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At its 29th session in 1974, the General Assembly of the United Nations recommended that the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space consider, with high priority, the "legal implications of remote sensing of the earth from space, taking into account the various views of States expressed on the subject, including proposals for draft international instruments".¹ Although the matter had been put on previous agendas of the Committee on the Peaceful Uses of Outer Space² and its sub-bodies and had, to some extent, been dealt with earlier,³ this was the first time that the legal aspects of remote sensing were accorded "high priority".⁴ The Legal Subcommittee considered the matter during its 14th session, which took place in New York from February 10 to March 7, 1975. Some of the results of the Subcommittee's work are contained in its Report to the Committee on the Peaceful Uses of Outer Space.⁵ This Report points to several areas of general agreement, namely:

- (a) that remote sensing activities by means of space technology should be conducted for the benefit and in the interest of all mankind; this new technology would be of particular significance to developing countries in their plans and programmes for national development;
- (b) that remote sensing activities by means of space technology should be conducted in accordance with international law including the United Nations Charter and the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies;
- (c) that the maximum benefits to all countries could be obtained by

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¹U.N. Doc. A/RES/3234/29 (1974).

²The Committee was appointed in 1958, in the first instance as an Ad Hoc Committee. In 1973, the number of members was increased from 28 to 37. The previous members—Egypt, Albania, Argentina, Australia, Belgium, Brazil, Bulgaria, Chad, France, India, Iran, Italy, Japan, Canada, the Lebanon, Morocco, Mexico, Mongolia, Austria, Poland, Rumania, Sweden, Sierra Leone, the Soviet Union, Czechoslovakia, Hungary, the United Kingdom and the United States—have been joined by the Federal Republic of Germany, the German Democratic Republic, Chile, Indonesia, Kenya, Nigeria, Pakistan, the Sudan and Venezuela.

³Report of the Working Group on Remote Sensing, U.N. Doc. A/AC.105/125 (1975).

⁴The two other matters of "high priority" in 1974 were the draft treaty relating to the Moon and the principles governing the uses by States of artificial earth satellites for direct television broadcasting. Cf. U.N. Doc. A/RES/3234(XXIX).

⁵U.N. Doc. A/AC.105/147 (1975).

international co-operation at all levels, particularly on a regional basis;

- (d) that States undertaking programmes for remote sensing activities by means of space technology should encourage international participation;
- (e) that in remote sensing activities by means of space technology measures should be taken to promote efforts for the protection of the natural environment of the earth.

In addition, the Report lists the following questions on which common agreement has not been reached:

Whether a future international instrument on remote sensing should deal with remote sensing of the natural resources of the earth or with the whole natural environment of the earth; whether sovereign rights of States over their natural resources apply also to information on those resources; whether consent of the sensed State should be required and, if so, whether the consent should not be considered within the broader context of international co-operation and participation; whether a distinction should be made between the question of access to information on resources within national jurisdiction and on resources outside national jurisdiction; whether the access by the sensed States, the sensing State and third parties respectively to information or data should be unlimited or subject to certain conditions and, in the event of the latter, whether it might be possible to draw on analogies with the existing practice of some States whereby they protect the confidentiality of certain kinds of information concerning their natural resources, and formulate similar guidelines in regard to data collected by means of remote sensing on an international level; whether there should be parallel consideration of the legal and organizational aspects of remote sensing; whether certain organizational and technical solutions might not help resolve some legal problems.

The list reflects the variety of views held by delegations; it does not give an account of the underlying legal and political concepts that form the basis for the differences of opinion. On the legal level, the differences seem to stem mainly from a widely different understanding of the principle of state sovereignty. This paper therefore aims to shed some light on the principle itself and its relationship to remote sensing activities.

Before embarking upon a legal discussion, however, it is felt that a few remarks concerning the technical, scientific and organizational aspects of remote sensing are required to put the legal considerations into proper perspective.

I. TECHNICAL AND ORGANIZATIONAL ASPECTS OF REMOTE SENSING

Remote sensing technology can, and eventually will, be applied to a broad variety of fields such as meteorology, geology and earth resources, hydrology and irrigation, agriculture, forestry and fishery. To give but a few examples, the information gained through remote sensing could advance weather forecasting, facilitate the protection of our environment, help resolve water management problems, particularly in developing countries, and enable better crop yield estimates with a view to improving world-wide food dissemination. United States experiments undertaken through satellites ERTS—1 AND ERTS-B—recently renamed Landsat 1 and Landsat 2—have already confirmed many of the high expectations attached to this new technology. The U.S. experiments are carried out with participation from more than forty states—a number that continues to increase.⁶

1. The physical basis of remote sensing

Technically, remote sensing is based on the fact that every object with a temperature above absolute zero (-273° C) radiates and/or reflects electromagnetic energy at specific distinctive wavelengths. The spectral data are collected by active or passive sensors; active sensors generate radiation and measure the return signal after interaction with the object of interest; passive sensors rely solely on object-generated/reflected radiation. By analyzing the collected data it is possible to distinguish the objects and furnish information on their physical properties.

