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SURVEILLANCE AIRCRAFT AND SATELLITES: A PROBLEM OF INTERNATIONAL LAW

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1. INTRODUCTION

TRADITIONALLY, discussions of space law have dealt mainly with the upward extent of national sovereignty. For practical reasons, the question has been deferred in the interest of reaching an early international agreement on the legal control of outer space.¹ Now the U-2 flights above the Soviet Union have again brought it to the fore with critical urgency.

We can now foresee, furthermore, that surveillance by satellites and other spacecraft will soon take the limelight in international affairs. The first practical spacecraft will probably be satellites used for surveillance. Their standard use is expected to begin by 1965. In view of technical developments, vertical surveillance will soon no longer be limited significantly by height or speed.

In the United States, there are already several programs for surveillance satellites, as well as for other types of satellites with surveillance capabilities. The best known of these are TIROS, MIDAS and SAMOS. TIROS, a weather satellite, was first launched into orbit on April 1, 1960; MIDAS, an infrared missile-detector, on May 24, 1960. The first SAMOS, a true surveillance satellite, is scheduled to be launched in late 1960.

TIROS was designed for scientific purposes only, to gather data on cloud formations and other weather phenomena. Still, TIROS pictures do show large terrain features. For example, TIROS detected colored rain in Turkey, as well as dust storms in the Balkans and great dark clouds of dust in the Krasnodar region and the southern Ukraine.²

TIROS has shown the feasibility of satellite surveillance, and is the forerunner of true surveillance satellites. It may be said to have opened the fateful era of surveillance from outer space.

The Soviet Union has not officially objected to any satellite launchings, including those of TIROS and MIDAS.³

Though aerial and satellite surveillance raise different legal issues—as will be shown in the following discussion—their practical applications are separated by a rather thin line. In particular, there is no great difference between aircraft and spacecraft in their ability to conduct surveillance.

NOTE: Footnotes follow end of article on Pages 116 to 118.

2. SURVEILLANCE FROM OUTER SPACE

Existing international flight agreements refer to sovereignty only in the airspace over national territory, and hence do not apply, in their terms, to outer space. Today, the only generally accepted agreement of this kind is the Chicago Convention.⁴ Article 1 of the Chicago Convention provides that

"Every state has complete and exclusive jurisdiction over the airspace above its territory."

The Convention does not define "airspace" or any equivalent term. The related term "aircraft," however, is defined in later Annexes⁵ in language adopted from the Paris Convention of 1919⁶ as

"Any machine which can derive support in the atmosphere from the reactions of the air."

This definition is not literally applicable to satellites or other spacecraft. Satellites derive no support from the air or otherwise, but are in free fall around the earth.

The domestic flight legislation of many countries, including the United States and the Soviet Union, is similarly limited to "airspace" or "aircraft." In the Air Commerce Act of 1926, for example, the term "aircraft" is defined as

"Any contrivance now known or hereafter invented, used or designed for navigation or flight in the air."⁷

Although this appears somewhat broader than the definition contained in the Annexes to the Chicago Convention, it applies to domestic and not to international flight. Within this limitation, the term "air" as used in American statutory law is apparently subject to the same ambiguity as the term "airspace" in the Chicago Convention. Article 1 of the Air Code of the USSR asserts complete and exclusive sovereignty in the airspace (*vozdushnoye prostranstvo*) above the Soviet Union;⁸ but no definition of the term "airspace" has been found in the Code or elsewhere in Soviet law.

No nation has yet objected to the orbiting of artificial satellites above its territory. Several explanations of this fact have been suggested. For example, as long as the International Geophysical Year continued, it could be said that implied consent had been given to the flight of scientific and peaceful satellites. According to this argument, the early satellite flights were sanctioned by an implied international agreement based on the acquiescence of other governments in the announcements by the United States and the Soviet Union that satellites would be launched in connection with the International Geophysical Year. Another suggested explanation is that the lack of objection to the early satellite flights established a new precedent in international law. This is, however, a minority view. A simpler and more widely accepted explanation is that satellite flights are not considered violations of international law because satellites are not "aircraft" within the meaning of the Chicago Convention and their passage through "airspace" (in any reasonable sense of that term) is merely incidental.

Missiles, in contrast, pass through "airspace" during a substantial part of their flight. Their passage through "airspace" on their return to the earth is by no means incidental; it is the purpose for which they were launched.

In summary, the weight of qualified opinion now holds that air sovereignty as established by the Chicago Convention is limited to the atmosphere,⁹ though no one can say how high it extends. Pending an international agreement on the subject, there are thus at present no special prohibitions or restrictions on space flight. The question, then, is one of policy rather than law: What legal rules *should* govern activities in outer space? The chief alternatives that have been proposed are (1) freedom of passage for

all uses and (2) freedom of passage but only for certain purposes and subject to specified conditions.

