

SPRINGER BRIEFS IN SPACE DEVELOPMENT

Fabio Tronchetti

Fundamentals of Space Law and Policy



Springer

SpringerBriefs in Space Development

Series Editor

Joseph N. Pelton

For further volumes:

<http://www.springer.com/series/10058>

Fabio Tronchetti

Fundamentals of Space Law and Policy



Fabio Tronchetti
School of Law
Harbin Institute of Technology
Harbin
People's Republic of China

ISSN 2191-8171 ISSN 2191-818X (electronic)
ISBN 978-1-4614-7869-0 ISBN 978-1-4614-7870-6 (eBook)
DOI 10.1007/978-1-4614-7870-6
Springer New York Heidelberg Dordrecht London

Library of Congress Control Number: 2013939566

© Fabio Tronchetti 2013

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law. The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)



This Springer book is published in collaboration with the International Space University. At its central campus in Strasbourg, France, and at various locations around the world, the ISU provides graduate-level training to the future leaders of the global space community. The university offers a 2-month Space Studies Program, a 5-week Southern Hemisphere Program, a 1-year Executive MBA and a 1-year Masters program related to space science, space engineering, systems engineering, space policy and law, business and management, and space and society.

These programs give international graduate students and young space professionals the opportunity to learn while solving complex problems in an intercultural environment. Since its founding in 1987, the International Space University has graduated more than 3,000 students from 100 countries, creating an international network of professionals and leaders. ISU faculty and lecturers from around the world have published hundreds of books and articles on space exploration, applications, science and development.

Preface

Overview

This book is a concise introductory overview of international space law and policy. It seeks to address an audience relatively new to these fields. The objective of this short book is to cover in simple language the fundamentals of space law and policy and address key pending issues that are relevant to space law and policy experts.

This book provides the legal and political foundations of space activities as well as offering insight on present and future space law and policy trends, challenges, and opportunities. It serves as an excellent tool for those working with civil, commercial, and military space personnel and for anybody interested in these fields. A famed physicist once said that if you cannot explain a concept to someone new to your field, you do not understand it yourself. This book tried to take this admonition to heart by being as clear as possible.

The book is divided into two main parts. The first part deals with Space Law, and the second deals with Space Policy. The former describes the national and international legal frameworks governing space activities and the subjects involved in its formulation and implementation. The latter analyzes the political dimension of space activities and their impact on social, economic, and security matters. The conclusions of the book recount the main points and the way forward by recommending further reading on the subject.

Read in conjunction with the other books in the Springer Space Development series, one can indeed build a broader understanding of the business, economics, law, and policies of space activities.

What is Space Law?

Law is defined as “any system of regulations to govern the conduct of the people of a community, society or nation, in response to the need for regularity, consistency, and justice based upon collective human experience”.¹ In particular, laws are made to achieve desired goals. In democratic institutions in the twenty-first

century these objectives include peace, social cohesion and societal advancement, the balancing of diverging interests, and the avoidance of undesired and dangerous conditions.

One might think that this means that law—and in this case space law—is thus a boring and arcane subject. This is simply not the case. Space law addresses advanced, state-of-the art technology that is constantly evolving in new directions. It also involves the views and sometimes conflicting opinions from nations around the world about how to conduct space-related affairs. It seeks to develop processes that can be used to settle disputes. Space law is also about how to explore, utilize, and protect outer space, not only for today but for generations yet to come. Finding new solutions to complex problems in a global context is what space law is fundamentally all about.

Thus in many ways space law is exciting, stimulating, path- and precedent-setting, and sometimes quite rewarding—especially when new solutions are found to difficult issues. Although the intricacies of space law treaties and conventions might be a bit heavy going at times, this short book seeks to hit the highlights. The goal is not to be a definitive book on space law but rather to explain the major features of space law and associated space policy. Some of the more important issues currently pending in the early part of the twenty-first century in the field of space law will be explained; for example, the pathway that starts with the so-called “soft law,” including accepted practices and codes of conduct, that over time can evolve into formal agreements among nations having force of law will be discussed.

