

Chapter 1 : Webinar “ Space Law An Introduction to Space LawThe University Of Mississippi School of

Introduction. On October 4, , the Soviet Union launched Earth's first artificial satellite, Sputnik 1. America's second-place finish in the first lap of the Space Race came as a great shock to most Americans, resulting in a complete rethinking of the U.S. space program and American science and technology policy.

Space Introduction to U. By comparison the scientists are barely off the ground. With the existence of actual manmade objects in space, it became increasingly clear that the old regime of laws governing typical aircraft would not sufficiently cover an entirely new frontier of human expansion. Like many areas of law, the law of space has been primarily reactive, which has inevitably led to a legal vacuum throughout much of the area. The laws that do exist, however, have necessarily lent themselves to heavy international focus, making U. Until , even the domestic law was complicated to interpret because there was no central place in the U. Code for space law. The new Title 51 of the U. Code simplified this process by pulling all of the various space-related statutes together. This guide will attempt to bring together these various sources of law in order to guide the U. Since then, several other international treaties have been introduced, but have either been far less comprehensive or not adopted by the major spacefaring nations. Since that time, practical considerations have driven piecemeal legislation to address the concerns of interested groups. In recent years, commercial spaceflight has taken center stage in terms of public interest, but our laws do not reflect that. This guide, in recognizing the gaps that the present state of space law presents, aims to educate those forward thinking enough to address those issues. In order to propose or advocate for new laws, it is necessary to know what law already exists. So whether the reader simply wants a compendium on old space treaties and statutes or if they want to boldly take the law where no law has gone before, this guide aims to be at least one small step, if not a giant leap, for the new space law researcher. Not included in this guide are subjects only tangentially related to space law, such as laws concerning the use remote sensing except where it explicitly involves space , contract law related to building space vehicles, or events in space that would be handled by standard earth-based legal regimes. Internationally, there is a vacuum of laws that govern what current technology allows. As more nations become capable of entering the space-age, it will be in the interest of the larger powers to begin to protect themselves. Currently, the main space-faring nations enjoy the protections that a nebulous legal regime can provide, but as technology becomes cheaper and easier to produce, these motivations will shift. Only by analyzing where we are now can we hope to create a successful and comprehensive scheme to guide our future.

Chapter 2 : Introduction to Space Law - Feedback Questionnaire

The enormous growth during the last decade of outer space operations like direct broadcasting by satellite and the exploration of natural resources by remote sensing satellites have brought space law into dramatic prominence among the fields of international law.

Law is nothing other than a certain ordinance of reason for the common good, promulgated by the person who has the care of the community. Thomas Aquinas People have been defying the elements since they appeared on earth. Driven by the necessity of survival, by their love of adventure and by insatiable curiosity where the unknown is concerned, they have braved the oceans, the mountains, the deserts, the skies and finally space. Each of those steps in the history of mankind has been accompanied by the emergence of certain rules of conduct that were necessary to order further development and coexistence of human societies. Like the stars and planets that pass overhead for all of us every night are governed by laws of nature, so are we, bound by man-made laws. Whether we focus on admiring the beauty of cosmos, look at faraway worlds through Hubble telescope, undertake scientific exploration, use cell phone to contact friends on the other side of the globe, travel, watch satellite TV or surf the Internet we rarely think of laws and regulations that stand behind all those activities. We encounter law everywhere, although not everybody is fully aware of that. Law affects our lives since our birth till the day we die in some instances even longer. Its regulations form close knitted network in which people and societies constantly function. Law, by way of analogy of modern science, can be compared to the Higgs field which permeates entire universe of human activity and through which people, like particles in Physics, have to pass getting entangled into numerous interactions. It is the intricate network of rules that aims at granting stability and lasting order in any field of human conduct. It provides for and protects our liberties. The rule of law guarantees freedom for men and diversity of ideas as expressed by free people. The alternative to the rule of law – a rule of force whenever by one man or a group of men – means the oppression of men and the suppression of ideas. On the international level, however, individuals cannot act on their own and require legal entities – States – to represent their legal interest and to protect their rights. States are the main actors on international scene. It is best seen, on this particular level of international coexistence, that respect for the law in general brings greater freedom while the lack of it cuts down the area of freedom which all enjoy. This area is ruled and regulated by the corpus of legal rules that bind states in their international relationships with each other – the international law. In short, primary functions of international law are: It is also important at this point to add that international law is based on the notion of sovereignty of nations which, in simple terms, is the quality of having supreme, independent authority over a geographic area, such as a territory. Territory is crucial not only to the very existence of States, it also constitutes the dimension within which States deploy all their major activities. When people conquered oceans - law of the sea emerged; the moment they were able to soar in the air using aircraft – next branch of international law – the law of airspace – was created. Further on, with the dawn of space era, the scope of public international law had to move beyond the Earth and the need for the new body of international regulations in that matter has emerged. Legal status of areas located beyond earth has been within the range of interests of lawyers since the times of ancient Rome. In the Code of Justinian, a collection of fundamental works in jurisprudence philosophy and science of law, issued from to by order of Justinian I, Eastern Roman Emperor, air was classified along with water, sea and sea coast as common good. In Middle Ages, the Glossators - scholars of the 11th and 12th century legal schools in Italy, France and Germany - proposed somewhat different rule to govern the matter at stake. Next step in the evolution of legal thought concerning air and space can be traced back to works of the Dutch jurist and philosopher Hugo de Groot also known as Hugo Grotius, one of the fathers of modern international law. Based on natural law, his opus, *The Free Sea Mare Liberum*, formulated a new principle that the sea was international territory and all nations were free to use it for seafaring trade. According to Grotius, the sea was free to all, and nobody had the right to deny others any access to it. Seas were seen by Grotius as similar in nature to air and, unlike land, were deemed the common property of all: First, it is not susceptible of occupation; and second its common use is destined for