If outer space remains free for all purposes, as under existing law, there can be no legal objection to surveillance satellites. If its use is restricted by international agreement to "peaceful purposes" only, on the other hand, satellite surveillance may or may not be permitted, according to what is meant by "peaceful purposes."

It is the policy of the United States, declared in the National Aeronautics and Space Act of 1958, that "activities in space should be devoted to peaceful purposes for the benefit of mankind."¹⁰ In the same Act, however, Congress provided for the conduct of certain space activities by the Department of Defense and the armed services.¹¹ This provision for military space activities and the simultaneous declaration that outer space should be devoted to peaceful purposes indicate that the term "peaceful," within the meaning of the Act, applies to some military as well as civilian uses of outer space.

One of the principal architects of the National Aeronautics and Space Act has observed that

" . . . The word 'peaceful' as used in the Act means 'non-aggressive' rather than 'non-military.'

" . . . If 'peaceful' means 'non-military,' and outer space can be used for 'peaceful' purposes only, what happens to the inherent right of self-defense guaranteed by Article 51 of the United Nations Charter and by general international law?"¹²

The Committee on the Law of Outer Space established by the American Bar Association, in its report to the House of Delegates at the 1959 Convention, took a similar view of the term "peaceful" as applied to the uses of outer space:

"In the sense of the [United Nations] charter, and in international law generally, it is employed in contradistinction to 'aggressive.' . . . Thus any use of space which did not itself constitute an attack upon, or threat against, the territorial integrity and independence of another State would be permissible. . . ."¹³

As a practical matter, the range of activities in outer space will be narrow indeed if all that lend themselves to military purposes are prohibited. For example, a radio satellite can relay military as well as private, commercial and scientific messages. Are the benefits of reliable worldwide communications, and the easing of overtaxed frequencies, to be denied on that account? Are we also to forgo the use of satellites for the navigation of ships and aircraft, for weather forecasting and for ice and forest-fire patrol, on the ground that they lend themselves to military applications? Any such sweeping rejection would largely deprive mankind of the benefits to be derived from the use of outer space.

3. AIR SOVEREIGNTY AND HIGH-ALTITUDE SURVEILLANCE

Difficult questions arise if surveillance is conducted by very high-altitude flight craft. This problem seems likely to grow with the progress of flight technology. A number of flight devices have been conceived that would be difficult to classify as either aircraft or spacecraft. For example, a device known as the glide rocket would be boosted into outer space by rocket power and would then glide back to earth through the atmosphere; another, known as the skip rocket, would alternately descend from outer space into the atmosphere, and then turn upward into outer space, like a flat stone skipping over the surface of a pond.¹⁴ The prototype of such vehicles is the X-15, which has already made a number of successful flights.

The disparity between air law and space law appears to be an unavoidable problem that cannot be postponed indefinitely. If different rules are applied to airspace and outer space, the absence of any dividing line between

the two will lead to jurisdictional conflict. How serious this kind of conflict may become is shown by the recent U-2 flights above the Soviet Union.

The U-2 episode provides material for a current case study of high-altitude surveillance in international law. Let us first review the facts.

On May 1, 1960, an American aircraft flew some 1400 miles over Soviet territory. According to press reports, it was tracked by American radar. After descending to some 27,000 feet, it disappeared from the radar screen.¹⁵ The Soviet Government later announced the capture of the plane, its equipment (including a camera) and its pilot.

According to the American State Department, U-2 flights have been made "along the frontiers of the Free World" for the past four years. They have been generally discussed in the public press. In early 1958, for example, an American monthly magazine described the U-2 as capable of "long-range photographic reconnaissance" and reported that it had been "flying across the Iron Curtain."¹⁶

Apparently the Soviet Government already knew of the U-2 flights from direct evidence. In his first public reference to the subject,¹⁷ Khrushchev mentioned a U-2 flight over Soviet territory on April 9, 1960, from the direction of Afghanistan. He later referred to a similar flight occurring in 1956.¹⁸ Still later, he said he had almost brought the subject up during his talks with President Eisenhower at Camp David in the fall of 1959.¹⁹ By these statements he clearly implied that he had known about the U-2 flights for some time.

It thus appears that aerial reconnaissance of Soviet territory has been carried out for years with the knowledge of the Soviet Government and with impunity.

Prior to the incident of May 1, 1960, the Soviet Union had never protested—in fact, had never admitted knowledge of—U-2 reconnaissance flights over its territory. Thereafter, however, it strongly protested the flights as violations of its sovereign airspace,²⁰ and as acts of aggression and espionage.

