

The Development Of Outer Space Sovereignty And Property Rights In International Space Law

With different countries ascribing to different theories of air space and outer space law, Dr. Bittencourt Neto proposes in this Brief a reassessment of the international law related to the extension of state territories vertically. Taking into consideration the vast number of proposals offered by scholars and diplomatic delegations on this subject matter, as well as the principles of comparative law, a compromise to allow for peaceful development is the only way forward. The author argues for setting the delimitation of the frontier between air space and outer space at 100 km above mean sea level through an international treaty. This would also regulate passage rights for space objects during launchings and reentries, as long as those space activities are peaceful, conducted in accordance with international law and respecting the sovereign interests of the territorial State. Continuing expansion of the commercial space industry and conflicting national laws require a stable and fair legal framework best adjudicated by the United Nations, instead of allowing a patchwork system to persist. The proper framework for developing such regulation is carefully discussed from all angles with a practical recommendation for policy-makers in the field.

Includes Outer Space In World Politics, By J. M. Goldsen; Outer Space And World Peace, By P. Kecskemeti; The Soviet Union And The Political Uses Of Outer Space, By A. L. Horelick; Public Opinion And The Development Of Space Technology: 1957-1960, By G. A. Almond; The Military Use Of Outer Space: Bombardment Satellites, By T. C. Schelling; The International Implications Of Outer Space Activities, By K. Knorr; Outer Space And International Politics: A Look To 1988, By K. W. Deutsch. International Cooperation in the Development of Outer Space The Development of Outer Space: Sovereignty and Property Rights in International Space Law Sovereignty and Property Rights in International Space Law ABC-CLIO

From the front jacket flap: Contrary to widespread expectations in the wake of Sputnik, outer space did not immediately become a new arena for a superpower arms competition. Although the United States and the Soviet Union began to use space extensively for military purposes, both exhibited relatively little interest in the development of space weaponry. By the beginning of the 1980s, however, an arms race in space seemed inevitable. Now both the United States and the Soviet Union have developed the means to disable satellites and are now also considering the deployment of ballistic missile defenses in space. Why were these weapons never extensively developed earlier? What changed in the late 1970s to reverse the predominant trend in the militarization of space? What are the lessons for arms control and for Soviet-American relations in general? Paul Stares addresses these fundamental questions by examining the factors that have shaped United States policy towards the military use of space and in particular the development of antisatellite weapons. States relies heavily on declassified documents found in Presidential libraries and made available under the Freedom of Information Act, and he obtained additional information from a comprehensive series of interview with former members of the U.S. government and armed services. By judicious use of this material, he provides the first detailed account of United States space weapons policy and programs. An invaluable source of information for defense analysts and scholars of international relations, The Militarization of Space is essential reading for anyone wishing to understand present United States military space policy and its implications for the future.

It is the eve of outer space development, but few people are aware of this. In the absence of awareness, people cannot prepare for the opportunities that will arise; and so the vast wealth likely to flow to Earth from outer space will cause ever-greater inequality and instability in our already unequal and unstable world. This book is a call to educators to factor equality and diversity into the process of outer space development by creating a widespread movement to teach outer space development studies to all students, especially those who study social and behavioral sciences. In calling for this, the author is also putting out a call to visionary thinkers to increase public awareness that outer space is already in the process of being developed. Her objective is to provide a pedagogical approach aimed at mending the knowledge gap. If we fail in this objective, we are more likely than ever before to witness ever-widening gaps of social and financial inequality. The first question that will arise as we embark on this process, of course, will be: Why outer space development? People often ask where the money will come from to develop outer space. Platinum-group metals such as iridium and osmium, and various other valuable untapped natural resources, have been discovered in abundant quantities and are likely to be mined by companies. The discovery of natural resources has sparked development projects in the past. These historical patterns of human behavior are occurring again today, as companies speed up the process of private spaceship development. A myriad of space laws and policies are already in place to support space commercialization. Recently, the 2010 NASA Authorization Act and various other laws and policies initiated by the US government have placed on the agenda plans to build advanced space transportation systems; to privatize spacecraft development; to create commercial space habitats, space stations, and space settlements; to initiate commercial space mining; to investigate spacecraft trajectory optimization for landing on near-Earth asteroids; to engage in commercial spaceport construction and interstellar-interplanetary-international telecommunications; and to launch space exploration missions to near-Earth asteroids, the Moon, Mars, and Mars's moons. US initiatives have in the past been mirrored by the international community, and we can expect to see similar patterns arising on a global scale – indeed, as this book will demonstrate, they already are. The global community is experiencing economic recession, natural disasters, lack of opportunity, employment anxiety, failing K-12 programs, widening inequality gaps, uprisings, revolutions, revolts, unmet educational goals, and a general failure to uplift, inspire, and provide meaningful opportunities for significant portions of our population. People need something that will allow them to focus anew their talents, energies, abilities, and gifts, and use this bleak