Remote sensing instruments may be mounted on various platforms such as, unmanned and manned spacecraft, aircraft, balloons and sounding rockets. In the Legal Subcommittee, considerations have been limited to remote sensing of the earth by means of observation from space platforms.

2. Configuration of a remote sensing system

Operational space platforms for remote sensing will most probably be satellites⁷ with either sun-synchronous or geo-synchronous orbits. The sun-synchronous orbit provides global coverage under permanently corresponding illumination conditions. The geo-synchronous orbit is particularly suitable for continuous monitoring of phenomena on a regional scale, but also lends itself to global monitoring if the space segment of the system consists of at least 3 satellites—the minimum required for world-

⁶See U.N. Doc. A/AC.105/150 (1975). See also Hearings on S. 573 Before the Comm. on Aeronautical and Space Scien., 94th Cong. 1st Sess., pt. 3, at 103-186.

⁷A space laboratory as *e.g.* the SPACELAB currently developed by the European Space Research Organization's successor, the European Space Agency (ESA), may be used for remote sensing experiments, but because of technical and financial reasons is not expected to be employed for operational remote sensing activities.

wide coverage from that orbit.⁸

Studies submitted by the Federal Republic of Germany to the United Nations show that a complete remote sensing system might consist of (a) an orbiting satellite, (b) an earth station for mission control, (c) terrestrial data collection platforms and earth stations, at least one per region, (d) data processing and dissemination centers, at least one per region, (e) aircraft and ground truth observation programs and (f) an international center for data storage and data dissemination.⁹

3. Organization of remote sensing activities

Organizationally, such a system would be a combined centralized/decentralized one and, from a political standpoint, it would be based on international cooperation.¹⁰ The forms and subjects of international cooperation will develop on the basis of already existing and, perhaps, new approaches; they will be decisively influenced by technological capability and demand for information, and, as soon as the activities have entered the operational phase, probably also by prices. Furthermore, it is quite obvious that forms of organization and the legal basis of remote sensing activities are interdependent. Since, however, none of the system configurations has been sufficiently shaped up to now, any discussion on them would be founded on little more than speculation. It may be assumed, though, that the legal questions touched upon in our further considerations are basically the same with regard to any specific system configuration.

II. PROPOSALS SUBMITTED TO THE LEGAL SUBCOMMITTEE

At its thirteenth session in 1974, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space had before it the texts of the following documents:¹¹

⁸The first Global Atmospheric Research Program Experiment which will be conducted under the auspices of a specialized agency of the United Nations, the World Meteorological Organization, in the late seventies will use five geostationary weather satellites. See Hearings on S. 573, Before the Comm. on Aeronautical and Space Sciences, 94th Cong. 1st Sess. pt. 1, at 3-17, 466-468.

⁹The studies deal with agriculture, hydrology and air pollution respectively; they carry no U.N. reference numbers. Cf. also U.N. Document A/AC.105/140 which contains a Report by the Secretariat on implementation requirements for an international center for storage and dissemination of remote sensing data.

¹⁰See also U.N. Doc. A/AC.105/150, para. 28 (1975) in which the Subcommittee expresses the view that with regard to the ground segment, a regional international and national approach would be preferable, whereas for the space segment attention should also be given to the possibility of international financing and management.

¹¹The 5 proposals are reproduced in Annex IV of the Legal Subcommittee's Report on its thirteenth session (A/AC.105/133).

—a proposal by Argentina on a draft international agreement on activities carried out through remote sensing satellite surveys of earth resources;¹²

—a proposal by Brazil on draft basic articles for a treaty on remote sensing of natural resources by satellites;¹³

—a proposal by France on draft principles governing remote sensing of earth resources from outer space;¹⁴

—a proposal by the USSR on model draft principles governing the use of space technology by States for the study of earth resources;¹⁵

—a working paper, submitted jointly by France and the USSR on draft principles governing the activities of States in the field of remote sensing of earth resources by means of space technology.¹⁶

At the fourteenth session of the Legal Subcommittee in 1975, the proposals by Argentina and Brazil listed above were replaced by a joint proposal on draft basic articles for a treaty on remote sensing of natural resources by means of space technology¹⁷ introduced at the twenty-ninth session of the General Assembly for consideration by the Legal Subcommittee. During the fourteenth session of the Legal Subcommittee, the joint proposal was co-sponsored by Chile, Mexico and Venezuela. This so-called Latin American proposal, the Franco-Soviet working paper mentioned above and a working paper by the United States, introduced at the 1975 session of the Subcommittee, on the development of guidelines on remote sensing of the natural environment of the earth from outer space¹⁸ formed the textual and also, largely, the conceptual basis for the deliberations in the Legal Subcommittee.