Is it reasonable to assume, as the Soviet Union asserts, that these U-2 flights were violations of international law? Or is the question open for further inquiry? Can the Soviet Union claim to make the assertion at all, in view of the fact that it has never adhered to the Chicago Convention?²¹

Matters of policy are excluded from the following discussion. For example, no effort will be made to consider whether the U-2 flight of May 1, 1960 was an intrusion, an unfriendly act or a breach of comity, or whether official statements concerning it were well advised.²² As to all such matters, no inference is intended or warranted. They merely lie beyond the scope of legal analysis. By such exclusions it may be possible to clarify certain facets of the problem, and to avoid an overcharged atmosphere in which each side would encourage the other to overstate its case.

A. *The Question of Air Sovereignty*

For purposes of this discussion, it is immaterial whether the U-2 flights were violations of Soviet domestic law. Like the United States, the Soviet Union in its domestic law has never recognized any upper limit to the airspace above its territory. But, in accordance with the maxim, *par in parem non habet imperium*, no State can be subject to another's municipal law.

There are persuasive reasons for challenging the view that the U-2 flights over Soviet territory were violations of international law. It seems necessary to stress, in particular, that there is no applicable agreement between the United States and the Soviet Union concerning the use of airspace.

From the previous discussion, it will be recalled that today the only

generally accepted international flight agreement is the Chicago Convention. But the Chicago Convention has never been signed by the Soviet Union. Should other States be bound to recognize the air sovereignty of the Soviet Union, which is not bound by international law to recognize theirs?

We may inquire also whether the U-2 flights invaded Soviet "airspace" as that term is used in the Chicago Convention. From the previous discussion, it will be recalled that the Convention does not define "airspace" or any equivalent term.

Since the upper boundaries of airspace remain unsettled under international law, their proper location has been much debated. In fact, it is the commonest and almost inevitable subject in the literature of space law. There is wide agreement that there must be an upper limit to national sovereignty. There is, however, no agreement on what the limit should be.

The proposed upper limits to national sovereignty all seem more or less arbitrary. Neither physical conditions nor flight characteristics can be reasonably related to any fixed altitude. Satellite observations have shown that air density at high altitudes fluctuates from place to place and from time to time.²³ Furthermore, the least density that can support winged aircraft will vary with the progress of flight technology.

Under most proposals, sovereignty would end at the top of the atmosphere. This is sometimes taken to be the biological limit for man without special equipment.²⁴ It is normal practice to use oxygen equipment at an altitude of about two miles. At a much higher altitude—about 62,000 feet, or less than 12 miles—water boils at body temperature. For human survival above that point, breathing apparatus must be supplemented by a pressure suit.

According to Soviet accounts, the U-2 flight of May 1, 1960 was made at some 68,000 feet.²⁵ In any event, the U-2 was designed to fly at a height of more than 12 miles.²⁶ This is higher than man can breathe and beyond the boiling altitude of water at body temperature. It is also far higher than the weather balloons of 1956 to which the Soviet Union objected not only as invasions of sovereign airspace but as dangers to aerial navigation.²⁷ Objects at U-2 cruising altitudes would not interfere with any normal use of the air, even by military aircraft.

From the previous discussion it will be further recalled that, although the Chicago Convention does not define "airspace," the related term "aircraft" is defined in later Annexes to the Convention.²⁸ But the Annexes containing this definition were never made part of the Chicago Convention, nor separately ratified by the United States. The definition itself was adopted from the Paris Convention of 1919²⁹—which the United States has never ratified. Furthermore, the International Civil Aviation Organization (ICAO), created by the Chicago Convention, has the power to amend a definition or classification contained in an annex.³⁰ How could the United States be bound by a definition to which it has never agreed and which can be changed at any time by administrative action of an international agency?³¹

Between signatory States, if the definition of "aircraft" contained in the Annexes can be regarded as part of the Convention itself, the most reasonable interpretation may be that airspace, within the meaning of the Convention, extends upward to a height at which the atmosphere becomes too thin to support winged aircraft. As the previous discussion has pointed out, however, the qualifications just stated do not apply to disputes between the Soviet Union and the United States. To repeat, the Soviet Union is not a signatory; the Annexes containing the definitions of "aircraft" were never made a part of the Convention; and the United States has never ratified either those Annexes or the Paris Convention from which the definition was adopted.

Two other matters call for comment.

First, it is sometimes said that the Chicago Convention was never intended to regulate anything but conventional civil aircraft³²—in particular, therefore, not surveillance aircraft. This interpretation is open to question, especially in view of article 3(c), which refers to "State aircraft." On the other hand, article 3(c) could hardly have been intended to confer benefits on non-signatory States. Moreover, there is doubt whether article 3(c) would apply to surveillance aircraft. The term "State aircraft" as defined in article 3 of the Chicago Convention "appears to exclude aircraft owned by a State and employed by it in some strictly governmental functions"³³ such as civil aeronautics control and diplomatic travel.