Broadly speaking the term “space law” is used with reference to the set of international and national rules and regulations governing human activities in and relating to outer space.² The purpose of space law is to establish a legal environment enabling the achievement of common goals and interests related to the exploration and use of outer space; at the same time, it aims at preventing the emergence of tensions and conflicts among the subjects involved in outer space activities.³

As a starting point, we can identify three main facets of space law. These are: its scope, its fragmentation, and its evolutionary nature.

1. Scope: Space law is applicable not only to activities taking in place in outer space, for example the collection of images and data by a satellite, but also to events occurring on Earth that are related to outer space, i.e., liability for damage caused by a space object or a part of it falling to the ground.

Even if it might appear surprising, international space law does not include a definition of “outer space,” nor gives a precise indication of where outer space begins. Scholars and diplomats have been unable to reach an agreement on these two points since the beginning of the Space Age. Nevertheless, many argue⁴ that the lower border of outer space should be set at an altitude of 100 km above sea level (62.5 miles).⁵

2. **Fragmentation:** Although there is a central body of laws, namely the five U. N. space treaties, space law does not exist as a single, coherent, and comprehensive body of legal principles and rules governing human activities in outer space. Rather it can be seen as a ‘box’ containing many different types of norms to deal with the practical problems connected with the exploration and use of outer space. Consequently, regulation of space activities is achieved through amalgamation and application of all possible rules.
3. **Evolutionary Nature:** The body of space law has been constantly growing since the entry into force of the first international treaty on outer space, namely the 1967 Outer Space Treaty. This is the consequence of the fact that, in the past 40 years, new developments and technologies have changed the nature and dimension of space activities. In order to ensure that these activities were carried out in an orderly and peaceful manner, space law had to adapt itself to these changes and progressively evolve.

What is Space Policy?

In its ordinary interpretation the word *policy* means “a plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters”.⁶ In the context of outer space, the term refers to the official approach of a state towards the exploration and use of outer space. Normally, a “space policy” describes a nation’s strategy regarding its civilian space program and the military and commercial utilization of outer space. Furthermore, space policies include both the making of space policy through the legislative process and the execution of that policy by civilian, military bodies, and regulatory agencies.

As the military, economic, and social implications of the uses of space expand, so it does the relevance of outer space on a worldwide scale. The utilization of outer space has become a global phenomenon affecting the lives of millions of people and influencing international relations. Consequently, questions related to the access and use of outer space have been placed at the core of the strategic agenda of the technologically advanced nations.

In a similar scenario national space policies acquire a special importance. On one side, they give direction to all national subjects involved in space activities. On the other side, they constitute a tool to enhance transparency over the space activities of a certain country. In this way, they also strengthen trust among space participants and, ultimately, favor international cooperation. Thus, nowadays outer space-related issues significantly influence economic, political, and military decision-making at the national and international level.

Acknowledgments

I am deeply indebted to the series editor, Dr. Joseph N. Pelton, for his support, trust and comments which significantly improved the quality of the final manuscript. His enthusiasm and quick feedbacks have largely contributed to speed up the completion of this book. I would also like to thank the International Space University (ISU), which suggested and made possible the writing of the present book, and the publisher, Springer Science+Business Media, for accepting it as part of the series “Springer Briefs in Space Development.”

My appreciation also goes to my friend and colleague Dr. Michael Mineiro, who put me in contact with the series editor.

My gratitude goes to my mentor, Prof. Frans von der Dunk, University of Nebraska-Lincoln, who, back in the days of my Ph.D. studies, shared his knowledge with me and gave me the legal and methodological foundations to undertake an academic career. His teachings always constitute a source of inspiration and guidance.