1. Differences in the three drafts

A first, very obvious, difference between the three drafts is the proposed degree of legal commitment. The proposals made by the Latin-American countries are the strictest, aiming at an agreement. The "principles" proposed by France and the Soviet Union need not necessarily have a legally binding effect; they may, however, become legally binding without any difficulty and it seems as if they are intended to. The

¹²U.N. Doc. A/AC.105/C.2/L.73 (1974).

¹³U.N. Doc. A/AC.105/122 (1974).

¹⁴U.N. doc. A/AC.105/1.69 (1974).

¹⁵U.N. Doc. A/AC.105/C.2/L.88 (1974).

¹⁶U.N. Doc. A/AC.105/C.2/L.99 (1974).

¹⁷U.N. Doc. A/C.1/1047 (1975).

¹⁸U.N. Doc. A/AC.105/C.2/L.103 (1975).

American "guidelines" may be understood as a rather informal code for desirable international behavior; of course, they could also become binding international law by means of agreements or by usage, without difficulty.

The "natural resources" are the subject of the drafts proposed by the Latin-American countries, and by France and the Soviet Union respectively; the U.S. draft includes the entire "human environment". None of the above drafts explains, however, the meaning of the corresponding terms. The United Nations once defined "natural resources" as being "all those elements of the physical environment which are actually or potentially useful to the human beings who live upon this planet".¹⁹ This definition of "natural resources" may, to a large extent, correspond to the meaning of "human environment"; the two terms are, however, not identical, *i.e.* the latter includes air and water pollution, while the first does not. It cannot be seen whether the first two of the above-mentioned drafts are based on the comprehensive U.N. definition of "natural resources", or on a more restrictive interpretation of the term. Future discussions in the Legal Subcommittee should clarify this issue.

The most important differences with regard to content refer to the regulations governing the right of disposition on those data gained by means of remote sensing. Of all the proposed regulations, we shall limit our discussion to those concerning the principal relationship between the sensing State and the sensed State and the data collected. The nucleus of the different conceptions seems to be contained in the following paragraphs:

(a) Latin-American Draft:

States parties shall refrain from undertaking activities of remote sensing of natural resources belonging to another State party, including the resources located in maritime areas under national jurisdiction, without the consent of the latter.²⁰

States parties obtaining information relating to the natural resources of another State party through remote sensing shall neither divulge such information nor transmit or transfer it in any manner to a third State, international organization or private entity, without the express authorization of the party to which the natural resources belong, nor can they utilize the information thus obtained to the detriment of the latter.²¹

¹⁹Science and Technology for Development. Report on the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, vol. 2, at 9 (1963).

²⁰Latin-American Draft, Art. V. It is stated correspondingly under Article VI that: "States parties will take all measures authorized by international law to protect their territory and maritime areas under their jurisdiction from remote sensing activities for which they had denied their consent."

²¹*Id.*, Article IX; under Article X, third parties are refused permission to accept information which has been obtained without authorization.

(b) Franco-Soviet Draft:

Such use²² shall, in particular, respect the principle of sovereignty of States and especially the right of peoples and States to exercise permanent sovereignty over their wealth and resources as a basic element of their right to self-determination as well as their unalienable right to dispose of their natural resources and of information concerning those resources.²³

(c) U.S. Draft:

States receiving data directly from satellites designed for remote sensing of the natural environment of the earth shall make those data available to interested States, international organizations, individuals, scientific communities and others on an equitable, timely and non-discriminatory basis.²⁴

2. The sensing State's sovereignty versus the sensed State's sovereignty

With regard to the aspect we are presently discussing, the wording of these regulations is quite clear. The proposals made by the Latin-American countries and by France and the Soviet Union start from the assumption that generally only the *sensed* State may dispose of the information concerning it. According to the U.S. proposal, the *sensing* State is, however, principally free to utilize all gained information. Thus the regulations proposed by the Latin-American countries and by France and the Soviet Union on the one hand, and the U.S. regulations on the other hand, are almost diametrically opposed in their approach to solving the question of a State's right with regard to remote sensing data.

In an attempt to explain this opposition—at least as far as its legal aspects are concerned—reference will be made, first of all, to some statements delivered during the debate on remote sensing in the 14th session of the Legal Subcommittee.

Besides numerous political, economic and technical arguments for and against free data collection and dissemination, the legal aspects were only referred to in a

²²Relates to the use of outer space mentioned in Principle 1 of the Draft.