all men. In traditional international law, the physical dimension of State activity was regulated in fairly simple terms. The earth, proportions of the sea and the air were divided up into areas subject to the sovereign authority of States. The general principles regulating the division of areas among sovereign States were straightforward. First of them, derived from medieval law, stating that whoever possessed a territory and exercised actual control over it acquired the legal title to it, in other words, was owner and sole ruler of it. Since the whole habitable land portions of the planet quickly became subject to the rule of one or other sovereign State and because of ever-increasing development of technology and science, those two principles soon proved to be insufficient. With the beginning of 20th century, when man finally conquered air by means of new technology – aircraft - the conflicting theories in regard to the legal status of airspace kept competing against one another. Some supported rules of unrestricted freedom of air-faring, regardless the sovereign State territory below, while others defended the thought that airspace above should remain under the authority of particular territorial States even though this stipulation was only theoretical in nature, as States for long time did not possess any advanced means of exercising de facto control over their airspace. The outbreak of the First World War, however, put an end to those dilemmas and caused that states had to claim sovereignty over the whole of their airspace for reasons of security and protection. The rule was later expressed and accepted in the Paris Convention for the Regulation of Aerial Navigation in which signatories recognized full sovereignty of States over the airspace above their land and territorial sea. Nowadays, there is no right of innocent passage through the airspace of state. Though, to simplify the international air traffic, overflight by foreign aircraft is allowed under bilateral or multilateral agreements.

e. After conquering airspace and creating indispensable legal regulation thereto, mankind quickly moved even further – into space. Sky was no longer the limit and it became apparent that the rule providing for state sovereignty over territorial airspace to an unrestricted extent was insufficient and impractical where activities in space were to be concerned. This concept, even though not a community oriented one, is still in force, meaning that every State is authorized to use common good for its own purposes and its own interest not hampering the same rights of others. Again the ever-increasing development of technology and science and methods of earth exploration caused that the above concept had to be stretched and eventually embraced new areas that could become subject of human activity. To summarize, at present, there are certain kinds of territories recognized in international law as falling outside the construct of state sovereignty. The catalogue of those includes: It was introduced by Maltese Ambassador Arvid Pardo who at that time had to address the new possibilities in undersea exploration and exploitation that the new era of technology along with rapid developments in oceanography opened for mankind. In this way general standard for the exploitation of new natural resources was created. The birth of legal regulations concerning space exploration took place on 4 October, 1966. None of the other states, members of international community opposed to it. None of them, at that very moment, decided to claim that the event had violated their sovereignty. This very lack of protest from any of the members of the international community allowed to create an international custom which, being one of the sources of international law, introduced the first rule of space law, namely the freedom of scientific research in space, its use and exploration. Due to the fact that international community and the circumstances that accompany space exploration are fluid and undergo constant change, the proper management of space necessitated international cooperation of all the states involved. Outer space is a part of the universe itself, together with the other planets, as well as stars and galaxies of stars. For this reason air being too thin for aeronautic purposes any activity taking place above km is deemed astronautic rather than aeronautic. In the wake of fast developing technology and arms race more new international rules were soon to be established. After Sputnik 1, the next step that followed, took shape of international agreement that only partially concerned outer space but is still included in the space law set of regulations. Known as Moscow Treaty or treaty banning nuclear weapon tests in the atmosphere, in outer space and under water, signed and ratified by the governments of the Soviet Union, United Kingdom and the United States in 1963, the treaty bans nuclear weapons tests and other nuclear explosions in outer space, the atmosphere, and underwater. The treaty entered into force on October 10, 1963. As soon as the USSR and the USA engaged in space race, a consensus instantly emerged to the effect the launching states were not required to ask for the authorization of the states above whose territory the satellites were orbiting. As a consequence,

