treaty. Although the provision is unusual in not expressly naming "States Parties" as its subject, the draft's contextual reading makes clear that the clause functions within an inter-State treaty structure and operates as a limitation on the freedom of exploration and use recognised elsewhere in

Article I OST. It follows that all State Parties must exercise this use and exploration within a framework directed towards the benefit and interests of all countries, including all private entities operating in outer space in accordance with Article VI OST. In practical terms, that gives the obligation particular intensity for spacefaring States, but subsequent practice also indicates that all States share at least a cooperative role in giving effect to the principle, for example through United Nations programmes and institutional support.

2. Right-holders

Article I (1) OST establishes a universal group of right-holders defined in inter-State terms and expressly detached from levels of economic or scientific development. That universalism is one of the provision's most distinctive features and differentiates it from the reciprocal provisions in the rest of the Treaty. As evidenced by the *travaux préparatoires*, multiple declarations made during the drafting certainly point towards such an intention.

That said, the analysis also shows that the universal beneficiary class has subsequently been specified rather than displaced. The *Space Benefits Declaration* sharpened attention to developing countries and States with incipient space programmes, while later instruments connected Article I (1) OST to sustainable development and to future generations. These developments do not replace the Treaty's express reference to "all countries", but they do indicate who has been treated in practice as especially vulnerable to exclusion from the benefits of space activity. Equally important is the draft's distinction between the operative text and the preamble: while the preamble speaks of "all peoples" and the Treaty invokes "mankind", the operative, legally binding minimum remains owed to countries. The broader language informs interpretation, but it does not erase the inter-State framing of the right.

III. Legal Effect of Article I (1) OST

Based on the analysis, the legal effect of Article I (1) OST to be defined in both positive and negative terms. Positively, the provision establishes a binding obligation that the exploration and use of outer space be oriented towards the benefit and interests of all countries. Negatively, however, it does not confer an immediately enforceable entitlement to a defined share of gains arising from individual space activities. This intermediate character follows from the structure of the provision itself. Article I (1) OST is phrased in mandatory terms and appears in the operative part of the Treaty. It cannot therefore be reduced to a preambular value statement. At the same time, its language does not identify a specific implementing institution, decision-making procedure, or enforcement mechanism. Its legal effect therefore lies between a declaratory clause and a fully operationalized benefit-sharing mechanism.

1. Rights and Obligations arising from Article I (1) OST

Concretely, the analysis points to three distinct legal rights and obligations arising from the provision. First, it requires **non-exclusion**. Outer space activities must not be structured so as to foreclose access, participation or future use by other countries. The freedom to explore, use and scientifically investigate outer space is not an isolated liberty, but a freedom embedded within a wider benefit-oriented legal order. The provision therefore functions as a limitation on exclusionary, monopolistic or purely unilateral interpretations of the freedom principle, ensuring that all countries are entitled to a legal order in which outer space remains accessible and is not monopolized through sovereignty or institutional exclusion.

Second, it requires **consideration**. The cumulative wording “for the benefit and in the interests” suggests that States conducting outer space activities must take account of the effects of those activities beyond their own national objectives. This includes the interests of States at different levels of economic, scientific and technological development, and, as subsequent instruments indicate, the needs of developing countries and States with incipient space programmes. Article I (1) OST provides an interpretative standard for the application of the wider corpus iuris spatialis. It informs the meaning of cooperation, transparency, mutual assistance, non-appropriation and sustainability within the Treaty framework.

Third, it requires **cooperation**: the benefits of outer space must be made accessible through capacity-building, information-sharing, technical assistance, access to applications, and institutional support. The evolution of the UN Programme on Space Applications, Access to Space for All and the Global Space Law Project confirms that the legally relevant benefit is increasingly understood as enabling capacity and autonomous participation, rather than passive receipt of advantages. These forms of implementation do not exhaust the provision, but they demonstrate the legal direction in which its open language has been developed.

The corresponding obligations can therefore be categorized as obligations of conduct. States must refrain from interpreting the freedom of exploration and use in a manner that defeats the universal benefit orientation of the Treaty. They must cooperate, where appropriate, through equitable and mutually acceptable arrangements. They must support the dissemination of information and the development of capabilities in ways consistent with the Treaty and subsequent practice. They must also preserve the collective and intergenerational character of outer space by ensuring that present activities do not undermine the ability of other States, or future generations, to benefit from outer space. The provision prevents the freedoms of outer space from being reduced to the advantage of technologically capable States alone. Its legal significance lies precisely in this: it transforms access to outer space from a formally equal freedom into a freedom conditioned by universal benefit, cooperation and non-exclusion.

2. Delimitation of the Scope through subsequent practice

Subsequent practice confirms, but also delimits the scope of these rights and obligations. While the textual and contextual interpretation of Article I (1) OST establishes a binding benefit-oriented obligation, subsequent agreements and practice clarify that this obligation has not been understood as requiring direct redistribution of all benefits arising from individual space activities by the State Parties to the OST.

The Space Benefits Declaration is central in this regard, confirming that particular account should be taken of the needs of developing countries, thereby strengthening the developmental reading of Article I (1) OST. At the same time, it limits the provision's scope by emphasizing that States remain free to determine all aspects of their participation in international cooperation on an equitable and mutually acceptable basis. This language excludes an interpretation of Article I (1) OST as imposing compulsory technology transfer, mandatory sharing of commercial gains, or participation in cooperation on externally determined terms. The same delimitation emerges from institutional practice. The UN Programme on Space Applications, its expansion through the UNISPACE conferences, Access to Space for All and the Global Space Law Project translate Article I (1) OST into a requirement that States be enabled to access, use and benefit from space applications autonomously.