²³Draft Principle 2. Correspondingly, Draft Principle 5(b) says that a State which obtains information concerning the natural resources of another State as a result of remote sensing activities shall not be entitled to make it public without the clearly expressed consent of the State to which the natural resources belong or to use it in any other manner to the detriment of such State. It adds that documentation resulting from remote sensing activities may not be communicated to third parties, whether Governments, international organizations or private persons, without the consent of the State whose territory is affected.

²⁴Draft Principle 5. In Draft Principle 6, the Draft goes one step further by stating that States receiving data directly from such remote sensing satellites shall ensure in particular that data of a sensed area within the territory of any other State are available to the sensed State as soon as they are available to any other than the sensing States.

strikingly small measure.²⁵ The restrictive positions are most clearly expressed in the following remarks made by the Soviet delegation: "...the interests of States whose natural resources might be subject to remote sensing must be protected, ... the legal regulation of the problems must not go beyond the framework of existing international law, notably the principle of *unconditional respect of state sovereignty, including the right to dispose of natural resources and information about them.*"²⁶ This understanding of the legal problem is explained somewhat in a statement delivered on behalf of Argentina, according to which the principles of sovereign equality of States and self-determination of peoples embrace not only the right to internal sovereignty and independence, but also "the economic aspect of the freedom to use and distribute their wealth, whereby peoples might exercise their legitimate and exclusive sovereign rights over their own natural resources".²⁷

The opposite conception, which starts from the assumption that data collection and dissemination must not be restricted according to applicable international law, is equally succinctly stated in the remark of the British representative to the effect that "international law as it currently stood did not impose any regulation or inhibition on a survey of the earth and its environment, including its natural resources, which was carried out from beyond the limits of national sovereignty and therefore from outer space".²⁸ After pointing out that no authority for any restriction could be found in the Outer Space Treaty, in any other relevant international agreement, or in any of the applicable rules of customary international law, the British representative went on to say that: "Furthermore, it served no real purpose to invoke concepts of traditional international law such as the sovereignty of States over their territory, the equality of States, or the permanent sovereignty of States over their natural resources."²⁹ Such was his delegation's position with regard to both the collection and the dissemination of information. To this may be added the statement made on behalf of the Federal Republic of Germany, according to which the German delegation does not consider "... the concept of sovereignty as such to be a sufficient reason for withholding from anyone information about the physical conditions under which he lived and upon which he depended".³⁰

The remarks quoted do not really explain the almost completely opposing conceptions. It must be stressed in this connection that the freedom of countries to dispose of their own natural resources is not under discussion; this freedom is

²⁵Cf. U.N. Doc. A/AC.105/C.2/SR.226-245 (1975).

²⁶*Id.* (Emphasis added). In this connection, the French representative pointed out that the Franco-Soviet draft could, admittedly, be improved, but that it contains "nothing alarming."

²⁷*Id.*

²⁸*Id.*

²⁹*Id.*

³⁰*Id.*

undisputed. Moreover, the advocates of the restrictive conceptions are not so much concerned with preventing possible abuses of free data collection and dissemination. This objective only plays a minor role with some of them. What is really at stake is the *right of disposal* of information concerning natural resources, with widely divergent interpretations of state sovereignty at the center of controversy.

III. SOVEREIGNTY, REMOTE SENSING DATA AND INTERNATIONAL LAW

In international law state sovereignty means, above all, that individual States are principally free to act at their discretion, unless international law provides for restrictions. With respect to information, this means that—provided no restrictions are imposed by international law—every State may freely dispose of that information which is subject to its jurisdiction; a power limited territorially and with regard to the persons subject to it. This implies that within the confines of its power, a country is free in its treatment of information, and that it may keep it to itself or give it to anybody who is prepared to take it. This would furthermore signify that a country cannot dispose of information not falling within its jurisdiction, and that this information would be subject to the country under the jurisdiction of which it falls. Thus the question arises whether there are provisions in international law imposing a specific form of conduct on countries, in particular with respect to information on natural resources.

Up to now, general international law does not contain any provisions on information on natural resources. We have also not been informed on any agreements or on any usage—possibly based on *opinio juris*—to the effect that a country, the resources of which constitute the subject of any piece of information, has supreme power with regard to the handling of all such information. Therefore, we have to ask more generally for provisions which might be relevant for data collection and dissemination; furthermore, we have to examine whether information on natural resources is directly subject to the provisions of international law on natural resources, or whether those provisions apply to them *mutatis mutandis*.