Secondly, although the Chicago Convention recognized the principle of air sovereignty, its main purpose according to some historians was to make exceptions to that principle in favor of a right of passage.³⁴ In any event, the purpose of the United States in calling the 1944 Conference on International Civil Aviation was stated by the chief of the American delegation as follows:

"A general system of rights for planes to travel and to carry international commerce should be set up, becoming the established custom of commerce by air as similar arrangements have become settled law by sea."³⁵

On the other hand, the Chicago Convention, like the Paris Convention before it, represented a compromise between air sovereignty and freedom of passage. In the end, only a modified right of innocent passage was provided by the so-called Two Freedoms Agreement,³⁶ which was adopted at the same time as the Chicago Convention. It would be difficult to say, therefore, whether the "main" purpose of the Convention was to confirm or to limit the principle of air sovereignty.

It may be asked if the U-2 flights, even though not forbidden by the Chicago Convention or other specific agreements, violated customary international law. There are several objections to this view. It assumes a long-continued accumulation of unbroken precedents by which nations acquiesce in practice to the impenetrability of one another's airspace. But does this assumption fit the facts? It is doubtful if a year has passed since 1944 (the date of the Chicago Convention) without an intrusion into the airspace above a sovereign State.³⁷ Moreover, changes in international law by tacit agreement require a rather long time. For example, freedom of the seas did not become a generally accepted principle of international law for hundreds of years. In contrast, international flights are relatively new in world affairs. The rule of air sovereignty in particular dates from the Paris Convention of 1919. It was not approved by the Institute of International Law until 1927.³⁸ Earlier, Fauchille had written that "there is no rule of international law authorizing any country to subject the airspace to its sovereignty." He referred to *customary* international law, since there were then no international flight agreements.³⁹

Is airspace recognized as part of the sovereign territory of a State, under article 2 of the Chicago Convention, which defines the "territory" of a State as its "land areas and territorial waters adjacent thereto"? By implication, this definition seems to indicate that, under customary international law, the airspace above a State is not a part of its territory and hence not subject to its sovereignty except by specific agreement.

In any event, it could hardly be argued that customary international law has recognized the upward extension of air sovereignty to extreme altitudes above the normal or even possible flight of then-existing aircraft. The fact that foreign aircraft had never flown at such altitudes would merely prove their inability to do so, and not the acquiescence of their governments in any given upper limit of national airspace.

There is still another reason than has yet been mentioned for doubting if the U-2 flights invaded Soviet airspace. The bounds of sovereignty are set by the principle of effective control. Sovereignty cannot go farther than effective control in the sense of power to exclude, though it need not go so far.⁴⁰

This principle of jurisprudence underlies the historic pronouncements of Grotius⁴¹ and Fauchille⁴² that the high seas and the air, respectively, were free by their very nature because they were not susceptible of dominion.

Effective control was evidently lacking as to all the U-2 flights above the Soviet Union—even the last such flight, at its prescribed altitude.

The Soviet Union itself appears to have accepted effective control as the limit of its three-dimensional sovereignty, by not objecting to the earlier U-2 flights.

As for the last such flight, available information suggests that the plane came down from cruising altitude because of a flameout or other failure, and entered Soviet airspace unintentionally. If we are to judge the legal consequences of this flight by the provisions of international agreements such as the Chicago Convention to which the Soviet Union is not a party, then surely the controlling provisions are those that permit an aircraft to enter foreign territory in case of distress.

The foregoing considerations indicate that the U-2 flights were not invasions of Soviet airspace. The purpose of discussing the question at length has not been to pass judgment; it has been merely to point out the legal basis for such flights, and to throw light on the problem of satellite surveillance.

B. *The Question of Espionage*

Consider next whether the U-2 flights were acts of espionage under international law, since this question may later be raised as to surveillance satellites.

As defined by the Hague Convention, to which both the United States and the Soviet Union are parties, espionage involves the collection of information *clandestinely or under false pretenses*.⁴³ It is possible, of course, for high-altitude surveillance to be so conducted as to constitute espionage. The U-2 flights, however, were not clandestine—unless something is wrong with Soviet radar. Nor were they made under false pretenses (misrepresented, for example, as the flights of civilian airliners). As the previous discussion has pointed out, they had long been reported in the public press and known to the Soviet Government as photographic missions. On May 7, 1960, Secretary of State Herter publicly classified them as "aerial surveillance by unarmed civilian aircraft."

