JURISDICTION OVER MAN-MADE ORBITAL SATELLITES+

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The subject matter of this article "Jurisdiction Over Man-Made Orbital Satellites" is within the general theme of a joint meeting of the International Astronautical Federation and the International Institute of Space Law to be held in early October 1974 in Amsterdam, Holland. Their topic will be "Space Stations: Present and Future".

By way of introduction, it may be observed that the number of payloads in orbit around the Earth is probably much larger than it is generally believed. As of 0900 "Z" or Greenwich time, November 1, 1973, there were a total of 598 payloads in orbit. Of these, 345 belong to the U.S., 218 to the U.S.S.R., and 35 to other nations. In addition, there are 45 "space probes" speeding even further away from the Earth into outer space. In addition, there is in Earth orbit 2,313 pieces of debris or space junk, over 1,600 of which are of U.S. origin. The total number of man-made objects in space on November 1 was 2,996. While that number may seem high, more than that total number have fallen back toward Earth and have been consumed in the atmosphere.[1]

These satellites and space probes are giving us tremendous knowledge of our Earth and its relation to the universe. Our Milky Way galaxy contains about 100 billion stars; and there are some 100 billion galaxies in the known universe. It is reasonable to assume that some planets in other galaxies may have gone through similar evolutionary development as planet Earth and have animal life tailored to their environment.

When one thinks of life on other planets, one also thinks of the absence of life. Did some planets have life and lose it to become cold dead planets in space? Could this happen to the Earth? Our satellites do show the health of our vegetation and the condition of our atmosphere. It is known that man is fragile and that environmental changes affect his life and survival. We are told that while Earth is perhaps billions of years old, *homo sapiens* evolved, tailored to his environment, about 1 1/2 million years ago; that at about the 4th ice age, only about 8,000 years ago, he began settling down by the shores of lakes and rivers developing clans and tribal villages which have grown into metropolises. The natural law, premised upon man as a sentient being, was the basis for the developing folkways, mores, dictates of the tribal leader or council, and much of later national and international law. It, too, is playing a role in the development of space law.[2]

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+This article is an elaboration of the author's address before a regional conference on "Recent Developments in Space Law" which was held on November 2, 1973 at the University of Mississippi Law Center.

[1]Figures received from the Space Law Center, North American Air Defense Command (NORAD).

[2]See Menter, Astronautical Law 5-7, in Staff of Senate Comm. on Aeronautical & Space Sciences, Legal Problems of Space Exploration: A Symposium, S. Doc. No. 26, 87th Cong., 1st Sess. 349-97 (1961).

What hath man wrought? We are now experiencing a population explosion and energy and food shortages. Our natural resources are being greatly depleted. With our industrial expansion, we have observed ever increasing water and air pollution. Our fish and animal life, and even that of man, is threatened. Some studies have concluded that unless present trends are corrected we face a catasthropic collapse of world civilization by about the year 2,100. While there are those that do not accept such conclusions, there is a recognizable trend and a need for positive action.

Space satellites may be our major tool in furnishing us the knowledge to brake and perhaps reverse our trend toward self-destruction. The road to a global weather network that constantly pours satellite-obtained data into a computerized prediction system is well on its way toward completion. It will give us a "now-cast" of climate anywhere in the world and accurate forecasts for up to two weeks. This will have enormous value for agriculture, fishing, boating, and other industries. It may lead to purposeful weather modifications, climate control, and development of regional water management systems. Earth Resources Technology Satellites (ERTS) and successor satellites will provide data for better land use, including crop productivity—as to both quality and quantity—on land and in the sea. Satellites will provide a barometer on our environment from which man can devise local, national, and international measures for his protection.[3]

Among the about 600 payloads now in space are ERTS–I and Skylab. The third 3-man crew went aboard Skylab for a record stay of almost 60 days. They remained in what is known as "Near Earth Space". Near Earth Space begins about 100 miles above the earth and extends out to 22,300 miles above the earth. ERTS is about 570 miles out, and Skylab is about half of that distance. Beyond 500 miles, a spacecraft will remain in orbit almost indefinitely. A satellite at 22,300 miles above the Equator will match the speed of the Earth's rotation. It will be in "synchronous orbit". Thus, it appears to be standing still, although it is traveling at 6,875 miles per hour.