1. The Outer Space Treaty

Article I, paragraph 2 of the Outer Space Treaty of 1967³¹ provides that all States are free to use outer space in accordance with international law. In the preamble, the parties to the Treaty point out that it is desirable to continue the use of outer space for peaceful purposes. According to Article III, the States pursue their activities "in the interest of maintaining international peace and security and promoting international cooperation and understanding". Article XI, which is important for the discussion of our problem, reads: "In order to promote international cooperation in the peaceful

³¹Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T.2410, T.I.A.S. No. 6347, 610 U.N.T.S.205.

exploration and the use of outer space, *States Parties to the Treaty* conducting activities in outer space, including the moon and other celestial bodies, *agree to inform the Secretary General of the United Nations* as well as *the public* and the *international scientific community, to the greatest extent feasible and practicable*, of the nature, conduct, locations and *results* of such activities. On receiving the said *information*, the Secretary General of the United Nations should be prepared to *disseminate it* immediately and effectively."³² The above provisions thus not only permit data collection, they also call for dissemination of the information gained. They apply to the activities of States Parties to the Treaty in the exploration and use of outer space.³³

The U.S. concept is obviously in accordance with the sense and purpose of the above provisions. The proposals made by the Latin-American countries and by France and the Soviet Union respectively would be contradictory to them unless an interpretation of the wording: "to the greatest extent feasible and practicable" would show that the proposed restricted data dissemination is the broadest dissemination feasible and practicable.³⁴ We shall, however, not try to interpret the technical, financial and organizational constraints contained in that phrase, but limit ourselves to the legal constraints of future remote sensing regulations.

2. The relation of resources to their data

The regulation quoted from the Franco-Soviet Draft and various statements which served to explain the restrictive concepts seem to be founded on the idea that the States' right of disposal of resources includes the information concerning these resources, or that this information has to be dealt with analogously. Such an idea might either be based on the assumption that "sovereignty with regard to resources" is at least partly identical with "sovereignty with regard to information" or that the latter can be derived from the first. Both ideas cannot be justified by the facts. Natural resources and data, *i.e.* information, belong to different and separate planes of existence and, in corresponding to reality, the law makes them subject to different rules. It would be quite absurd if the law were to try to ignore such ontological differences. This absurdity becomes obvious if one imagines that purchase regulations might also be applied to information on the purchase, or that the criminal law inflicting a penalty on murder might also directly, or by analogy, be applied to information on such an offense. Presumably no one would attempt to deal with data on sausages and cheese in the way he would deal with these commodities themselves, and eat them. The series of examples

³²Art. XI. (Emphasis added).

³³*Id.*

³⁴In view of wording of Article XI, it appears difficult to follow the opinion that the expression "to the greatest extent feasible and practicable" refers to information regarding the nature, conduct, locations and results of space activities, but not the sharing of the results. *Cf.* Marcoff, 10 *Diritto Aereo* 289-283 (1970). Furthermore, such an interpretation would not seem to lead to any different results in practice. Gorove, *Earth Resources Survey Satellites and the Outer Space Treaty*, 1 *J. Space L.* 80, 85 (1973) concludes that dissemination seems mandatory within the general conditions set forth in the treaty.

could be continued along these lines.³⁵ They illustrate that neither an identical nor an analogous treatment of resources and data concerning them is apt to delineate the admissible or the appropriate extent of data dissemination.

In addition to provisions regulating the rights and obligations of countries in respect of their relationship to one another, provisions regulating the relationship between the State and individual could also help to determine the content of the general freedom of the States with regard to data collection and dissemination. This would be the case if the individual has a right to demand that the State had to do, or not do, certain things concerning data collection and dissemination.

3. The situation of the individual with regard to data

According to Article 19 of the Universal Declaration of Human Rights adopted in 1948,³⁶ everyone has the right to freedom of opinion and expression. This right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers. Article 27, para. 1 says that everyone has the right freely to share in scientific advancement and its benefits.³⁷ However, the two provisions which imply that States are bound to make available the data at their disposal, have no legally binding effect inasmuch as the famous resolution adopted on December 10, 1948 does not formally commit States.³⁸ The freedom of information incorporated in the two articles mentioned has not become part of general international law. There exists neither an international custom that could be taken as evidence of a general practice accepted as law, nor could it be contended that the freedom of information is one of the general principles of law recognized by civilized nations.³⁹ Nonetheless, the articles will become, to a considerable extent, part of international law, with the entry into force of the International Covenant on Economic Social and Cultural Rights and of the International Covenant on Civil and Political Rights.⁴⁰ With regard to our subject, the

³⁵Of course, links exist between facts and the information concerning them. For this reason, under a uniform legal system a link will, if need be, exist also between the legal provisions governing a given subject and a legal provision regarding relevant information—but not, however, identity or analogy, because both aspects concerned are neither identical nor do they correspond from the ontological point of view. Cf. Gorove, *supra* note 34, at 85, who concludes that there is no indication that any sovereign rights might be violated and who furthermore is of the opinion that the eventual utilization of earth resources data collected through satellite observation does not appear to be such an act that may give rise to a legitimate claim for damages under the provisions of the Treaty or the Liability Convention.