climate as an opportunity for positive change. Outer space development is emerging as an answer to this state of crisis. The question is: To whom will the benefits accrue? Many strategic decisions have already been taken regarding space development of which the global general public is unaware. Once legal rights to space resources are granted, only those with the capital to take advantage of new laws and policies will be in a position to profit from the new space industries. Only those who are in a position to “know” about outer space development will be in position to take advantage of the opportunities. It is important to remember that the global general public has for several decades been paying the start-up costs for space exploration research, science, and technology. It's not too late to factor in equality before an infrastructure of inequality is forever with us as we venture to establish the final frontier.

In the wake of the euphoria consequent to the Soviet space forays and the US landing on the moon, innovative space law evolved rather rapidly in just two decades and then came a stalemate. In this hasty growth of nascent space law, some gaps remained, some inadvertently due to lack of vision and some deliberately, due to lack of consensus or because half-baked concepts remained pending till the achievement of a better understanding of space phenomena or development of supportive technology. These issues have since started jumping to centre-stage and this book falls in this niche of deficiencies. A few challenges and unresolved contingencies that stare us in the face, needing to be addressed suitably, are space jurisprudence in jus cogens of space law, pointers on policy issues for India, hesitancy to incorporate international cooperation in domestic space statutes, futility of reiteration of the Convention Law in International Codes of Conduct as soft law adjuncts, absence of a legal regimen governing mining on asteroids by private enterprises, explication of the concept of Common Heritage of Mankind and modalities for sharing of benefits between nations, procedure for nomination of an astronaut as an envoy of mankind in space by name or designation to avoid confusion in the eventuality of multiple astronauts of multiple nationalities, all being at one place at the same time, et al. This book is a modest effort to help resolve issues in that direction.

The year 2007 will see the 50th anniversary of the Space Age, which began with the launching of Sputnik by the Soviet Union in October 1957. Since that time, the development of space technology has revolutionised many aspects of life on Earth, from satellite television to mobile phones, the internet and micro-electronics. It has also helped to bring about a revolution in the use of military force by the most powerful states. Space is crucial to the politics of the postmodern world. It has seen competition and cooperation in the past fifty years, and is in danger of becoming a battlefield in the next fifty. The International Politics of Space is the first book to bring these crucial themes together and provide a clear and vital picture of how politically important space has become, and what its exploitation might mean for all our futures. Michael Sheehan analyses the space programmes of the United States, Russia, China, India and the European Space Agency, and explains how central space has become to issues of war and peace, international law, justice and international development, and cooperation between the world's leading states. It highlights the significance of China and India's commitment to space, and explains how the theories and concepts we use to describe and explain space are fundamental to the possibility of avoiding conflict in space in the future. This ground-breaking book will be of great interest to students of international relations, space politics and security studies.

Astronauts in Outer Space Coloring Book introduces children to one of the remaining interesting frontiers. It is a collection of images of astronauts, space vehicles, outer space and a lot more. Are there other planets out there like earth? Answers to questions like this could be provided much sooner than later with advances in technology and having a solid foundation would put a child of today, in a better position to understand better and play a role in the events of tomorrow. This coloring book provides a unique opportunity for a child to learn about outer space as he or she puts coloring pencil to paper. Picking up a coloring pencil and coloring an image by filling in white spaces, puts into play a whole bunch of skills necessary for a child's development which children can only hone with practice. There is an artist in every child and an eager to learn scholar, nourish their effort with this coloring book. Makes a great gift for birthdays and other celebratory occasions

With a focus on China, the United States, and India, this book examines the economic ambitions of the second space race. The authors argue that space ambitions are informed by a combination of factors, including available resources, capability, elite preferences, and talent pool. The authors demonstrate how these influences affect the development of national space programs as well as policy and law. While decades of space ventures have led to significant technological advances, space activities have also brought increasing environmental problems. This book examines the current international legal regimes in space law and environmental law in order to ascertain their applicability and efficacy in addressing environmental threats in the space sector. The research suggests mechanisms which could improve environmental protection in the sector and strengthen the environmental element in space law. These mechanisms include a variety of norm-setting strategies used in international environmental management. Special attention is drawn to the potential of environmental impact assessment in the space sector and to dispute resolution procedures. Like other areas of human activities, the space sector should accommodate both economic interests and environmental protection in line with the principle of sustainable development