The foregoing definition of espionage, contained in the Hague Convention, conforms to general usage and understanding. In a recent comment on the "Long-Range Lessons of the U-2 Affair," Telford Taylor (certainly not an apologist for the Eisenhower Administration) defines espionage as

"The quest for closely guarded official information by undercover agents, who customarily employ bribery, impersonation, theft, or other deceptive and clandestine means."⁴⁴

He concludes that

"The U-2 flights, in short, were not espionage in the conventional sense."⁴⁵

Furthermore, espionage is a domestic and not an international wrong. It begs the question to say that high-altitude surveillance may violate the domestic law of the Soviet Union or of other countries.⁴⁶ The sending of espionage agents into another State in time of peace is not recognized as a wrong under international law.

*"Although all States constantly or occasionally send spies abroad, and although it is not considered wrong morally, legally or politically to do so, such agents have, of course, no recognized position whatever according to international law, since they are not agents of States for their international relations."*⁴⁷ (Italics supplied)

Even in time of war, ". . . it has always been considered lawful to employ spies. . . ." ⁴⁸

It may be observed, also, that espionage is condoned by custom and tacitly accepted by long-continued international practice and forbearance. This is not said for reasons of recrimination (he who is without this sin among you, let him cast the first stone). As we can all see for ourselves, espionage has long been tolerated under customary international law. From this point of view, we need only consider the record of ordinary espionage on the ground. Shortly after the U-2 incident, a well known Soviet writer who is a deputy member of the Supreme Soviet told a public meeting in London that spying is a routine business.⁴⁹ All the great powers accept and practice espionage, as a necessary part of national defense.

Indeed, it would be difficult to draw a significant line between aerial surveillance and many recognized methods of collecting information abroad. In normal diplomatic practice, all the principal nations exchange military attaches who gather military intelligence. High-altitude aircraft flying over friendly lands or international waters can use air-sampling techniques to detect nuclear explosions on foreign soil, and can make recordings of foreign radio and radar transmissions. In addition, it has long been possible to peer across the frontiers of another country by means of radar. Although it might well be considered a penetration of territorial integrity, radar scrutiny is apparently accepted by all nations. But how does it differ in principle from aerial surveillance? Pulses of radio energy are detectable physical phenomena projected into the airspace of another country. What does it matter that they cannot be perceived by the unaided senses? Under most conditions, neither can high-altitude aircraft or satellites.

C. *The Question of Aggression*

Finally, consider whether the U-2 flights were acts of aggression. This question, also, like that of espionage, may later be raised as to surveillance satellites.

For practical purposes, the question is already foreclosed. On May 27, 1960, the Security Council of the United Nations exonerated the United States from a Soviet charge of aggression based on the last U-2 flight over Soviet territory. The vote was 7 to 2, with 2 abstentions.⁵⁰

Even Khrushchev, though he referred to the U-2 flight of May 1, 1960, as an aggressive act, said it was not "an act of true aggression and war."⁵¹

On principle, "aggression" implies initial attack. Surveillance is not attack.

Were the U-2 flights offensive in purpose? According to public statements by President Eisenhower and Secretary of State Herter, they were intended to provide against the possibility of surprise attack by others. The necessity of providing against surprise attack results in part from the fundamental declared policy that the United States will never strike the first blow—in short, that it will never be an aggressor.

In fact, the main function of such high-altitude surveillance is to deter aggression by giving timely warning of its occurrence. This is a peaceful purpose.

On principle, it is easy to distinguish between surveillance vehicles and those that carry weapons. The distinction can be stated in general terms. Surveillance aircraft and spacecraft are extensions of the senses, not of the teeth and claws. They are equipped to receive impressions, not to do harm.

On the other hand, it must be recognized that a given act of surveillance may appear ambiguous. The absence of aggressive intent may not be apparent. Thus it is said that surveillance aircraft may carry nuclear bombs. It is equally true that surveillance submarines or ships may carry nuclear missiles. This possibility is a cause of real concern.

Unless the absence of aggressive intent is reasonably apparent, any given act of peaceful surveillance fails in its purpose, since it may provoke the very attack it is intended to deter.

On the other hand, aircraft do not present so great a problem in this respect as spacecraft or submarines. Under normal conditions, any country detecting an aerial intruder can identify it by interception. The U-2 in particular is an unarmed gliderlike aircraft that could not easily be mistaken for a bomber.

A Soviet legal writer, Y. Korovin, has recently argued that the U-2 flights above Soviet territory violated article 1 of the United Nations Charter, which forbids aggression.⁵² The reasons given by Korovin deserve analysis.