³⁶U.N.Y.B. on Human Rights at 459 (1948).

³⁷In this connection, attention is drawn to Article 2, paras. 1 and 2 of Article 26, and Article 28.

³⁸U.N. Res. 216/A(III) of December 10, 1948.

³⁹The scope of application of Article 10 of the European Convention on Human Rights is limited to a few Western European Countries, and no similar provisions seem to exist elsewhere.

⁴⁰Both Agreements shall take effect 3 months after deposit of the 35th instrument of ratification. In mid-1975, only 31 and 30, respectively, of such instruments had been deposited. U.N.Y.B. on Human Rights 469-479 (1948). 20 U.N.Y.B. 423-32 (1966).

following provisions of the International Covenant on Economic, Social and Cultural Rights seem to merit attention:

The States Parties of the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international cooperation, the measures, including specific programmes, which are needed: To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources.⁴¹

The States Parties to the present Covenant recognize the right of everyone to enjoy the benefits of scientific progress and its applications.⁴²

Para. 2 of Article 19 of the International Covenant on Civil and Political Rights⁴³ may also be of direct relevance to us as indicated by the following text:

Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice. This is made subject to certain restrictions as are contained in para. 3, if such restrictions are provided by law and are necessary:

- (a) for respect of the rights or reputations of others;
- (b) for the protection of national security or of public order (ordre public), or of public health or morals.

The provisions quoted above show that the individual will have the right to receive and disseminate information gained through remote sensing, once the covenants have entered into force. This right corresponds with the regulations of Article XI of the Outer Space Treaty, according to which States are obliged to make the information available to the individual. This partly answers the question whether there are provisions in international law imposing a specific conduct on States. Our problem has, however, not yet been solved, for these provisions only provide a certain

⁴¹Art. 11, para. 2(a) of the Covenant. For text, see U.N.Y.B. on Human Rights 469-479 (1948).

⁴²Art. 15, para. 1(b).

⁴³For text, see 20 U.N.Y.B. 423-32 (1966).

scope, a scope that cannot be narrowed further by legal considerations.⁴⁴ The U.S. proposal seems to fall within the limits set by this scope, and although the restrictive regulations in the proposals made by the Latin-American countries and by France and the Soviet Union seem rather precarious, they could, perhaps, be interpreted to comply with the above provisions and the Outer Space Treaty. Any definite answer to this and the above question would have to take into account the important technical, financial and organizational constraints that are contained in the phrase "to the greatest extent feasible and practicable". This will become possible as soon as these aspects of remote sensing will have taken on somewhat sharper contours and can be identified more clearly.

IV. A STATE'S ATTITUDE TOWARDS INFORMATION

One is tempted to discontinue the examination of the legal aspects at this point and to relegate the above described contradiction to the arena of political controversy, in the broadest sense, within the United Nations. Those participating there in the discussion will probably arrive at a text, maybe even generally accepted,⁴⁵ that will eventually become legally binding. Our understanding of the legal aspects of the situation can, however, be deepened to some extent and directed at a study of the underlying issues of the theory of State. In doing this, an attempt shall be made at presenting some elements in state sovereignty from which basic differences result in the attitude adopted toward the handling of information. In this connection, a philosophical approach is pursued which makes man the focus of studies of the State and of national order.⁴⁶

1. The concept of sovereign national will

"Sovereignty" is not a specific legal term. At one end of the scale it is associated with notions of divine omnipotence. At the other, it is a political catchword. State sovereignty can be understood as a permanent rule organized on the basis of legal

⁴⁴The interface between the rights of the individual and the State's position becomes apparent in Article 25 of the International Covenant on Economic, Social and Cultural Rights and in Article 47 of the International Covenant on Civil and Political Rights. The text of both these articles reads as follows: "Nothing in the present Covenant shall be interpreted as impairing the inherent right of all peoples to enjoy and utilize fully and freely their natural wealth and resources."

⁴⁵The Outer Space Committee and its subordinate bodies pursue an expedient and rather special course with regard to procedure: they pass their resolutions solely on the basis of general agreement (principle of the unanimous vote). The result is not only a comparatively unpolemical style of procedure, indeed, account is thus taken of the fact that international law must be accepted by all those bound by it in order to become both valid and effective.

⁴⁶This could be defined as an anthropological approach. The findings thereby gained can perhaps also be arrived at on the basis of other legal philosophical theories, but not, I believe, from thought propositions based on the assumed existence of a closed legal system, such as the doctrine of natural law or even legal positivism. Cf. Kaufmann, *Durch Naturrecht und Rechtspositivismus zur juristischen Hermeneutik*, 30 *Juristenzeitung* 337 (1975), which presents a survey of the more recent trends of thought in legal philosophy.

principles and exercised over a specific territory, characterized outwardly by a certain degree of effective independence and inwardly by effective rule.⁴⁷ As has been defined in echo of Jean Bodin (1530-1596), the sovereign is not subject to any superior state or other authority. The will of the sovereign constitutes the supreme authority.