Accordingly, Article I (1) OST is delimited as a binding framework obligation: it requires non-exclusion, consideration and cooperation, but not compulsory redistribution. Its scope is therefore neither purely symbolic nor fully redistributive. It is operational, but it requires mediation through State discretion and subsequent cooperative practice.

3. Remaining Ambiguities

Several ambiguities remain despite the interpretative clarification reached above. These ambiguities concern the degree of operational precision, not the binding character of Article I (1) OST.

First, the **threshold of compliance** remains uncertain. Subsequent practice identifies capacity-building, training, access to applications, information-sharing and institutional support as accepted forms of implementation. It does not specify whether participation in such mechanisms is sufficient – or required – in all circumstances. A State may support cooperative programmes while conducting individual space activities that generate exclusionary effects. Article I (1) OST does not clearly determine whether compliance must be assessed activity by activity or across a State's overall space policy.

Second, the relationship between **voluntary cooperation and legal obligation** remains unresolved. The Space Benefits Declaration preserves State freedom to determine the form and extent of cooperation on an equitable and mutually acceptable basis. Yet cooperation is

consistently treated as the principal means of implementing Article I (1) OST. This discrepancy between legally required conduct and lack of modalities makes the determination of the fulfilment of the obligations difficult and has undoubtedly contributed to the lack of invocation of the provision.

Finally, the phrase “**province of all mankind**” remains only partially determinate. It confirms the collective character of space activities and rejects purely unilateral understandings of outer space. It does not, however, independently define a specific institutional or distributive regime. Article I (1) OST therefore remains binding but structurally open. Its further legal development will therefore depend on continued institutional practice, interpretative consolidation and, where necessary, further agreement.

F. Conclusion

Article I (1) OST, as the first operative provision of the OST, is binding, universal and central to the Outer Space Treaty, framing the freedoms that follow. Article I (1) OST therefore supplies one of the basic normative orientations of international space law. It expressly stipulates the exploration and use of outer space remain directed towards the benefit and interests of all countries. While ambiguities regarding its operationalisation remain, this indeterminacy should not be confused for lack of binding character or legal effect. Many foundational principles of international law require interpretation and institutional development before they become operationally precise. Article I (1) OST performs precisely such a foundational function. It informs how the more specific provisions of the Outer Space Treaty are to be understood and prevents the legal order of outer space from being reduced to formal freedom among materially unequal actors.

1. Centrality of the provision

As shown through textual, systematic, and supplementary means of interpretation, this entails duties of non-exclusion, consideration and cooperation, particularly in relation to States that lack autonomous space capabilities. At the same time, subsequent practice confirms that the provision does not impose compulsory technology transfer, mandatory profit-sharing or externally dictated forms of cooperation. The development of United Nations space capacity-building programmes, the adoption of the Space Benefits Declaration, the integration of space applications into sustainable development processes and the recurring invocation of benefit-sharing in discussions on sustainability and space resources all show that States continue to return to the language of Article I (1) OST when addressing new governance questions. Even where they disagree on its exact legal consequences, they do not treat the provision as obsolete. As outer space activities become more diverse, commercialized and strategically significant, this function becomes more, rather than less, important. Article I (1) OST remains

the provision through which the promise that outer space shall be explored and used for all is connected to the legal architecture of the Treaty.

Although Article I (1) OST is legally binding and normatively central, its continued relevance depends on further operationalisation. The preceding analysis has shown that subsequent agreements and practice have given the provision a recognizable direction, especially through capacity-building. Yet this practice remains fragmented. It has clarified the kinds of measures that may implement Article I (1) OST, but it has not established a coherent framework for assessing when the obligation has been fulfilled. The experience of the Space Benefits Declaration demonstrates the limits of attempting to impose a comprehensive redistributive regime without consensus. Any future operationalisation must therefore proceed from the interpretative baseline already identified: Article I (1) OST requires benefit-oriented conduct, cooperation and non-exclusion, while preserving discretion over mutually acceptable forms of implementation.

2. Outlook

With the upcoming UNISPACE IV conference, such a vital moment for operationalisation is imminent. The African Group has already begun gathering inputs regarding further implementation of both Article I OST and the Space Benefit Declaration³⁵⁹ as part of the Space for Development Initiative, with the express aim to

“to take stock of existing efforts, including those under the auspices of UNOOSA, identify the evolving needs of developing countries, and explore practical and consensual avenues for cooperation to ensure that space activities are conducted for the benefit of all Member States.”³⁶⁰

While the gathering of inputs is ongoing,³⁶¹ similar to the Space Benefits Questionnaires examined above, the upcoming negotiations of the outcome of the Initiative in the coming two years will undoubtedly reinvigorate the debates regarding the legal nature and scope of the provision. It is in the context of these considerations that the presented analysis aims to make a contribution to both the academic and intergovernmental debate: By ensuring that the renewed operationalisation of benefit-sharing remains anchored in the existing *corpus iuris spatialis* and does not represent back-sliding on the legally binding rights and obligations

³⁵⁹ UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, ‘Questionnaire on International Cooperation in Outer Space Activities’ (Non-paper, April 2026).