Skylab points the way to a new comprehensive class of satellites—the manned space stations. Besides astronauts, civilian scientists and engineers can guide and maintain the various instruments aboard. A work shop or laboratory in space, with zero gravity and almost total vacuum, may permit economical manufacture of many products not now available on Earth, such as new alloys, super-pure vaccines, perfectly round ball bearings and exotic crystals for advanced electronic equipment. If these stations were placed at synchronous altitude, the circumference about the Earth at such altitude would by 165,000 miles. However, such stations can work effectively in lesser altitudes in Near Earth Space. Laboratories or other stations need not be set up on the moon. Space stations can be put anywhere; and with gyrosscopes and computers they will stay in a fixed place. Each will be a place in space as if it were real estate. A TV tower, in orbit or on a space station, would be in a place just as if it were anchored in concrete on a mountain top.

[3]NASA, Space and Man's Environment 4-5 (1973) (Address by NASA Administrator Fletcher, National Wildlife Federation, in Washington, March 6, 1973). See also NASA, Spaceship Earth—A Look Ahead to a Better Life (1973) (Address by NASA Administrator, Senate Comm. on Aeronautical and Space Sciences, March 6, 1973).

The "Space Shuttle" is the space vehicle to be used to ferry men between the Earth and space stations. It will take off like a rocket and become a manned spacecraft in Earth orbit; it will return to Earth to land like an airplane. It can be used over and over. It will have a large cargo bay—15 feet in diameter and 60 feet long. It will orbit payloads up to 65,000 pounds. Specially-built laboratories like large house trailers will be carried to orbit in the cargo compartment of the shuttle. As the shuttle will not accelerate or decelerate as fast as present spacecraft, there will be no heavy G-forces. Anyone in normal good health will be able to work in space. It has been predicted that the Space Shuttle will advance the space frontier in a manner comparable to the railroads opening up the American continent. Astronaut Harrison Schmitt, the first scientist on the moon, sees after a "pioneering phrase" more and more of Earth's people living in space, and taking their civilization with them in large stations and work shops. When will the Space Shuttle be in use and begin the pioneering phase? NASA says that it will be in operation only five years from now, with the first mission to be undertaken one year later.[4]

NASA is only 15 years old. As great as the space program has been to man in the past, it should prove many times more helpful in the next 15 years. Our applications satellites, our space laboratories, and other space stations may well reverse the pollution trend and provide the means of increased sustenance and better health for our Earth's population.

As the United States has crews now in orbit for 60 day periods, and as more and more individuals will travel to space stations and live in space for increasing periods, it is essential that the law to govern man in space be determined at the earliest time.

A good start has been made. The 1967 Outer Space Treaty[5] has obviated the question of sovereignty attaching to land masses in space, or over space, by its express recital in Article II that "Outer Space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." Article VI directs that activities of non-governmental entities in outer space "shall require authorization and continuing supervision" by the sponsoring State. Further, it stipulates that each State "shall bear international responsibility for national activities in outer space, . . . whether. . . carried on by government agencies or by non-governmental entities. . .". Article VIII of the 1967 Space Treaty is particularly helpful in its application to both space stations and to persons thereon. It provides that "A State party to the treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial

[4]Address by Bernard Moritz, Deputy Associate Administrator, NASA, Chautaugua Institution in Chautaugua, New York, July 23, 1973.

[5]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestrial Bodies, Signed January 27, 1967, entered into force October 10, 1967, [1967] 18 U.S.T. 2410, T.I.A.S. No. 6347.

body, and their components parts, is not affected by their presence in outer space or on a celestial body or by their return to the earth".