According to a definition of aggression proposed by the Soviet Union in 1933 and recorded in certain treaties, says Korovin, an "aggressor" is a State "whose land, naval or air forces are landed or brought within the bounds of another State without the permission of its Government."⁵³ This definition does not apply literally to the surveillance flights of U-2s, which are unarmed civilian aircraft. But the civilian character of U-2 aircraft, Korovin argues,

"Does not alter matters. Whatever category a plane formally belongs to, its character is determined by the function it performs. . . ."⁵⁴

If Korovin is right, why is it that the Soviet Union did not propose, or the treaties mentioned in his article incorporate, a definition of aggression couched in terms of purpose?

Korovin's argument seems to assume that high-altitude surveillance is *necessarily* aggressive—an assumption that the previous discussion overturns and Korovin makes no attempt to prove.

Furthermore, the Soviet definition of aggression given by Korovin requires that foreign forces come "within the bounds" of another State. Korovin thus begs the whole question whether the U-2 flights invaded Soviet airspace.⁵⁵

4. CONCLUSION

The foregoing discussion has dealt with the problem of national sovereignty in relation to surveillance from outer space and the upper atmosphere. The dangers of delay in resolving the problem are clear: events may get out of control; claims and interests may crystallize through custom, making international agreement more difficult. On the other hand, every nation with a stake in outer space will be loath to forgo advantages it may have or can acquire.

The result is a policy dilemma. Would it be in the best interests of the United States or of the Soviet Union if (a) neither or (b) both were free to use outer space for surveillance as well as for other peaceful purposes? The solution of this question should be prayerfully sought by those best able to understand the full implications including the consequences for national security.⁵⁶ The following comments are merely suggestive.

Freedom of information is a fundamental Western tradition. From the beginning of its history, the United States has found it best for itself as well as others to know the truth and to let the truth be known. Accordingly, it would at least be out of character for the United States to agree to a ban on spacecraft equipped exclusively for acquiring information.⁵⁷

Korovin stated in January, 1959, that the sending of an American reconnaissance satellite through outer space above Soviet territory would be regarded as an unfriendly act but not an act of war. He further indicated, however, that the intentional destruction of a Soviet satellite by the United States *would* be regarded as an act of war.⁵⁸

It may well be that the Soviet Union as well as the United States would stand to gain from freedom of surveillance. For mutual deterrence may not continue to keep the peace unless each side can obtain reliable information at all times that the other is not preparing for imminent attack. International surveillance would also provide safeguards against unintentional war.

We should observe, in addition, that a ban on surveillance satellites would not dependably protect any country against foreign satellite observation, without an enforceable system of inspection and control. Unless such inspection and control are accepted, agreement on satellite surveillance is unlikely. If they are accepted, it is true, there will be little need for satellite surveillance. On the other hand, surveillance from outer space may facilitate inspection and control of armaments.

The impact of space surveillance on world affairs will almost certainly be profound. In retrospect, the U-2 flights appear not as an isolated episode but as the first link in a chain of novel events whose end no one can now foresee. Without a doubt, they show the need for reconciling traditional concepts of air sovereignty with the facts of technological change.

There is abundant evidence that practical satellite surveillance lies no more than a few years away. When that time comes, apart from traffic problems, will any nation object to surveillance from lower levels?

With the current controversy over high-altitude aerial surveillance and the looming prospect of surveillance from outer space, the conclusion of an international agreement on the legal control of outer space can not much longer be deferred. The probability is that the secrecy and sealed borders of the past are doomed, either by virtue of such an agreement or through the continued lack of it in the face of increasing capabilities for satellite surveillance. If so, the question for the future will be—not whether surveillance aircraft or satellites shall continue to fly over other countries, but—whether an enforceable and mutually advantageous agreement can be reached on the uses of outer space.

FOOTNOTES

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The views expressed in this article are the author's, and are not to be attributed to the Congress or to any committee or member thereof.

This article is based on an address delivered at the 11th Annual Congress of the International Astronautical Federation, Stockholm, Sweden, August 16, 1960.

¹ See Beresford, Spencer M. and Yeager, Philip B., *Survey of Space Law*, Staff Report of the Select Committee on Astronautics and Space Exploration, 85th Cong., 2d Sess. (1958), reprinted as H. Doc. No. 89, 86th Cong., 1st Sess. (1959), p. 36.

² *Izvestia* has since reported that dust storms "blotted out the sun" in the Krasnodar region from March 9 to March 23, 1960.

³ The MIDAS orbit is inclined at an angle of about 28 degrees to the equator, and therefore does not pass over Soviet territory.

⁴ Convention on International Civil Aviation, 61 Stat. 1180 (1944), 15 United Nations Treaty Series 295.

⁵ Annexes 6, 7 and 8.

⁶ International Convention for the Regulation of Air Navigation, 11 League of Nations Treaty Series 173.