³⁶⁰ Africa Group, Brazil, Germany, Iraq, Jordan, Mexico, Pakistan and Panama, ‘Space for Development Initiative: Conference Room Paper by the Africa Group, Brazil, Germany, Iraq, Jordan, Mexico, Pakistan and Panama’ UN Doc A/AC.105/C.2/2026/CRP.34* (2026). para. 6.

³⁶¹ United Nations Office for Outer Space Affairs, ‘Committee on the Peaceful Uses of Outer Space: 2026, Sixty-Ninth Session (10–18 June 2026)’ accessed 5 June 2026.

enshrined in Article I (1) OST, while responding to the evolving needs of developing countries and emerging spacefaring States.

G. Table of Sources

I. Legislation

1. Treaties and International Instruments

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (adopted 5 December 1979, entered into force 11 July 1984) 1363 UNTS 3 [Moon Agreement]

Agreement on the Establishment of the "Intersputnik" International System and Organization of Space Communications (opened for signature 15 November 1971, entered into force 12 July 1972) 862 UNTS 3

Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (adopted 19 December 1967, opened for signature 22 April 1968, entered into force 3 December 1968) 672 UNTS 119 [Rescue and Return Agreement (ARRA)]

Agreement Relating to the International Telecommunications Satellite Organization "INTELSAT" (opened for signature 20 August 1971, entered into force 12 February 1973) 1220 UNTS 21

Antarctic Treaty (adopted 1 December 1959, entered into force 23 June 1961) 402 UNTS 71

Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI [UN Charter]

Convention on International Liability for Damage Caused by Space Objects (adopted 29 March 1972, entered into force 1 September 1972) 961 UNTS 187 [Liability Convention (LIAB)]

Convention on Registration of Objects Launched into Outer Space (adopted 12 November 1974, entered into force 15 September 1976) 1023 UNTS 15 [Registration Convention (REG)]

Convention on the International Maritime Satellite Organization (INMARSAT) (opened for signature 3 September 1976, entered into force 16 July 1979) 1143 UNTS 105

Convention on the Prevention and Punishment of the Crime of Genocide (adopted 9 December 1948, entered into force 12 January 1951) 78 UNTS 277 [Genocide Convention]

International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 [ICCPR]

International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 [ICESCR]

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, entered into force Oct. 10, 1967, 610 U.N.T.S. 205 [Outer Space Treaty (OST)]

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, UNGA Res 2222 (XXI) (19 December 1966) UN Doc A/RES/2222(XXI)

Treaty on the Non-Proliferation of Nuclear Weapons (adopted 1 July 1968, entered into force 5 March 1970) 729 UNTS 161

United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 [UNCLOS]

Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 [Vienna Convention (VCLT)]

2. Resolutions and Declarations

Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, UNGA Res 51/122 (13 December 1996) UN Doc A/RES/51/122 [Space Benefits Declaration]

Declaration on the Fiftieth Anniversary of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, UNGA Res 72/78 (7 December 2017) UN Doc A/RES/72/78

Declaration on the Granting of Independence to Colonial Countries and Peoples, UNGA Res 1514 (XV) (14 December 1960) UN Doc A/RES/1514(XV)

Dissemination of Information on Decolonization, UNGA Res 80/104 (5 December 2025) UN Doc A/RES/80/104

Guidelines for the Long-term Sustainability of Outer Space Activities of the UN Committee on the Peaceful Uses of Outer Space, UN Doc A/74/20 (2019) Annex II [LTS Guidelines]

International Co-operation in the Peaceful Uses of Outer Space, UNGA Res 1721 (XVI) (20 December 1961) UN Doc A/RES/1721(XVI)

Ministerial Declaration of the High-Level Segment of the 2022 Session of the Economic and Social Council and the 2022 High-Level Political Forum on Sustainable Development, UN Doc E/HLS/2022/1 (15 August 2022)

Principles Relating to Remote Sensing of the Earth from Outer Space, UNGA Res 41/65 (3 December 1986) UN Doc A/RES/41/65 [Remote Sensing Principles]

Programme of Action on the Establishment of a New International Economic Order, UNGA Res 3202 (S-VI) (1 May 1974) UN Doc A/RES/3202(S-VI)

Space Debris Mitigation Guidelines of the UN Committee on the Peaceful Uses of Outer Space, UN Doc A/62/20 (2007) Annex [SDM Guidelines]

The “Space2030” Agenda: Space as a Driver of Sustainable Development UNGA Res 76/3, UN Doc A/RES/76/3 (25 October 2021)

The Pact for the Future UNGA Res 79/1, UN Doc A/RES/79/1 (22 September 2024)

Transforming Our World: The 2030 Agenda for Sustainable Development, UNGA Res 70/1 (25 September 2015) UN Doc A/RES/70/1.