This book provides an overview of the space sector in African countries, from a legal and policy point of view, analysing how the African Union's Space Policy and Strategy (ASPS) is implemented and highlighting the various space activities in each country. Against this backdrop, it investigates the ASPS, identifying its policy goals identified and discussing its strategy. Moreover, it explores the on-going regional cooperation programmes, the continent's leading space actors and their roles, and the space-related regional fora and organizations, reflecting on various initiatives, including the African Leadership Conference on Space Science and Technology for Sustainable Development (ALC), the Regional African Satellite Communications Organisation (RASCOM), and the African Resource Management Satellite Constellation (ARMS-C). As such, it is a valuable source of information on space capacities in African countries. The contributions in this book reflect on the growing diversification of space law and is divided in two parts. The first part provides a look at the current developments in international space law and regulation and the second part investigates future perspectives of this process. It is only recently that international space law entered its third phase of development. While the first phase, between the 1960s and 1970s, was characterized by the elaboration of international conventions in the framework of the United Nations, the second phase saw the adoption of special legal regimes in the form of UN General Assembly Resolutions which were dealing with issues like direct broadcasting by satellites (DBS), remote sensing (RS) and the use of nuclear power sources (NPS) in outer space. The third and current phase received its impetus from the growing commercialization of space activities and their emerging privatization. Therefore the main characteristics of this period relate to the efforts of adapting international space law to these recent changes and of finding ways and means to reconcile State interests with commercial perspectives. This book forms a welcome addition to any collection in the field of space law and is a refreshing contribution to the discussion in the field.

This new Study Series (No. 34) focuses on the 2013 report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities that contains the Group's conclusions and recommendations. Part 2 includes the final report of the Secretary-General containing concrete proposals from Member States on international outer space

transparency and confidence-building measures, and background papers submitted by experts from Australia, Brazil, Italy, Japan, Kazakhstan and Nigeria.

Presents an historical survey of unmanned space travel, examines its scientific and practical applications, profiles notable missions, and speculates about the future of unmanned space missions.

The impact of the US defense and space initiatives on bilateral and multilateral treaties and on international outer space law in general, a topic of much current discussion, is better understood by an analysis of the development of that body of law. Col Delbert "Chip" Terrill Jr. discusses its early evolution and the Air Force contribution to it. He describes the Air Force's ad hoc approach to international outer space law and its efforts to have this approach adopted by the United States and the international community. Further, the author details the profound impact that the surprise attack at Pearl Harbor on 7 December 1941 had on President Dwight D. Eisenhower. He vowed never again to allow the US to be similarly vulnerable to a surprise attack, particularly in a nuclear environment. As part of his efforts to preclude a surprise attack on the United States, Eisenhower sought to establish the concept of free passage of intelligence gathering satellites as part of accepted international outer space law. The author traces how the Eisenhower administration demonstrated a lack of concern about being first in space so long as the concept of free passage in outer space was universally accepted. However, the administration apparently and clearly underestimated the propaganda value that being first would have. Colonel Terrill traces how the Eisenhower administration failed to fully communicate its policy goal of achieving such free passage to the uniformed services. Although civilian leaders in the Defense Department were aware of the administration's position, the Air Force and the other military services at times acted at cross purposes to the concept of free passage. Chip Terrill describes the Air Force's continued efforts to resist the passage of most international outer space law conventions, the restiveness of the Air Force judge advocate general (JAG) corps with a backseat role, and how the JAG generally failed in its early attempt to have the Air Force become proactive in the development of the law. Ironically, Terrill illustrates how the Air Force's ad hoc approach essentially dovetailed with Eisenhower's goal of free passage. Colonel Terrill relates how the Air Force's Project West Ford caused the passage of certain environmentally sensitive provisions of international outer space law. The author closes by examining the comment and coordination process leading to the passage of the Liability for Damages Convention. Such was typical of the Air Force's lukewarm, reactive posture regarding the passage of international conventions, except for the Agreement on Rescue and Return of Astronauts, which the Air Force strongly supported. In short, this superb work documents the interesting gestation period regarding the development of international outer space law. It will undoubtedly contribute to the development of Air Force doctrine by providing a better understanding of the Air Force's involvement in the development of international outer space law.