The Agreement on the Rescue of Astronauts, Return of Astronauts and the Return of Objects Launched into Outer Space provides for the return to the launching state of astronauts and space objects found beyond the territorial limits of the launching State.[6] The Convention on International Liability for Damage Caused by Space Objects carries forward implementing provisions to Article VII of the 1967 Outer Space Treaty to assure recovery to a national of a State for injury to his person or damage to his property from another adherent State's space activities.[7]

While the 1967 Treaty provides that the launching State retains jurisdiction over its space objects and over any personnel thereof, such provision under current U.S. law is not self-executing. Congress has yet to generally extend U.S. criminal jurisdiction to U.S. nationals in outer space. Such action, however, is not necessary to personnel subject to the Uniform Code of Military Justice as the Congress in enacting the Code provided that it "applies in all places."[8]

That the U.S. Criminal Code does not generally apply outside the United States is readily apparent in the case of U.S. v. Cordova.[9] Here, a passenger was tried in the U.S. District Court for the Eastern District of New York for an assault committed aboard a U.S. air carrier in flight over the high seas. The Court refused to apply the existing law applicable to an assault occurring on a vessel upon the high seas. The Court stated that while the defendant placed the flight in jeopardy, there was no existing law applicable to him. Congress then corrected the situation by extending U.S. maritime and territorial jurisdiction to flights of U.S. registered aircraft over the high seas.[10] No similar extension has yet been made to spacecraft.

At the present time, Congress is considering a revision of the U.S. Criminal Code which will extend identified offenses to outer space. That the Congress may lawfully extend such jurisdiction is beyond legal challenge.[11] A bill drafted by the Senate Judiciary Committee (S.I.) provides that Federal jurisdiction in a court of the United

[6]Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, signed April 22, 1968, [1968] 19 U.S.T. 7570, T.I.A.S., No. 6599.

[7]Convention on International Liability for Damage Caused by Space Objects, signed March 29, 1972 and entered into force for the United States in 1973, 68 Dept. St. Bull. 949 (1973). For text, see also 1 J. Space L. 86 (1973).

[8]Territorial applicability of this chapter, 10 U.S.C. §805 (1970).

[9]89 F. Supp. 298 (E.D. N.Y. 1950).

[10]Special Maritime and Territorial Jurisdiction of the United States defined, 18 U.S.C. §7 (5) (1970). Paragraph 5 was added to this section in 1952.

[11]M. Hudson, The Sixth Year of the Permanent Court of International Justice, 22 Am. J. of Int'l. L. 1,8 (1928).

States exists to the extent recited in the section of the bill covering the specific offense.[12] For example, in the section on murder,[13] jurisdiction is expressly stated to extend to the "special jurisdiction" of the United States. The definition of such term includes "special aerospace jurisdiction".[14] Such latter term is separately defined to include "any aircraft or spacecraft of the United States, during flight or while in outer space". Also covered by the term "special aerospace jurisdiction" would be "any other aircraft or spacecraft if and to the extent provided by treaty" and "any Federal public servant or citizen of the United States present in outer space", and also "any other person present in outer space, if and to the extent provided by treaty or other international agreement having the force of a treaty".[15]

A further revision of the U.S. Criminal Code, proffered to the Congress by the Administration, is incorporated in another recent Senate bill.[16] This bill (S. 1400) is receiving serious consideration within the Senate Judiciary Committee. Rather than establishing a "special aerospace jurisdiction", the bill seeks to include spacecraft by the simple expedient of defining the term "aircraft" as including "any craft designed for navigation in air or in space."[17]

Thus under the above-mentioned bill offenses aboard spacecraft are embraced within the "special aircraft jurisdiction of the United States". This includes, among others, "an aircraft which belongs in whole or in part to: (a) the United States; (b) a state or local government; (c) a citizen of the United States; or (d) a corporation created by or under the laws of the United States or any State; . . . . during the period that such aircraft is in flight. . ."[18] The bill has a further recital that would remove any question of retention of jurisdiction while a crew member or passenger is in outer space. It also would embrace non-nationals of the U.S. under the circumstance recited. This is a recital of "extraterritorial jurisdiction" over an "offense . . . committed by or against a national of the United States outside the jurisdiction of any nation . . .", except as otherwise provided "by statute, treaty or executive agreement."[19] The report of the Commission setting forth the background of the Code revision states that this recital would cover

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[12] S. 1, 93rd Cong., 1st Sess. (1973).