3. Domestic Legislation

Germany, Federal Ministry of Economics and Technology, *Making Germany’s Space Sector Fit for the Future: The Space Strategy of the German Federal Government* (November 2010)

Japan, *Act on Launching of Spacecraft, etc and Control of Spacecraft* Act No 76 of 2016

Luxembourg Space Agency, *Stratégie spatiale 2023–2027* (Ministère de l'Économie, 2022)

New Zealand, Ministry of Business, Innovation and Employment, *National Space Policy* (New Zealand Space Agency, 2023)

Pakistan, *National Space Policy* (Space & Upper Atmosphere Research Commission, 2023)

Russian Federation, 'Law of the Russian Federation "About Space Activity": Decree No 5663-1 of the Russian House of Soviets' (unofficial translation, United Nations Office for Outer Space Affairs)

Russian Federation, *Federal Law No 147-FZ of 29 November 1996*, amending the Law of the Russian Federation 'About Space Activity' No 5663-1 of 20 August 1993

South Africa, *Space Affairs Act* 84 of 1993

United Kingdom, *Outer Space Act* 1986 c 38

United States, *Congressional Declaration of Policy and Purpose*, 51 USC § 20102

United States, Executive Office of the President, 'The National Space Policy' (Memorandum of 9 December 2020) 85 Fed Reg 81755 (16 December 2020)

4. International Cases

Aegean Sea Continental Shelf (Greece v Turkey) (Judgment) [1978] ICJ Rep 3, para 96.

Anglo-Iranian Oil Co Case (United Kingdom v Iran) (Preliminary Objection) [1952] ICJ Rep 93

Armed Activities on the Territory of the Congo (DRC v Rwanda) (Jurisdiction and Admissibility) [2006] ICJ Rep 6

Avena and Other Mexican Nationals (Mexico v United States of America) [2004] ICJ Rep 12

Case concerning the Interpretation of the Air Transport Services Agreement between the United States of America and Italy, signed at Rome on 6 February 1948 (Advisory Opinion, 17 July 1965) XVI RIAA 81

Case Concerning the Territorial Dispute (Libyan Arab Jamahiriya/Chad) (Judgment) [1994] ICJ Rep 6

Competence of the General Assembly for the Admission of a State to the United Nations, Advisory Opinion, I.C.J. Reports 1950

Competence of the ILO in Regard to International Regulation of the Conditions of the Labour of Persons Employed in Agriculture (Advisory Opinion) PCIJ Rep Series B No 2

Judge Lachs, dissenting opinion in *North Sea Continental Shelf Cases (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)* [1969] ICJ Rep 3

Kasikili/Sedudu Island (Botswana/Namibia) [1999] ICJ Rep 1045

LaGrand (Germany v United States of America) [2001] ICJ Rep 466

Legal Consequences for States of the Continued Presence of South Africa in Namibia notwithstanding Security Council Resolution 276 (1970) (Advisory Opinion) [1971] ICJ Rep 16

Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v Bahrain) (Jurisdiction and Admissibility) [1995] ICJ Reports 6

Maritime Delimitation and Territorial Questions between Qatar and Bahrain (Qatar v Bahrain) (Jurisdiction and Admissibility) [1994] ICJ Rep 112

Maritime Delimitation in the Indian Ocean (Somalia v Kenya) (Preliminary Objections) [2017] ICJ Rep 3

Nuclear Tests Case (Australia v France) (Judgment) [1974] ICJ Rep 253

Oil Platforms (Islamic Republic of Iran v United States of America) [2003] ICJ Rep 161

Pulp Mills on the River Uruguay (Argentina v Uruguay) [2010] ICJ Rep 14

Reservations to the Genocide Convention (Advisory Opinion) [1951] ICJ Rep 15

South West Africa, Preliminary Objections, Judgment, I.C.J. Reports 1962

The South China Sea Arbitration between the Republic of the Philippines and the People's Republic of China (Award of 12 July 2016) (2016) XXXIII RIAA 153

Whaling in the Antarctic (Australia v Japan: New Zealand intervening) [2014] ICJ Rep 226

II. Bibliography

1. Books

Bin Cheng, *Studies in International Space Law* (Clarendon Press 1997)

Paul Stephen Dempsey, *Public International Air Law*. Montreal, Institute and Center of Air and Space Law, McGill University

Frans von der Dunk (ed), *Handbook of Space Law* (Edward Elgar Publishing 2015)

Nandasiri Jasentuliyana, *International Space Law and the United Nations* (Brill Nijhoff 2023)

Christopher C Joyner, *Antarctica and the Law of the Sea* (Martinus Nijhoff Publishers 1992)

Tennis Gangale, *How High the Sky?: The Definition and Delimitation of Outer Space and Territorial Airspace in International Law* (vol 13, Brill Nijhoff 2018)

Richard Gardiner, *Treaty Interpretation* (2nd edn, Oxford University Press 2015)

Francis Lyall and Paul B Larsen, *Space Law: A Treatise* (Ashgate 2009)

Tanja Masson-Zwaan and Mahulena Hofmann, *Introduction to Space Law* (4th ed., Kluwer Law International B.V., 2019)

Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013)

Glenn H Reynolds and Robert P Merges, *Outer Space: Problems of Law and Policy* (2nd edn, Westview Press 1998)

Nicholas Michael Sambaluk, *The Other Space Race: Eisenhower and the Quest for Aerospace Security* (Naval Institute Press 2015)

Oliver Strank, *Common Concern of Humankind im Völkerrecht* (Beiträge zum ausländischen öffentlichen Recht und Völkerrecht vol 289, Springer Berlin Heidelberg 2019)

Lotta Viikari, *The Environmental Element in Space Law* (Brill 2008)

Detlev Wolter, *Common Security in Outer Space and International Law* (UNIDIR, United Nations Publications 2006)

2. Chapters in Edited Books

Gudmundur Alfredsson, 'Peoples' in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press 2007)

Gudmundur Alfredsson, 'Peoples' in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press 2007)