⁷ See 44 Stat. 568, 573; 49 U.S. Code sec. 179(c). Cf. the Civil Aeronautics Act of 1938, 52 Stat. 973, 977; 49 U.S. Code sec. 401.

⁸ Air Code of the USSR, Coll. of Laws USSR, 1935, No. 43, p. 359b.

⁹ See Cooper, J. C., Problems of Upper Space, 23 J. Air L. 308 (1956); Galina, A., On the Question of Interplanetary Law, *Soviet State and Law*, No. 7, 1958, pp. 52-58; Jenks, C. W., International Law and Activities in Space, 5 Int. and Comp. L. Q. 99 (1956); Pepin, E., The Legal Status of the Airspace in the Light of Progress in Aviation and Astronautics, 3 McGill L. J. 70 (1957); Zadorozhnyi, G., The Artificial Satellite and International Law, *Soviet Russia*, October 17, 1957, p. 3. See also *Survey of Space Law* (note 1, *supra*), pp. 9-11.

¹⁰ Public Law 85-568, sec. 102(a).

¹¹ *Id.*, sec. 102(b).

¹² Feldman, George J., The Report of the United Nations Legal Committee on the Peaceful Uses of Outer Space (address at the 10th annual congress of the International Astronautical Federation, London, England, September 4, 1959).

¹³ Report of the Committee on the Law of Outer Space, American Bar Association (1959), p. 11.

¹⁴ See *Space Handbook: Astronautics and Its Applications*, Report of the Select Committee on Astronautics and Space Exploration, United States House of Representatives, H. Doc. No. 86, 86th Cong., 1st Sess. (1959), pp. 85-88.

¹⁵ New York Herald Tribune, June 5, 1960.

¹⁶ *Model Airplane News*, March, 1958.

¹⁷ Khrushchev speech of May 5, 1960, to the Supreme Soviet.

¹⁸ Khrushchev speech of May 9, 1960 at the Czech Embassy in Moscow, referring to a flight that occurred the day after General Nathan Twining's departure (i.e., on July 1, 1956).

¹⁹ See New York Times, May 19, 1960, p. 8.

²⁰ Air sovereignty considerations, however, do not always seem to determine the diplomatic treatment of foreign surveillance aircraft. For example, when an American RB-47 was shot down over the Barents Sea on July 1, 1960, the surviving crew members were detained and the Soviet Government lodged a protest even though, according to British and American accounts, the plane was flying over international waters. Compare the actions taken when an Indian Air Force plane was shot down some 150 miles inside Pakistan on April 10, 1959, during a surveillance flight. The crew members were returned to India two days later. The Indian Government, in a protest note, demanded compensation for the loss of the plane and for injuries to the crew.

²¹ While the draft Convention was under consideration at Chicago, the State Department received a message saying that the Soviet delegation, already on its way to the United States, had been recalled and that the Soviet Union would not participate.

²² It is by no means unprecedented, however, for governments to acknowledge the confidential missions of their agents abroad. For example, on December 21, 1938 Mikhail N. Gorin, a Soviet citizen living in Los Angeles, was arrested for espionage. He was later sentenced for the theft and sale to the Soviet Union of American military data on Japanese activities in the United States. The Soviet Ambassador acknowledged Gorin's assignment by indicating to the State Department that Gorin's activities had involved information relating to Japanese spies in California.

²³ See King-Hele, D. G., Determination of Air Density and the Earth's Gravitational Field from the Orbits of Artificial Satellites (address at the 10th annual congress of the International Astronautical Federation, London, England, September 4, 1959).

²⁴ Discussed though not proposed by Haley, A. G., The Law of Space—Scientific and Technical Considerations, 4 New York Law Forum 262, 264-265 (1958).

²⁵ See note 17, *supra*.

²⁶ For U-2 characteristics, see High-Altitude Sampling Program: A Special Report to the Government of Argentina, June 1, 1960 (Defense Atomic Support Agency Publication No. 532), pp. 32-33.

²⁷ See New York Times, February 6, 8 and 9, 1956; 34 Department of State Bulletin 293, 426-27 (1956); Kislov and Krylov, State Sovereignty in Airspace, *International Affairs*, No. 3, pp. 35-44 (March, 1956).

²⁸ See note 5, *supra*.

²⁹ See note 6, *supra*.

³⁰ Chicago Convention, note 4 *supra*, article 54(m).

³¹ See International Organization and Conference Series IV, International Civil Aviation Organization (Department of State Publication 2820), vol. 1, p. 92.

³² See, for example, Meyer, A., Rechtliche Probleme des Weltraumflugs, 2 Zeitschrift für Luftrecht 31, 32-33 (1953).

³³ See Lissitzen, O. J., Treatment of Aerial Intruders in Recent Practice and International Law, 47 Am. J. Int. L. 559, p. 560, footnote 3 (1953).