This account of the evolution of outer space law examines key issues that fuel the debates over sovereignty and property rights designed to govern the future colonization and use of heavenly bodies other than our own. • 15 illustrations

This book was awarded the Social Sciences Book Award of the International Academy of Astronautics 2001.
 This book provides an in-depth account of the contribution of space applications for global development and an assessment of the policies which are required for realizing their enormous potentials. It takes the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), which took place from 19 to 30 July 1999 in Vienna, as starting point to assess the state and future development of space activities. As UNISPACE I and II, which had been convened in 1968 and 1982, respectively, UNISPACE III was a landmark in discussing all aspects of space utilization and policy as well as regulatory matters on a global scale. The book critically evaluates the results of UNISPACE III and proposes a realistic agenda for developing space activities into an efficient instrument for the solution of the problems and challenges modern society is facing in areas like science and technology development, communication information and resource management, mobility and environmental protection.

Following an overview of United States domestic space laws, this book focuses on some of the crucial issues that space lawyers and policy makers had to face during the last two decades. Presented in thirty-three chapters, The materials highlight basic issues associated with the use of: the geostationary orbit international direct television broadcasting by satellite solar powered satellites the relevant concerns of developing nations The book addresses policies regarding the protection of the space environment, deals with issues of space transportation systems, international space flight, liability for damage, arms control, remote sensing from space, and those associated with space stations. The study also projects expectations and presents a case study of issues that are likely to arise with the aerospace plane. Major international space instruments are reproduced in the Annex. Stephen Gorove is the author And The editor of many books and over 200 articles in the field of space law. He currently serves as Director of Space Law and Policy Studies at the University of Mississippi Law Center. He is a member of the International Academy of Astronautics and a representative of the International Astronautical Federation before the U.N. Committee on the Peaceful Uses of Outer Space.

Historical surveys of the concept of space considers Judeo-Christian ideas about space, Newton's concept of absolute space, space from 18th century to the present. Numerous original quotations and bibliographical references. "Admirably compact and swiftly paced style." — Philosophy of Science. Foreword by Albert Einstein.

Protecting Earth's environment and other solar system bodies from harmful contamination has been an important principle throughout the history of space exploration. For decades, the scientific, political, and economic conditions of space exploration converged in ways that contributed to effective development and implementation of planetary protection policies at national and international levels. However, the future of space exploration faces serious challenges to the development and implementation of planetary protection policy. The most disruptive changes are associated with (1) sample return from, and human missions to, Mars; and (2) missions to those bodies in the outer solar system possessing water oceans beneath their icy surfaces. Review and Assessment of Planetary Protection Policy Development Processes addresses the implications of changes in the complexion of solar system exploration as they apply to the process of developing planetary protection policy. Specifically, this report examines the history of

planetary protection policy, assesses the current policy development process, and recommends actions to improve the policy development process in the future.

Presents and addresses key space law and policy issues for the benefit of wider informed audiences that wish to acquaint themselves with the fundamentals of the space law field. This brief analyzes in a concise manner the combined influence of space law and policy on international space activities. Read in conjunction with the other books in the Springer 'Space Development' series, it supports a broader understanding of the business, economics, engineering, legal, and procedural aspects of space activities. This book will also give the casual reader as well as experts in the field insight on present and future space law and policy trends, challenges and opportunities.