The development of the concept of sovereignty, which can generally be said to have started approximately at the end of the Middle Ages, cannot be traced here. It is equally not possible to give adequate consideration to the extensive and far-reaching discussion concerning the theory of State sovereignty. For the permitted scope of this paper, the following theses should suffice as premises:

- (a) The community of nations at the present time does not constitute a *civitas maxima*, but merely a society of States. Under this system, state sovereignty is neither eliminated nor derived from international law.⁴⁸
- (b) It is not possible to establish a theoretical and general definition, not specifically linked to any particular epoch, of the content of sovereign will. It is regarded as a peculiarity of a supreme authority and such an authority is basically free to design a system of national order at its own discretion. The content is decided upon in the respective actual historical situation and is decisively influenced by the latter.
- (c) The sovereign national will is directed at implementing what it deems just and proper. In the process, the determination of what is right is in principle effected either within the confines of a preconceived system of values, or within the framework of a basically open system where what is right has to be defined constantly anew.

A more precise explanation of the last-mentioned thesis and its consequences for the position of the individual within the framework of law is required. Each national system claims to be the right one. The State's right to enforce the implementation of its specific legal system is justified by the rightness of the system concerned. The wide variety of normative systems distinguishes between two basic types: those based on preconceived systems of values and those based on open systems of values. "Preconceived systems of values" are understood as those which are constantly held up to the individual as being right. In contrast, "open systems of values" are those

⁴⁷For information on the stage reached in the current discussion, see W. von Simson, *Die Souveränität im rechtlichen Verständnis der Gegenwart* 19-24 (Berlin, 1965).

⁴⁸As to the idea of a universal hierarchy, von Simson points out that, throughout the world, political demands confront each other on all sides and that there is no compulsory system which can provide a binding solution for all parties concerned in respect of values and that not even the necessary common pre-legal foundation exists for a universal legal system. *Id.* at 81.

which are permanently open for revision.⁴⁹ The correct clothing of such systems is a task assigned to those governed by them.

2. From preconceived toward open systems of values

The kingdoms of Western Europe in the Middle Ages provide an illustration from the past for preconceived systems of values. Their political foundation was the firm belief in a predetermined system of absolute rule. This system, embracing both this world and the world to come, was determined by theological principles. Its organization as far as this world was concerned was established by uniform principles drawn up by both secular and spiritual leaders.⁵⁰ History can provide no example of a system organized solely on the lines of the second basic type as described above. Ryffel speaks of a society offering possibilities for development on a democratic basis, a society in which the opportunity for each and every man to develop his abilities and to advance is available on a basis of equality for all and this becomes reality for each individual.⁵¹ Politically, such a society is characterized by the fact that the individual participates in the task of shaping the state system himself in a responsible manner.

Starting from the philosophical idea, rooted in anthropology, that man is intended to do that which he deems right and proper, the transition which can be observed in history from a preconceived system of values to an open system of values can be understood as a development in which man gradually casts off the shackles of blind resignation to his fate in order to shape the order of things himself in accordance with his own views. The changing role of the individual in the various social systems throughout history, from archaic systems to modern democracy, reflects this development, the trend of which—seen in its entirety—appears to be determined. Admittedly, historical reality reminds us that this is not a historical process cutting clear across time and space. It would appear that individual persons, peoples and specific social systems are mere contingencies in this overall process. For the particular established system there is no guarantee for its continued development along the path

⁴⁹This difference is shown in sharp setting in R. Ryffel, *Grundprobleme der Rechts- und Staatsphilosophie* 93, 338 *et seq.*, 458 *et seq.* (1969).

⁵⁰This dissolution of this rounded concept of the medieval world began in the second half of the 11th Century with the investitures controversy—a struggle for power between the papacy and the monarchy over the investiture of bishops and abbots, which developed into a basic controversy concerning the relations between spiritual and temporal power.

⁵¹*Supra*, note 49. Some present-day democracies which contain a number of elements characteristic of the second type, seem to present advanced transitional stages between the two primary forms.

delineated.⁵² On the contrary, it is apparently constantly exposed to the danger of relapsing into a state thought to be left behind long ago, of crumbling into a state of anarchy or of disintegrating because too large a proportion of the population is still not equipped to cope with the tasks assigned to it.