Malgosia Fitzmaurice, 'Treaties' in *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press, February 2021)

Joanne Irene Gabrynowicz, 'The Province and Heritage of Mankind Reconsidered: A New Beginning' in W W Mendell (ed), *The Second Conference on Lunar Bases and Space Activities of the 21st Century, Volume 2* (NASA Conference Publication 3166, Johnson Space Center 1992)

Michael Gerhard, 'Article VI' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009) 103

Stephan Hobe, 'Article I' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009)

Stephan Hobe, 'Outer Space Treaty: Historical Background' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017)

Stephan Hobe and Kuan-Wei Chen, 'Legal Status of Outer Space and Celestial Bodies' in Ram S Jakhu and Paul S Dempsey (eds), *Routledge Handbook of Space Law* (Routledge 2017) 25

Stephan Hobe and Niklas Hedman, 'Preamble' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (BWV Berliner Wissenschafts-Verlag 2017) 151

Stephan Hobe, Peter Stubbe and Fabio Tronchetti, 'Moon Agreement: Historical Background and Context' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law: Rescue Agreement, Liability Convention, Registration Convention, Moon Agreement* (Heymanns 2013) 336

Ram S Jakhu and Joseph N Pelton, 'Extending the Benefits and Uses of Outer Space to All Humankind' in Ram S Jakhu and Joseph N Pelton (eds), *Global Space Governance: An International Study* (Springer 2017)

Ram S Jakhu and Steven Freeland, 'Article II' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017) 221

Ram S Jakhu, Steven Freeland, Stephan Hobe and Fabio Tronchetti, 'Article 11' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume II: Rescue Agreement, Liability Convention, Registration Convention, Moon Agreement* (Carl Heymanns Verlag 2013)

Armel Kerrest, 'Outer Space as International Space: Lessons from Antarctica' in Paul A Berkman and others (eds), *Science Diplomacy: Antarctica, Science, and the Governance of International Spaces* (Smithsonian Institution Scholarly Press 2011) 133

Marcelo G Kohen, 'Keeping Subsequent Agreements and Practice in Their Right Limits' in Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013, online edn, Oxford Law Pro)

Atip Latipulhayat, 'Privatization of Space Law: Negotiating Commercial and Benefit-Sharing Issues in the Utilization of Outer Space' in *Proceedings of the 55th Colloquium on the Law of Outer Space* (2012)

Yves le Bouthillier, '1969 Vienna Convention: Article 32 Supplementary Means of Interpretation' in Olivier Corten and Pierre Klein (eds), *The Vienna Conventions on the Law of Treaties: A Commentary* (OUP 2011) 841

Ricky J Lee, 'Exploitation Rights: Evolving from the "Province of Mankind" to the "Common Heritage of Mankind"' in Ricky J Lee, *Law and Regulation of Commercial Mining of Minerals in Outer Space* (Springer Netherlands 2012) 203

Barton Legum and Aline Crevon-Tarassova, 'VCLT Article 33: Interpretation of Treaties Authenticated in Two or More Languages' in Esmé Shirlow and Kiran N Gore (eds), *The Vienna Convention on the Law of Treaties in Investor-State Disputes: History, Evolution and Future* (Kluwer Law International 2022)

Ulf Linderfalk, 'The Special Rule Regarding the Interpretation of Treaties Authenticated in Two or More Languages' in Ulf Linderfalk, *On the Interpretation of Treaties: The Modern International Law as Expressed in the 1969 Vienna Convention on the Law of Treaties* (Springer 2007)

Sergio Marchisio, 'Article IX' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Carl Heymanns Verlag 2009)

Makane Moïse Mbengue, 'Preamble' in Rüdiger Wolfrum (ed), *Max Planck Encyclopedia of Public International Law* (online edn, Oxford University Press, September 2006)

Ogunsola O Ogunbanwo, 'Outer Space is the Province of Mankind' in *International Law and Outer Space Activities* (Brill Nijhoff 1975)

Oliver Ribbelink, 'Article III' in Stephan Hobe, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl (eds), *Cologne Commentary on Space Law, Volume I: Outer Space Treaty* (Berliner Wissenschafts-Verlag 2017) 271

Luigi Sbolci, 'Supplementary Means of Interpretation' in Enzo Cannizzaro (ed), *The Law of Treaties Beyond the Vienna Convention* (Oxford University Press 2011) 145

Ian Sinclair, *The Vienna Convention on the Law of Treaties* (2nd edn, Manchester University Press 1984) 137–138, cited in Laurence Boisson de Chazournes, 'Subsequent Practice, Practices, and "Family-Resemblance": Towards Embedding Subsequent Practice in its Operative Milieu' in

Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013, online edn, Oxford Law Pro)

Ian Sinclair, *The Vienna Convention on the Law of Treaties* (2nd edn, Manchester University Press 1984) 137–138, cited in Laurence Boisson de Chazournes, ‘Subsequent Practice, Practices, and “Family-Resemblance”: Towards Embedding Subsequent Practice in its Operative Milieu’ in Georg Nolte (ed), *Treaties and Subsequent Practice* (Oxford University Press 2013, online edn, Oxford Law Pro)

Lesley Jane Smith and Lew Toepfer, ‘National Space Legislations and the Appropriability of Space Resources’ in Ronald Davies, Joseph Francois and Rodrigo Polanco (eds), *Regulating Space-Based Commerce: Insights from Economics and International Economic Law* (Hart Publishing forthcoming 2026)