Space organizational strategy space flight safe factor influence space traveler choice To operate one space flight exploration organization, it needs to concern human safe flight factor. I shall indicate it needs to have these three stages to further develop its space exploration to continue to improve its safe space flight for every time of space flight. Human future space flight missions will include these three stages to continue journey into space. The first stage is short term, NASA's return to flight after the Columbia accident. The second stage is mid term. What is needed to continue flying the shuttle fleet until a replacement means for human access to space and for other shuttle capabilities is available, and the third stage is long term, future directions for the kinds in space. Therefore, the space exploration organization can arrange the three stages to carry out any future space exploration activities. I believe it can improve every time of space flight more safe because it can ensure its space rocket engineering can be improved to raise safe level to let space people to catch to leave our Earth. However, any human future space flight, which must be enhanced safety of flight when carry on any experimenting space flight exploration missions. Because NASA's safety performance is a very important factor to influence any space people confidence to catch every sky rocket to leave our Earth to do any space exploration activities. So, eliminating and catching rocket risks will be any beginning and end than during the middle of any space flight exploration journeys. Space people's life is the most important assets of any space exploration journeys. Because of the dangers of ascent and re-entry, because of unknown space environment and because we are still relative new comers, operation of shuttle and indeed all human space flight must be viewed as a development activity. Thus, any every time space flight exploration missions will need to encourage to invent new space transportation engines (machine) or fuel, e.g. nuclear fuel to reduce the any space exploration journey accident risks and achieves to spend the fastest time to arrive any new space exploration destination. Thus, I believe any new space exploration flight will improve the space transportation technology and invent more new fuel and new space rocket manufacturing materials for future human any unknown space exploration flight demand. The three stages of improving space transportation include as below: The beginning stage, for example, the space shuttle is as somehow comparable to civil or military air transport. They are not comparable; the inherent risks of spaceflight are serious higher. The recognition of human spaceflight as a developmental activity requires a shift in focus from operations and meeting schedules to a concern for the risks involves. Thus, the space transportation tools will be improved to protect space passengers safety: the improving the ability to tolerate it, repairing the damage on a timely basis, reducing unforeseen events from the loss of crew and vehicle, exploring all options for survival, such as provisions for crew escape systems and safe havens , barring unwarranted departures from design standards and adjusting standards only under the most safety-driven process. The mid-term stage, the present shuttle is not very safe to fly in space. Thus, focus on safe return to flight is very important to every space flight journey rules , they leave Earth and arrive any another new planet destination, then come back our Earth again in every space exploration journey (flight). Thus, the energy will be space transportation tool one important factor to influence space entertainment travelers feel that whether the space aircraft is safe to let them to choose to catch to fly to space to travel.

The challenges that space poses for political theory are profound. Yet until now, the exploration and utilization of space has generally reflected – but not challenged – the political patterns and impulses which characterized twentieth-century politics and International Relations. This edited volume analyses a number of controversial policies, and contentious strategies which have promoted space activities under the rubric of exploration and innovation, militarization and weaponization, colonization and commercialization. It places these policies and strategies in broader theoretical perspective in two key ways. Firstly, it engages in a reading of the discourses of space activities: exposing their meaning-producing practices; uncovering the narratives which convey certain space strategies as desirable, inevitable and seamless. Secondly, the essays suggest ways of understanding, and critically engaging with, the effects of particular space policies. The essays here seek to 'bring back space' into the realm of International Relations discourse, from which it has been largely removed, marginalized and silenced. The various chapters do this by highlighting how activities in outer space are always connected to earth-bound practices and performances of the every day. Securing Outer Space will be of great interest to students of space power, critical security studies and IR theory.

In this innovatory book Daniel Sage analyses how and why American space exploration reproduced and transformed American cultural and political imaginations by appealing to, and to an extent organizing, the transcendence of spatial and temporal frontiers. In so doing, he traces the development of a seductive, and powerful, yet complex and unstable American geographical imagination: the 'transcendental state'. Historical and indeed contemporary space exploration is, despite some recent notable exceptions, worthy of more attention across the social sciences and humanities. While largely engaging with the historical development of space exploration, it shows how contemporary cultural and social, and indeed geographical, research themes, including national identity, critical geopolitics, gender, technocracy, trauma and memory, can be informed by the study of space exploration.

This book provides a deep insight to which extent further improvement should be envisaged to ensure and improve the sustainable development beyond 2030 (the Sustainable Development Goals is a set of 17 global goals with 169 associated targets which the state community adopted in 2015). As the world, its environment, economy and society is getting more and more technical advanced, it is of high interest to analyze how space and its various applications can support this development. Once the Goals of the "2030 Agenda for Sustainable Development" will be achieved new challenges are waiting. The analysis takes into account a proactive use of artificial intelligence for the development based on space infrastructure. Another important aspect revolves around the economic development which asks for further analysis of the cryptocurrencies relationship with space applications and how to use space based cryptocurrencies for development. Environment-wise the challenges for a sustainable development on Earth i.e. water supply, but also in outer space are requested ensuring a sustainable exploration and exploitation of space and its orbital resources. The book also highlights possible contributions of the post-2030 space industry to global economic development based on satellite technology and the enlargement of the scope of application of satellite data in administration and Justice to ensure development of effective, accountable and transparent institutions at all levels to promote growth, stability and security and peace on global level.

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