A special thank goes to my family, for its continuous support, and to my wife, for her love, patience, and for taking care of me during the writing of this book. This book is dedicated to them.

Obviously, this book remains my own product and I alone bear full responsibility for the views expressed and for any errors or omissions it may contain.

April 2013

Fabio Tronchetti
Harbin, China

Contents

Part I Space Law

1 The Legal Framework Regulating International Outer Space Activities	3
Sources of Outer Space Law	3
The Evolution of International Space Law	4
UNCOPUOS Activities	5
Stage 1	6
Stage 2	6
Stage 3	6
Stage 4	7
Legal Instruments Negotiated Within the UNCOPUOS Framework	7
The 1967 Outer Space Treaty	8
The 1968 Rescue and Return Agreement	9
The 1972 Liability Convention	10
The 1975 Registration Convention	11
The 1979 Moon Agreement	13
Non-binding Instruments	14
Resolution 37/92 on Direct Broadcasting by Satellite	15
Resolution 41/65 on Remote Sensing of the Earth from Outer Space	15
Resolution 47/68 on Principles Relevant to the Use of Nuclear Power Sources (NPS) in Space	16
Resolution 51/112 on Space Benefits	16
UNCOPUOS Developments in the Early Twentieth Century	17
Legal Developments Outside of the UNCOPUOS Framework	18
Preliminary Considerations	18
Bilateral and Multilateral Arrangements	19
Regulation of the Issues of Space Debris, Financing of Space Assets and Space Traffic Management	20
Space Debris	20
The Financing of Space Assets	23
Space Traffic Management	23

2 National Space Legislation	25
Overview	25
Enacting National Space Legislation: The Issues	26
Authorization and Supervision of National Space Activities	26
The Registration Convention	27
The Liability Convention	28
Selected National Space Legislative Actions	29
The United States	29
The Russian Federation	30
France	31
Belgium and The Netherlands	32
Export Control	33
The U. S. Approach	33
The European Export Control Regulation	34
3 Global Administration of Outer Space	37
Overview	37
The Role of the United Nations and Its Specialized Agencies	37
The U. N. Committee on the Peaceful Uses of Outer Space	37
Agencies Within the United Nations	39
International Space-Related Organizations Outside of U. N. Systems	41
The Role of Non-Governmental Organizations	43
International Association of the Advancement of Space Safety	44
International Space Safety Foundation	45
Space Law Institutions	45
4 Dispute Settlement in Outer Space	47
Overview	47
Assessment of Existing Procedures	48
The Outer Space Treaty	48
The 1972 Liability Convention	49
International Inter-governmental Organizations and Bilateral Agreements	51
Recent Developments	52
The 1998 ILA Draft Convention	52
The PCA Rules	53
Evolution of the PCA Rules	54
Overview of the PCA Outer Space Optional Rules	55

Part II Space Policy

5 Space Policy: The Political and Strategic Impact of Space Activities	61
Overview	61
The Economic Dimension of Space Activities.	62
Overview of Global Space Economy	63
The Political Dimension of Space Activities	64
The Cold War Times	65
Post Cold War Era to the Present	65
6 Strategic, Economic and Political Space Policies and Issues	67
National Space Policies: A Few Examples	67
The United States	67
Europe	68
The Russian Federation	69
Japan	69
China	69
Other National Space Policies	70
Space Security	70
Regulating Military Activities in Outer Space	71
Prevention of Weaponization of Outer Space	72
The Commercialization of Outer Space	72
Launch Services	73
Suborbital Space Tourism	77
The Dual Nature of Satellites and the Commercialization of Outer Space	79
7 The Future Challenges of Space Law and Policy	81
International Regulation of Space Debris	81
Harmonization of National Space Legislation	82
Wider Ratification of the U. N. Space Treaties	83
Regulation of Suborbital Space Tourism	83
Sustainability of Space Activities	83
Conclusion	85
End Notes	89
Appendix	101
About the Author	107