³⁴ See Goedhuis, D., *Sovereignty and Freedom in the Air Space, Problems of Public and Private International Law* (the Grotius Society, 1956), p. 144.

³⁵ Quoted by Goedhuis, *loc. cit.*

³⁶ 59 Stat. 1693, 84 United Nations Treaty Series 389 (1944).

³⁷ See, for example, Lissitzen, *op. cit.*, pp. 569, 573-585. Aerial intrusions continued after the U-2 incident. For example, the Associated Press reported as follows on May 23, 1960: "A Mig-17 jet fighter violated the Danish border today, passing over a Home Guard shooting range in South Denmark less than 1,000 yards above the ground."

³⁸ See *Survey of Space Law* (note 1, *supra*), p. 17.

³⁹ Fauchille, Paul, *Le Domain Aerien et le Regime Juridique des Aerostats, Revue Generale de Droit International Public* (1901). See, generally, *Survey of Space Law* (note 1, *supra*), pp. 16-18; *Freedom of the Air*, 1 U.S. Documents and State Papers 303 (State Department, 1948).

⁴⁰ See Kelsen, *General Theory of Law and State* (Harvard, 1945), pp. 119, 217; Meyer, A., *loc. cit.* See, generally, Jacobini, *Effective Control as Related to the Extension of Sovereignty in Space*, 7 J. Pub. L. 97 (1958).

⁴¹ *Mare Liberum* (1609).

⁴² *Op. cit.*, note 39, *supra*.

⁴³ Hague Convention respecting the Laws and Customs of War on Land (1907), 36 Stat. 2277, Treaty Series (Department of State) 539, sec. 29.

⁴⁴ See *The New York Times Magazine*, July 24, 1960, p. 20.

⁴⁵ *Ibid.*

⁴⁶ In the United States, for example, chapter 37 of title 18, U.S. Code, defines peacetime espionage as the collection of information concerning any national defense installation or facility with intent or reason to believe that the information will be used to the injury of the United States or to the advantage of a foreign nation (sec. 793). The use of aircraft for photographing defense installations is specifically forbidden by section 796 (in conjunction with section 795).

⁴⁷ Oppenheim, *International Law* (7th ed., 1948), vol. I, sec. 455.

⁴⁸ *Id.*, vol. II, sec. 159.

⁴⁹ Ilya Ehrenburg, as reported by the Associated Press, May 13, 1960.

⁵⁰ Against the charge: Britain, France, Argentina, Ecuador, Italy, Nationalist China and the United States. Only Poland voted with the Soviet Union. Ceylon and Tunisia abstained.

⁵¹ Speech to the Supreme Soviet, May 5, 1960. Two days later, Khrushchev told the same audience: "So far this is not preparation for war, for a war today."

⁵² Korovin, Y., *Aerial Espionage and International Law, International Affairs*, June, 1960, p. 49.

Article 51 of the United Nations Charter also refers to aggression. No position is taken on the question whether the right of self-defense as guaranteed by article 51 of the United Nations Charter includes a right of aerial surveillance. Note, however:

"If a country feels that it is being threatened by the unlawful conduct of another country—such as perhaps by preparations for aggression—that country should be free to protect itself against such a threat with the help of defensive measures. This includes the employment of agents for the purpose of determining enemy intentions."

Erasmus, J., *Der Geheime Richtendienst* (Institute of International Law, University of Goettingen, 1952), p. 115, footnote 120 (citing other authorities).

⁵³ Korovin, *op. cit.*, p. 50.

⁵⁴ *Ibid.*

⁵⁵ Korovin makes no reference at all to the Chicago Convention, although he cites the Air Code of the USSR and the Civil Aeronautics Act of the United States.

⁵⁶ For a fuller discussion of sovereignty in outer space from the standpoint of national security, see Beresford, Spencer M., *The Future of National Sovereignty* (paper presented at the 10th annual congress of the International Astronautical Federation, London, England, September 4, 1959).

⁵⁷ A recent example of this American tradition is President Eisenhower's "open skies" plan (offered at Geneva on July 21, 1955) calling for exchanges between the United States and the Soviet Union of (a) complete "blueprints" of the military establishments in each country and (b) "facilities" for (that is, freedom of) aerial reconnaissance. To the same effect, the late Donald A. Quarles, then Deputy Secretary of Defense, testified that the Defense Department would not object to surveillance of the United States by a Soviet satellite. (See Hearings of the Select Committee on Astronautics and Space Exploration, United States House of Representatives (1958), p. 1107.)

⁵⁸ Korovin, Y., *International Status of Cosmic Space, International Affairs*, January, 1959, pp. 75-76.