A study of history also reminds us that our contemporaneity calculated in years and days is an artificiality which all too easily hides the fact that systems existing side by side can represent vastly different stages of development and, in fact, often do. It can be said of many present-day systems—perhaps of all of them—that a start has been made with the gradual detaching of the individual from the bonds of preconceived systems of order. This process is taking place in remarkably gradual stages. The latter are characterized by the way in which what is decisively right from the national order—the content of the sovereign will—is established both in theory and in practice. To the extent to which actions are based on rules believed to be unquestionably right, the process of detachment has not taken place; that much the individual is still merely the subject of a predetermined fate as described above.

3. The role of information in diverse systems

In view of the discussed considerations, the basically varying importance of information may be easily recognized. Information is not essential for the individual governed by a preconceived system of values. He who possesses unquestionable truth does not necessarily need to know more. Information is merely incidental. On the other hand, within the framework of an open system of values it is essential to inform the individual since he can only arrange his actual existence in an appropriate manner on the basis of information. In order to realize his opportunity for development and advancement it is necessary to give him access to as much information as possible.

This contradiction provides the more deepseated reason for the differing concept of state sovereignty and information. It becomes apparent when one puts the mode of behavior of the State in relation to the position of the individual within the structure of the State. Of course, the few lines which have been drawn in an attempt to sketch the background provided by the theory of State for the attitudes taken towards remote sensing activities constitute only a few main contours. At least with regard to the evaluation of the attitudes adopted by the State as described above, supplementary remarks appear essential.

The foregoing discussion is based on the unspoken opinion that the development from a preconceived system of values to that of an open system is to be regarded as a positive step in the right direction. For this reason, the more progressive attitudes

⁵²This observation appears to be in line with the findings of the theory of evolution with regard to both man and populations. More recent genetically oriented considerations tend to continue to stress the role played by chance. Cf. Thoday, Non-Darwinian "Evolution" and Biological Progress, 255 *Nature* 675 *et seq.* (1975), which would further explain the remarkably slow tempo of development and emphasize the accident of our own individual role.

postulating freedom of information appear worthy of attention whereas the less progressive restrictive attitudes are shown in an unfavorable light. One would get the same picture with completely reversed premises if one were to regard this development as negative, instead of positive. However, seen from the aspect of our anthropological approach only the first-mentioned evaluation appears to be justifiable. On the other hand, seen from the basis of doctrines postulating absolute truths,⁵³ the second evaluation would have to be regarded as valid.

On the United Nations level, the various theoretical foundations of the diverging attitudes taken are unimportant to the extent that none of them can claim to be generally valid.⁵⁴ The members of the United Nations are faced with the difficult task of finding provisions acceptable to all without jeopardizing the manifold benefits mankind could derive from remote sensing.⁵⁵ The difficulty of this task is enhanced by the incorporation of those factors not discussed which likewise exercise some influence on the final attitude adopted by the individual States. Particular attention should be drawn to technical constraints, the economic relevancy of data, the financial aspects of systems utilization and the necessity of international cooperation. By including both these and other factors, the importance of the fundamental set of problems described above is relativized. At the same time, however, the complex interdependence of the various points of view complicates the necessary reduction of subjects to clear statements of the problems at stake. The latter might increase the danger of precipitate answers.

⁵³For instance, this seems to apply to Marxist ideology which—like Christianity—is based on a doctrine which declares its statements to be generally valid truths, principles independent of time and space. In this connection, Istvan Kovacs says of the development of socialist constitutions: "... from the first day of their appearance, the socialist constitutions ... embody not only the institutions of the state, but also those of society, and not only social relationships governed by law, but also extensive spheres of legally not controlled social relationships ... in the consecutive stages of socialist constitutional evolution, the sphere of social relationships covered by the constitution tends to expand...". I. Kovács, *New Elements in the Evolution of Socialist Constitution 71* (Budapest, 1968). According to this thesis, state and society would gradually merge to become a unity which totally encompasses the individual.

⁵⁴It should be recalled, however, that the Outer Space Committee and its sub-bodies are bound by articles 13, 55 and 56 of the U.N. Charter. When drafting the remote sensing principles, they will therefore have to seek regulations that help promote, in the words of article 55, "(a) higher standards of living, full employment, and conditions of economic and social progress and development; (b) solutions of international economic, social, health, and related problems; and international cultural and educational cooperation; and (c) universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion".

⁵⁵According to the recommendations by the Committee on the Peaceful uses of Outer Space that need be confirmed by the General Assembly, the Legal Subcommittee at its next session, in 1976, will have to "continue its detailed legal consideration of remote sensing from space of the earth ... with a view to identifying further common elements among the views of States" and "proceed to the drafting of principles in regard to those particular areas of the subject where common elements in the views of States are identified." See *The Draft Report of the Committee on the Peaceful Uses of Outer Space on the Work of its Eighteenth Session*, U.N. Doc. A/AC.105/L.85/Add.4, (1975).