Alexander Soucek, ‘International Law’ in Christian Brünner (ed), *Outer Space in Society, Politics and Law* (Springer 2011) 294

Cassandra Steer, ‘Sources and Law-Making Processes Relating to Space Activities’ in Ram S Jakhu and Paul S Dempsey (eds), *Routledge Handbook of Space Law* (Routledge)

3. Journal Articles

Timiebi Aganaba-Jeanty, ‘Common Benefit from a Perspective of “Non-Traditional Partners”: A Proposed Agenda to Address the Status Quo in Global Space Governance’ (2015) 117 *Acta Astronautica* 172

Marietta Benkö and Kai-Uwe Schrogl, ‘History and Impact of the 1996 UN Declaration on “Space Benefits”’ (1997) 13 *Space Policy* 139

Carol R Buxton, ‘Property in Outer Space: The Common Heritage of Mankind Principle v the First in Time, First in Right, Rule of Property’ (2004) 69(4) *Journal of Air Law and Commerce* 689

Kit De Vriese, ‘How to?: A Methodological Guide to Identify a Treaty’s Object and Purpose’ (2022) 21 *The Law & Practice of International Courts and Tribunals* 35

Laura Delgado López, Christopher D Johnson, Victoria Samson, Michael Simpson and Brian Weeden, ‘The Importance of the United Nations Guidelines for the Long-Term Sustainability of Space Activities and Other International Initiatives to Promote Space Sustainability’ (2014) 20 *OASIS* 37

Rossana Deplano, ‘Inclusive Space Law: The Concept of Benefit Sharing in the Outer Space Treaty’ (2023) 72 *International and Comparative Law Quarterly* 671

Burton I Edelson and Joseph N Pelton, ‘Can Intelsat and Intersputnik Cooperate?’ (1989) 5(1) *Space Policy* 7, 8

John S Goehring, ‘Why Isn’t Outer Space a Global Commons?’ (2021) 11 *Journal of National Security Law & Policy* 573

Stephen Gorove, ‘Freedom of Exploration and Use in the Outer Space Treaty: A Textual Analysis and Interpretation’ (1971) 1(1) *Denver Journal of International Law and Policy* 93

Stephan Hobe and Philip de Man, ‘National Appropriation of Outer Space and State Jurisdiction to Regulate the Exploitation, Exploration and Utilization of Space Resources’ (2017) 66(3) *Zeitschrift für Luft- und Weltraumrecht* 460

Stephan Hobe and Kai-Uwe Schrogl, “Space Benefits” — Towards a New International Order for Space’ (1993) 11 *Space Communications* 3

Ram S Jakhu and Steven Freeland, ‘The Relationship Between the Outer Space Treaty and Customary International Law’ (2016) *SSRN Electronic Journal*

Ram S Jakhu, Steven Freeland and Kuan-Wei Chen, ‘The Sources of International Space Law: Revisited’ (2018) 67(4) *Zeitschrift für Luft- und Weltraumrecht* 606

Simon Korbinian Köcher, ‘Die militärische Nutzung des Weltalls in Zeiten von GPS und „Space Force“: Eine Analyse des Art IV Weltraumvertrag’ (2021) 70(4) *Zeitschrift für Luft- und Weltraumrecht* 586

Chi Eric Nnadozie and Ibrahim Sule, ‘The Principle of Common Heritage of Mankind in the Law of Outer Space’ (2022) 1(4) *Law and Humanities Quarterly Reviews* 64

John Noyes, ‘The Common Heritage of Mankind: Past, Present, and Future’ (2011) 40(1) *Denver Journal of International Law & Policy* 447

Gina Petrovici and Lew Töpfer, ‘Potenziale der Raumfahrt für die Agenda 2030 nutzen’ (2023) 71(4) *Vereinte Nationen* 172

Scott J Shackelford, ‘The Tragedy of the Common Heritage of Mankind’ (2009) 28(1) *Stanford Environmental Law Journal* 109

Michel Smirnoff, ‘Legal Status of Celestial Bodies’ (1962) 28 *Journal of Air Law and Commerce* 385

Sylvia Maureen Williams, ‘The Law of Outer Space and Natural Resources’ (1987) 36 *International and Comparative Law Quarterly* 142

Rüdiger Wolfrum, ‘The Principle of the Common Heritage of Mankind’ (1983) 43 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 312

Marjoleine Y A Zieck, ‘The Concept of “Generations” of Human Rights and the Right to Benefit from the Common Heritage of Mankind with Reference to Extraterrestrial Realms’ (1992) 25(2) *Verfassung und Recht in Übersee / Law and Politics in Africa, Asia and Latin America* 161

III. Additional Materials

1. UN Documents

UN Committee on the Peaceful Uses of Outer Space, ‘Provisional verbatim record of the 10th meeting’ UN Doc A/AC.105/PV.10

UN Committee on the Peaceful Uses of Outer Space, ‘Provisional verbatim record of the 11th meeting’ UN Doc A/AC.105/PV.11

UN Committee on the Peaceful Uses of Outer Space, ‘Terms of Reference and Methods of Work of the Working Group on the Long-term Sustainability of Outer Space Activities of the Scientific and Technical Subcommittee’ UN Doc A/AC.105/L.277 (2010)