[13] S. 1, 93rd Cong., 1st Sess. §2-7B.1 (1973).

[14] *Id.* §1-1A4 (64).

[15] *Id.* §1-1A4 (62).

[16] S. 1400, 93rd Cong., 1st Sess. §111 (1973).

[17] *Ibid.*

[18] *Id.* §203 (d).

[19] *Id.* §204.

crimes "in Antarctica, or on the moon".[20] The "Working Papers" of the Commission further notes that the provision is based on the nationality, universality and passive personality principles.[21]

The final Senate bill for revision of the U.S. Criminal Code will probably be a combination of both bills (S. 1 and S. 1400) with heavy leaning to the latter. While some interpretive problems as to outer space jurisdiction yet exist in both drafts, it is believed that they will be resolved by language changes in the final bill text, and by explanation in the Senate Judiciary Committee report on such bill. Enactment of these provisions would reflect U.S. assumption and discharge of the responsibility conferred on the State of registry by Article VIII of the Outer Space Treaty.

There is present concern not only with providing criminal sanctions for misconduct in spacecraft or on celestial or man-made orbital bodies, but also with applying appropriate civil law to persons in outer space to cover such subjects as contracts, torts, wills, deaths, and perhaps marriage and births. There is some precedent. In Section 48 of the Hawaii Omnibus Act, Congress provided that "all executive and legislative authority necessary for the civil administration of Palmyra Island, Midway Island and Wake Island" and certain judicial authority be "vested in such person or persons and shall be exercised in such manner and through such agency or agencies as the President of the United States may direct or authorize. . ."[22] Pursuant to such delegation, the President vested the recited authority for Wake Island in the Secretary of the Interior.[23] The latter promulgated a "Wake Island Code" covering civil and minor criminal offenses.

In another statute, Congress provided for the government of the Trust Territory of the Pacific Islands.[24] This responsibility has been accepted by the United States from the United Nations.[25] The Congress provided that all legislative, executive, and judicial authority necessary for the civil administration of the Trust Territory was to be vested "in such person or persons and to be exercised in such manner and through such agency or agencies as the President of the United States may direct or authorize". The authority here provided has been vested in a High Commissioner, who is appointed by the President, with the advice and consent of the Senate. It should be particularly noted that the jurisdiction here provided is over territory which the United States does *not* possess sovereignty. This is particularly apropos as it will be recalled that Article II of the 1967

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[20] National Comm'n. on Reform of Fed. Criminal Laws, Final Report at 22 (1971); The Commission was authorized by Congress, Act of Nov. 8, 1966, Pub. L. 89-801; 80 Stat. 1516.

[21] National Comm'n. on Reform of Fed. Criminal Laws, Working Papers, Vol. 1, at 76 (1970).

[22] Act of July 12, 1960, Pub. L. No. 86-624 §48, 74 Stat. 411.

[23] Exec. Order No. 11048, 14 C.F.R. 165.

[24] Continuance of Civil Government for the Trust Territory of the Pacific Islands; Assistance Programs; Maximum fiscal year costs; Reimbursements, 48 U.S.C. §1681 (1964).

[25] Act of July 18, 1947, 61 Stat. 3301, 8 U.N.T.S. 118, T.I.A.S. 1665.

Outer Space Treaty expressly precludes any claim of sovereignty with respect to outer space and celestial bodies. Under a statutory grant similar to that which provided for the Trust Territories, but excepting perhaps criminal cases prosecuted under the revised U.S. Criminal Code, a comprehensive Code could be drafted for civil law activities and happenings in outer space.

While there remains questions for treaty consideration over man-made orbital satellites, much basic international law is already present. The need here concerns the implementation of such international law by our own domestic legislation extending and providing law over activities of our nationals in outer space.[26]

[26]See Gorove, Criminal Jurisdiction in Outer Space, 6 Int'l. Lawyer 313 (1972). As to conflict of law problems relating to civil actions in space, see McDougal, Lasswell, and Vlasic, Law and Public Order in Space 666-95 (1963).