states have agreed to apply international law principles of *res communis*, to assure the preclusion of national appropriation of outer space and any of the celestial objects by claim of sovereignty. Thus, outer space and celestial bodies were immediately considered open to everybody for exploration and use on a basis of equality and in accordance with international law, and were not subject to national appropriation by any means. United Nations General Assembly, in its efforts to promote international cooperation in the field, adopted a number of resolutions regarding the matter, among them: As an outcome of UN efforts aiming at regulating conduct of States that undertake space exploration, the following international treaties have been negotiated and drafted under the auspices of UNCOPUOS: Analyzing the Outer Space treaty in greater detail, some crucial regulations stem directly from its stipulations: This last aspect of international space law was further developed by the Convention on International Liability for Damage Caused by Space Objects signed in The rules of that treaty provide for the payment of compensation according to international rules in force, principles of justice and equity for any damage caused by a space object. It also sets the rules of absolute liability despite the assessment whether the acting party was able to perceive and avoid or prevent the damage to pay such compensation for damage caused by space objects on the surface of earth or to aircraft in flight and fault liability to put it simple, such liability arises only where one of acting parties can be blamed for the caused damage, as they should be able to contemplate the harm that their actions may cause, and therefore should aim to avoid such actions for damage caused elsewhere or to persons or property on board of a space object. This particular international legal act was invoked by Canada in following the damage allegedly caused by Soviet satellite Cosmos It came into force in and set the rules for the registration of information regarding space objects such as, for example, their purpose, location and parameters with the United Nations Secretary General. Since the possibility of damages caused by space debris rose considerably and there were cases of radioactive contamination registered⁴ which could threaten highly populated areas, in UN General Assembly adopted Principles Relevant to the Use of Nuclear Power Sources in Outer Space. In the light of those, the launching site is, prior to the launch, to ensure thorough and comprehensive safety assessment is conducted and made publicly available. In case there is serious threat that a space object could malfunction with a risk of re- entry of radioactive materials to the earth, the launching state is to inform states concerned and the UN Secretary General and quickly respond to any requests for further information or seek consultations ³ On January 24, , Cosmos , a nuclear powered Soviet satellite used for maritime observation, reentered over northern Canada. Over 60 radioactive sites were identified. There were no casualties but the radioactive contamination was serious and the Canadian action of clean-up was very costly and time consuming, it was resumed in October High-altitude samples later indicated a worldwide release of radiation. There is also one rule providing for international responsibility for national activities involving the use of nuclear power sources in outer space. Each state launching a space object and each state from whose territory or facility a space object is launched shall be internationally liable for damage caused by such space object or its component parts. In the maze of international space law regulations, two legal instruments more are worth a closer look in this brief outline: The first of the two establishes legal framework of emergency assistance to astronauts. Among others, it provides for immediate notification of the launching authority or, if that is not possible, a public announcement regarding space personnel in distress as well as the immediate provision of assistance. It also sets rules concerning search and rescue operations. It was not until June , however, that the fifth country, Austria, ratified the Agreement, allowing it to enter into force in July The Agreement reaffirms and elaborates on many of the provisions of the Outer Space Treaty of , as applied to the Moon and other celestial bodies, providing that those bodies should be used exclusively for peaceful purposes, that their environments should not be disrupted, that the United Nations should be informed of the location and purpose of any station established on those bodies. In addition, the Agreement provides that the Moon and its natural resources are the common heritage of mankind and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to become feasible. Despite the fact there are very few ratifications to this treaty, there has been voices considering its provisions to become customary law and as such binding all members of international community of States. However, several points have to be stressed here. First, the proposed international regime is to be established only when exploitation becomes

feasible. This permits sample collecting and their removal from the Moon and other celestial bodies for scientific purposes. The generally accepted view is thus that outer space constitutes *res communis* and thus is subjected to the legal regime similar to that of high seas. Aside the questions sketched above, the contemporary space law also covers issues like: Space law is a very complex and dynamic field of international regulations. To reiterate, it establishes the framework according to which activities in outer space are to be conducted. Since it is still a very young branch of international law, it will be extremely interesting to follow its further, inevitable, development, especially in the era of continuing Mars exploration, emerging commercial space transportation availability and blooming plans of asteroid mining. Outer Space, the Antarctic and the Oceans; Ph. Department of State The Office of the Historian available on: The Sky is Falling; available on:

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Short Introduction to Space Law by Anna M. Richards1 Law is nothing other than a certain ordinance of reason for the common good, promulgated by the person who has the care of the community.