UN Committee on the Peaceful Uses of Outer Space, *Historical summary on the consideration of the question on the definition and delimitation of outer space: report of the Secretariat* (3 February 2020) UN Doc A/AC.105/769/Add.1

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 1st Meeting* UN Doc A/AC.105/C.2/SR.1

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 64th Meeting* (1966) UN Doc A/AC.105/C.2/SR.64

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 63rd Meeting, Held at the Palais des Nations, Geneva, on 20 July 1966* (1966) UN Doc A/AC.105/C.2/SR.63

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary record of the 70th meeting* UN Doc A/AC.105/C.2/SR.7

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Interim Report by the Chairman* UN Doc A/AC.105/C.2/L.16

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, *Summary Record of the 63rd Meeting, Held at the Palais des Nations, Geneva, on Wednesday, 20 July 1966* (1966) UN Doc A/AC.105/C.2/SR.63

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, Summary record of the 63rd meeting, held at the Palais des Nations, Geneva, on 20 July 1966 (20 October 1966) UN Doc A/AC.105/C.2/SR.63

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.4 (23 March 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.1 (7 March 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.2 (20 March 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.3 (22 March 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.6 (7 April 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.9 (2 April 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.10 (15 May 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.11 (20 February 1991)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15 (9 February 1989)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.13 (25 March 1991)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.12 (19 March 1991)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/15/Add.8 (2 March 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.6 (9 April 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16 (27 February 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.1 (13 March 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.10 (19 March 1991)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.3 (20 March 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.8 (10 April 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.5 (2 April 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Sub-Committee, 'Space Benefits: Report of the Secretary-General, Addendum' UN Doc A/AC.105/C.2/16/Add.2 (15 March 1990)

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'Russian Federation — Input to the Working Group on Legal Aspects of Space Resource Activities' UN Doc A/AC.105/C.2/2023/CRP.20 (20 March 2023)

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, UN Doc A/AC.105/C.2/15

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, UN Doc A/AC.105/C.2/L.187 (22 January 1992)

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'Russian Federation — Input to the Working Group on Legal Aspects of Space Resource Activities' (20 March 2023) UN Doc A/AC.105/C.2/2023/CRP.20

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'United States — Input to the Working Group on Legal Aspects of Space Resource Activities' (21 March 2023) UN Doc A/AC.105/C.2/2023/CRP.37

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'Germany — Input to the Working Group on Legal Aspects of Space Resource Activities' (20 March 2023) UN Doc A/AC.105/C.2/2023/CRP.13

UN Committee on the Peaceful Uses of Outer Space, *Report of the Ad Hoc Committee on the Peaceful Uses of Outer Space* UN Doc A/4141 (14 July 1959).

UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space: Sixty-eighth Session, 25 June–2 July 2025* UN Doc A/80/20 (3 September 2025)

UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* UN Doc A/43/20 (1988)

UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* (1968) UN Doc A/7285

UN Committee on the Peaceful Uses of Outer Space, *Report of the Committee on the Peaceful Uses of Outer Space* (1971) UN Doc A/8420

UN Committee on the Peaceful Uses of Outer Space, *Report of the Legal Subcommittee on the Work of Its Thirty-First Session* UN Doc A/AC.105/514 (1992)

UN Committee on the Peaceful Uses of Outer Space, *Report of the Legal Subcommittee on the Work of Its Thirty-First Session* UN Doc A/AC.105/514 (1992) Annex II

UN Committee on the Peaceful Uses of Outer Space, *Report of the Scientific and Technical Subcommittee on its Sixty-first Session, Held in Vienna from 29 January to 9 February 2024* UN Doc A/AC.105/1307 (12 April 2024)

UN Committee on the Peaceful Uses of Outer Space, Scientific and Technical Subcommittee, *Long-Term Sustainability of Outer Space Activities: Draft Guidelines* (9 February 2015) UN Doc A/AC.105/C.1/2015/CRP.19/Rev.1

UN Committee on the Peaceful Uses of Outer Space, *Status of International Agreements relating to activities in outer space as at 1 January 2025* UN Doc A/AC.105/C.2/2025/CRP.9

UN Conference on the Law of Treaties, First Session, Vienna, 26 March–24 May 1968, *Official Records: Summary Records of the Plenary Meetings and of the Meetings of the Committee of the Whole* UN Doc A/CONF.39/11 (1969)

UN Conference on the Law of Treaties, First Session, Vienna, 26 March–24 May 1968, *Official Records: Summary Records of the Plenary Meetings and of the Meetings of the Committee of the Whole* UN Doc A/CONF.39/11

UN General Assembly 'International Co-operation in the Peaceful Uses of Outer Space' (12 December 1959) UN Doc A/RES/1472(XIV)

UN General Assembly First Committee, 'Summary Record of the 1493rd Meeting' (17 December 1966) UN Doc A/C.1/SR.1493

UN General Assembly Special Political and Decolonization Committee (Fourth Committee), 'International cooperation in the peaceful uses of outer space: report of the Special Political and Decolonization Committee (Fourth Committee)' UN Doc A/79/421, 4 November 2024

UN General Assembly, 'General Assembly Adopts 47 Fourth Committee Texts, Covering Decolonization, Israeli-Palestinian Issues, Peacekeeping, Outer Space' UN Press Release GA/12228 (13 December 2019)

UN General Assembly, 'International Co-operation in the Peaceful Uses of Outer Space' (16 December 1969) UN Doc A/RES/2601(XXIV)

UN General Assembly, 'Recommendations on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space' UNGA Res 68/74 (11 December 2013) UN Doc A/RES/68/74

UN General Assembly, 'Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space' (10 December 1982) UN Doc A/RES/37/90

UN General Assembly, 'Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space' UNGA Res 54/68 (6 December 1999) UN Doc A/RES/54/68

UN General Assembly, *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 89th Plenary Meeting, U.N. Doc. A/RES/34/68 (Dec. 5, 1979)

UN General Assembly, *Report of the UN Committee on the Peaceful Uses of Outer Space*, 37th Session, U.N. Doc. A/49/20 (Aug. 12, 1994)

2. Reports and Working Papers

Africa Group, Brazil, Germany, Iraq, Jordan, Mexico, Pakistan and Panama, 'Space for Development Initiative: Conference Room Paper by the Africa Group, Brazil, Germany, Iraq, Jordan, Mexico, Pakistan and Panama' UN Doc A/AC.105/C.2/2026/CRP.34* (2026)

Argentina, Brazil, Chile, Colombia, Mexico, Nigeria, Pakistan, Philippines, Uruguay and Venezuela, 'Principles Regarding International Cooperation in the Exploration and Utilization of Outer Space for Peaceful Purposes' UN Doc A/AC.105/C.2/L.182 (9 April 1991)

Maximilian Bettmann, *The Political Origins of International Space Law: Preference Formation and Regime Development in the Early Space Age* (Master's thesis, Rheinische Friedrich-Wilhelms-Universität Bonn 2017)

Mathias Forteau, 'Second report on non-legally binding international agreements' (International Law Commission, 76th session, UN Doc A/CN.4/784, 18 February 2025)

International Institute of Space Law, 'An Expert Legal Analysis of Article XI of the Outer Space Treaty' UN Doc A/AC.105/C.2/2026/CRP.19 (15 April 2026)

International Law Association, *Report of the Fifty-Fourth Conference Held at The Hague* (International Law Association 1971)

International Law Association, *Report of the Sixty-Fifth Conference, Cairo* (International Law Association 1992)

International Law Commission, 'Draft Articles on the Law of Treaties with Commentaries' [1966] II *Yearbook of the International Law Commission* 187

International Law Commission, 'Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries' in *Report of the International Law Commission on the Work of Its Seventieth Session* UN Doc A/73/10 (2018)

Permanent Mission of the Russian Federation to the United Nations, 'Statement by Deputy Foreign Minister Sergey Vershinin on amending the draft Pact for the future' (22 September 2024)

UN Committee on the Peaceful Uses of Outer Space, Legal Subcommittee, 'Questionnaire on International Cooperation in Outer Space Activities' (Non-paper, April 2026)

UN Secretary-General, *Our Common Agenda* UN Doc A/75/982 (2021)

USSR, Draft declaration of the basic principles governing the activities of States pertaining to the exploration and use of outer space UN Doc A/AC.105/L.02 (1962)

USSR, Letter dated 11 July 1966 (1966) UN Doc A/AC.105/C.2/L.13

Sir Humphrey Waldock, 'Third Report on the Law of Treaties' [1964] II *Yearbook of the International Law Commission* 5, UN Doc A/CN.4/167

IV. Online Sources

Cambridge Dictionary, 'benefit' *Cambridge Dictionary* (online, accessed 1 May 2026)

Cambridge Dictionary, 'province' *Cambridge Dictionary* (online, accessed 1 May 2026)

LEO Dictionary, 'достояние' *LEO Online Dictionary* (online, accessed 1 May 2026)

Linguee, 'apanage' *Linguee English–French Dictionary* (online, accessed 1 May 2026)

Merriam-Webster, 'advantage' *Merriam-Webster.com Dictionary* (online, accessed 1 May 2026)

Merriam-Webster, 'benefit' and 'interest' *Merriam-Webster.com Dictionary* (online, accessed 1 May 2026)

Oxford Learner's Dictionaries, 'exploration' *Oxford Advanced Learner's Dictionary* (online, accessed 1 May 2026).

Oxford Learner's Dictionaries, 'province' *Oxford Advanced Learner's Dictionary* (online, accessed 1 May 2026).

Oxford Learner's Dictionaries, 'use noun' *Oxford Advanced Learner's Dictionary* (online, accessed 1 May 2026).

United Nations Office for Outer Space Affairs, '[Access to Space for All](#)' accessed 2 June 2026

United Nations Office for Outer Space Affairs, '[Committee on the Peaceful Uses of Outer Space: 2026, Sixty-Ninth Session \(10–18 June 2026\)](#)' accessed 5 June 2026

United Nations Office for Outer Space Affairs, '[Global Space Law Project](#)' accessed 2 June 2026

United Nations Office for Outer Space Affairs, '[History of the United Nations Programme on Space Applications](#)' accessed 5 June 2026.

United Nations Office for Outer Space Affairs, '[Online Index of Objects Launched into Outer Space](#)' accessed 3 June 2026.

United Nations Office for Outer Space Affairs, '[Programme on Space Applications](#)' accessed 2 June 2026

United Nations Office for Outer Space Affairs, '[Status of International Agreements Relating to Activities in Outer Space](#)' accessed 5 June 2026.

United Nations Office for Outer Space Affairs, '[UNISPACE Conference](#)' accessed 5 June 2026.

United Nations, '[Non-Self-Governing Territories](#)' accessed 3 June 2026